Towards the Regulation of "Smart Legal Contracts" in Kenya: A Critical Analysis of the Need for a Legal Framework

By

Jael Chemutai Kosgei

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School of Law

Strathmore University

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Declaration and Approval

Declaration

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

Student's Name: Jael Chemutai Kosgei

Sign: _____ Date: 28th May 2025

Approval

The thesis of Jael Chemutai Kosgei was reviewed and approved for examination by the following:

Dr. Francis Kariuki,

Strathmore Law School,

Strathmore University.

Dr. Jane Wathuta,

Dean, Strathmore Law School,

Strathmore University

Prof. Bernard Shibwabo,

Director of Graduate Studies,

Strathmore University

Abstract

Contract law has become more complex with the rise of “Smart Legal Contracts”, which are self-enforcing agreements programmed using computer “code” and implemented on decentralized ledger systems. “Smart Legal Contracts”, which automate performance based on pre-established conditions, raise fundamental questions regarding their legality, validity, and enforceability unlike traditional contracts which are written in natural language and enforced through courts and other legal institutions. Kenya has made strides in regulating electronic transactions but does not yet have a complete regulatory framework that considers the unique features of “Smart Legal Contracts”.

The suitability of Kenya's current contract law for governing “Smart Legal Contracts” is evaluated critically in this thesis. It investigates whether current laws, including the Data Protection Act, the Evidence Act, the Kenya Information and Communications Act, and the Law of Contract Act, can adequately regulate the formation, performance, and enforcement of contracts made using decentralized technologies. In addition to highlighting the legal ambiguities and enforcement difficulties that arise in the lack of clear legislative direction, the examines how conventional contract principles apply to “coded agreements”.

The study also compares the regulatory approach in the UK using a doctrinal research methodology and a multi-theoretical framework that includes legal realism, public interest theory, and techno-regulatory theory. Kenya can learn a lot from the UK's progressive approach, especially from the “Law Commission” of England and Wales's guidelines.

According to the study, the unique characteristics of “Smart Legal Contracts” are not adequately addressed by Kenya's current legal system. It finds regulatory gaps, notably in sectors such as consumer protection, the resolution of disputes.and party intention. In order to improve legal certainty, safeguard the public interest, and promote innovation in Kenya's digital economy, the thesis ends by suggesting specific reforms. These include judicial capacity-building, the creation of particular guidelines for “Smart Legal Contracts”, and legislative changes to data protection and contract laws.

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List of Acronyms

ADR – Alternative Dispute Resolution

AI – Artificial Intelligence

BCT – Blockchain Technology

CBK – Central Bank of Kenya

CISG – United Nations Convention on Contracts for the International Sale of Goods

DAO – Decentralized Autonomous Organization

DeFi – Decentralized Finance

DLT – Distributed Ledger Technology

DPA – Data Protection Act, 2019

EDI – Electronic Data Interchange

GDPR – General Data Protection Regulation

IPO – Initial Public Offerings

ISDA – International Swaps and Derivatives Association

KICA – Kenya Information and Communications Act

SLC – Smart Legal Contract

UNCITRAL – United Nations Commission on International Trade Law

UNCTAD – United Nations Conference on Trade and Development

UKJT – UK Jurisdiction Taskforce

WWW – World Wide Web

List of Statutes

1. Constitution of Kenya (2010)
2. Business Laws (Amendment) Act, No. 1 of 2020.
3. Computer Misuse and Cybercrimes Act, 2018.
4. Consumer Rights Act, 2015.
5. Interpretation Act, 1978 (c. 30).
6. Kenya Information and Communications Act, 2013.
7. Law of Contract Act, CAP 23.
8. Law of Succession Act, CAP 160.
9. Land Act, 2012 (CAP 280).
10. Prevention of Fraud (Investments) Act.
11. Uniform Electronic Transactions Act, 1999.
12. UNCITRAL Model Law on Electronic Commerce.

List of Cases

1. *Allnut v Inglis* (1810) 12 East 527
2. *B2C2 Ltd v Quoine Pte Ltd* (2019) SGHC(I) 03
3. *Bowerman v Association of British Travel Agents Ltd* (1996) CLC 451
4. *Clason v Bailey* (1854) 14 C.B. 327
5. *Carlill v. Carbolic Smoke Ball Co*., (1892)
6. *Karen Njeri Kandie v Alssane Ba & another* (2015) KECA 826 (KLR)
7. *Herbert Wafula Waswa v Kenya Wildlife Services* (2020) KEELRC 78 (KLR)
8. *Mitu-Bell Welfare Society v Kenya Airports Authority & 2 others; Initiative for Strategic Litigation in Africa (Amicus Curiae)* (2021) KESC 34 (KLR)
9. O*pen Joint Stock Company Zarubezhstroy Technology v Gibb Africa Limited* (2017) KEHC 6835 (KLR)
10. *Patrick Njuguna Kimondo v Geoffrey Vamba Mbuti* (2019) KEHC 9676 (KLR)
11. *RTS Flexible Systems Ltd v Molkerei Alois Muller GmbH & Co KG* (2010) UKSC 14 (10 March 2010)
12. *Smith v Hughes* (1871) LR 6 QB 597
13. *Stellard Pty Ltd v North Queensland Fuel Pty Ltd (*2015) QSC 119
14. *Thomas Ogunde Mboya v Grand Royal Swiss Hotel* (2022) KEELRC 314 (KLR)

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Dedication

First and foremost, I dedicate this thesis to my parents, Mr. and Mrs. Chris Kosgei, whose persistent commitment to my education and kind financial support have enabled me to successfully undertake this milestone. My accomplishments have been built on your support, faith in the quest for knowledge, and selfless sacrifices. I will always be appreciative of the ethics you taught me.

To my dear son, Andrew Kiplimo - this work is dedicated to you and your future. May it serve as a testament to the endless possibilities that education and determination can bring. I hope to inspire in you a legacy of resilience, ambition, and an enduring passion for learning.

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Chapter 1: Introduction

1.1 Background to the Study

In February 2022 at the launch of United Kingdoms' technology week, the Master of Rolls and Head of Civil Justice in England and Wales, the Right Honourable Sir Geoffrey Vos stated that; "the theory that blockchain technology is a fringe technology used by only those wanting to risk their livelihoods or possibly make theory fortunes volatile is a myth."[1] He stated that blockchain technology is now where the internet was in the year 1990. It is unstoppable, and it is here to stay; that is where providing a regulatory framework that does not limit its use is necessary. Block chain is quickly becoming the main forum for financial and commercial practices.

The concept of "smart contracts" is an idea that was formulated by Nick Szabo, an American computer scientist, cryptographer, and legal scholar, in 1994.[2] He describes a "smart contract" as "a set of promises, specified in the digital form, including protocols within which the parties perform on these promises." He compares smart contracts technology with a humble vending machine as computer "code" could be used as a vending machine for complex transactions of digital property. Instead of transferring a can of soda or candy, ownership of shares, intellectual property, or real estate could be transferred using a smart contract.[3] The application would outline the inputs needed to complete the contract, including votes from board members, money, and any other potentially "coded" conditions.

Yet when Szabo had this notion, it was technically impossible for smart contracts to have ownership over actual assets in order to enforce a contract. The second issue was locating a machine that could be relied upon by both parties to "execute" those terms. These days, distributed ledger technology makes this concept a reality.[4]

Another related idea is "smart property," which refers to using "Smart Legal Contracts" on a blockchain to manage who owns a property or asset. The property may be intangible, like stock in a corporation, or tangible, like a home, automobile, or smartphone. As a matter of fact, Bitcoin is

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[1]Lawtech UK, *Smarter Contracts & Digital Assets*, Lawtech UK, 2022, https://lawtechuk.io/programmes/smarter-contracts accessed 28 July 2022.

[2]Pee S J, Kang E S, Song J G, and Jang J W, 'Blockchain based smart energy trading platform using smart contract' in International Conference on Artificial Intelligence in Information and Communication (ICAIIC), 2019, 322-325.

[3]Choudhury O, Dhuliawala M, Fay N, Rudolph N, Sylla I, Fairoza N, Das A, 'Auto-translation of regulatory documents into smart contracts', IEEE Blockchain Initiative 9,2018, 1-5.

[4]Sokolov M, 'Smart legal contract as a future of contracts enforcement', SSRN, 25 May 2018, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3208292.

all about controlling the ownership of money.[5] The transfer of ownership of smart properties is done using "Smart Legal Contracts".

Many lawyers have been discussing whether or not simple interactions with "Smart Legal Contracts" could result in legally enforceable agreements as a result of the increasing use of smart legal contract "code" to automate processes.[6]Some jurisdictions have already addressed the subject of "Smart Legal Contracts" and blockchain technology. For instance, in November 2021, the UK "Law Commission" released a legal statement stating that the usage of "Smart Legal Contracts" might be supported by the English and Welsh legal systems.[7]

The law and technology have evolved separately, and legal regulations have greatly trailed the evolution of digital technologies.[8] Supporters for blockchain technology assert that its significance surpasses any potential legal or regulatory issues that may arise from its application.[9]. For instance, blockchain technology has the potential to transform the way startups raise money through IPOs by enabling them to do it online through Initial Coin Offerings (ICOs), which use cryptocurrencies.[10] Evidently, disruptive technologies are changing the traditional ways of business practices in various industries.[11]The idea of a smart legal contract should therefore be acknowledged as a novel legal notion since it does not align with any preexisting ideas. The main question is whether it can be legally recognised and operate as a contract.[12]

In Kenya, the principles on formation and regulation of "Smart Legal Contracts" are well established in the Contracts Act.[13]The principles in Kenyan law on contracts are that there must be an offer and acceptance with defined agreements between the parties, consideration, intention, capacity and consent between the parties. It should not be expected, nonetheless, that Kenya's well-established contract law frameworks will be adequate to facilitate the use of "Smart Legal

[5]Grinberg R, 'Bitcoin: An innovative alternative digital currency' Hastings Science & Technology Law Journal 4 ,2012, 159.
[6] Allen, J., & Hunn, P. *"Smart Legal Contracts"*.
[7] "Law Commission", *Smart Contracts.*
[8] Brown D, 'Electronic government and public administration' International Review of Administrative Sciences 71(2), 2005,241-254.
[9]Akgiray V, 'The potential for blockchain technology in corporate governance',2019.
[10] Akbarpour S, 'Blockchain start-ups to venture out from venture capital! Are ICOs here to stay?', 28(3) The Journal of Investing (2019), 32-44.
[11] Gomber P, Kauffman RJ, Parker C and Weber BW, 'On the fintech revolution: Interpreting the forces of innovation, disruption, and transformation in financial services' Journal of Management Information Systems 35,2018,220-65.
[12]Sokolov M, 'Smart legal contract as a future of contract enforcement'.
[13] Contracts Act, Cap 23, Laws of Kenya.

Contracts". Without a clear description of how they were formed, the parties' intentions, and whether or not they intended to engage into the contract, "Smart Legal Contracts" cannot be said to be legally enforceable. There may not be sufficient proof in many decentralised financial market agreements to determine if the parties intended to create legal connections.[14]

Kenya has made progress regarding regulations of commercial transactions done electronically through enactment of various statutory regulations focusing on different industries. For instance, Section 2(1) of the Law of Contract Act imports English common contract law for use in Kenya. The Act stipulates that some contracts, typically business agreements, must be in writing. Other laws, including the Evidence Act, recognise contracts that are made electronically, even if the Law of Contract Act does not expressly address this topic. The Evidence Act deals with the challenges of electronic records' admission and proof in court proceedings. According to the Act, electronic records may be used as evidence provided certain conditions are satisfied. It further stipulates that in order for an electronic contract to be deemed legitimate and admissible in a court of law, appropriate electronic records of the contract must be kept up to the required standards.

Contracts that had to be in writing were traditionally in physical copy; however, they are now legally enforceable in electronic format. According to current Kenyan law, an agreement that is made in an electronic format that can be accessed for future reference satisfies the writing requirement. This now makes electronic contracts that are signed digitally or that are made only via email or text messaging legally enforceable.

The Kenya Information and Communication Act, or "KICA," acknowledges the legal enforceability and validity of contracts made online. Online contracting is one way that the Act's main goal of facilitating the growth of electronic commerce is accomplished.[15]

Any offence involving media and digital equipment is likewise subject to regulations. By making it easier to prevent, identify, investigate, prosecute, and punish cybercrimes, the Computer Misuse and Cyber Crimes Act stops illegal use of computer systems. Everyone who has a contract that is broken online is therefore entitled to take legal action to correct the violation.

[14] Sala Climent M, 'Smart Contracts – Technological, Business and Legal Perspectives' European Review of Contract Law 17(4),2021,385-389 doi: 10.1515/excl-2021-2033.
[15] Kenya Information and Communications Act (KICA), No 411A of 1998, s 83J.

It is no doubt that commercial transactions over the internet have gained popularity in Kenya. This position is evident where the Central Bank of Kenya (CBK), issued a public notice restricting banks and businesses from engaging in cryptocurrency transactions[16], citing risks which is a big hurdle to the recognition of any "Smart Legal Contracts" entered through the disruptive technologies.[17] The latest position in Kenya on legality of transactions done on the disruptive technologies such as the blockchain platform was when the Central Bank of Kenya Governor, Dr. Patrick Njoroge while addressing the Parliament of Kenya Financial Committee, on the 27th of January 2022, reiterated the Central Banks position on the banning of cryptocurrency transactions.[18]

However, Kenyans frequently use technology to buy and sell assets. "In the country, 4.25 million people, or 8.5 percent of the population, own cryptocurrencies, which are a result of blockchain technology", according to a United Nations Conference on Trade and Development (UNCTAD).[19] Given this high figure, Kenya should be mindful of the extensive use of blockchain technology for business operations and property ownership. An evaluation of Kenya's smart legal contract regulatory environment is necessary to ascertain whether it can facilitate the adoption of "Smart Legal Contracts". To address this question, a thorough analysis of the law is necessary, and interdisciplinary research can assist in this process.[20]

The use of smart contracts and blockchain technology is rapidly spreading throughout the business and financial sectors. Like the internet, blockchain technology is here to stay and is not simply a fad. Contracts signed electronically are giving way to contracts signed on-chain in smart legal contracting. There is no denying that businesses benefit from innovative technology, which is why the legal structure must allow for its development and application.[21]

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[16]Central Bank of Kenya, Public Notice on virtual currencies such as Bitcoin, 2022, https://www.centralbank.go.ke/images/docs/media/Public_Notice_on_virtual_currencies_such_as_Bitcoin.pdf accessed 28 July 2022.

[17] Central Bank of Kenya, *Public Notice on virtual currencies*, 2022.

[18]The Exchange, 'CBK governor warns local banks against supporting crypto trade' ,2022, https://theexchange.africa/tech-business/fintech/cryptocurrency/central-bank-of-kenya-firm-on-cryptocurrencies-ban/ accessed 28 July 2022.

[19] United Nations Conference on Trade and Development, *All That Glitters is Not Gold: The High Cost of Leaving Cryptocurrencies Unregulated* (UNCTAD 2022) https://unctad.org/publication/all-glitters-not-gold-high-cost-leaving-cryptocurrencies-unregulated

[20]Chynoweth P, 'Legal Research' in Knight A, Ruddock L (eds), *Advanced Research Methods in the Built Environment*, Wiley-Blackwell, 2008, 29-30.

[21] LawtechUK, *Smarter Contracts & Digital Assets*, 2022, https://lawtechuk.io/programmes/smarter-contracts accessed 28 July 2022.

1.2 Nature of "Smart Legal Contracts"

Establishing the nature, structure, and application of "Smart Legal Contracts" is crucial before diving into the legal elements of their regulation. It is necessary to differentiate "Smart Legal Contracts" from smart contracts in order to comprehend the latter. While often used interchangeably, *smart contracts* and *"Smart Legal Contracts"* are not the same. A *smart contract* refers broadly to computer "code" that self-executes transactions once certain conditions are met, often without any legal enforceability per se.[22]On the other hand, a *smart legal contract* can be broadly defined as "*computer "code" that enforces not only the terms of an agreement but also legal regulations and penalties".*[23] In a nutshell, a smart legal contract is a legally binding agreement meant to be legally enforceable, whereas a smart contract is a software that self-executes when specific criteria are satisfied. This study is about "Smart Legal Contracts".

The term "Smart Legal Contracts" are challenging to describe since it is a more technical term rather than a legal one. The definition of a smart legal contract has, however, been attempted several times. Because these "Smart Legal Contracts" self-execute after meeting certain predetermined requirements, the word "smart" is employed.[24] They are "Smart Legal Contracts" because they can examine those certain predetermined conditions have been made, executing the predetermined actions.[25]The idea behind "Smart Legal Contracts" is to use software to express and implement legally binding agreements. A smart legal contract is designed to create legal rights and contractual obligations.[26] It focusses on the operational components of the contract, namely how "Smart Legal Contracts" are created and interpreted. A smart legal contract is thus a "code"-based agreement that is legally binding. Crypto assets can be traded via "Smart Legal Contracts".[27]

"Smart Legal Contracts" are programmed by humans to carry out the specified tasks. According to technical definitions, a smart legal contract is just computer software stored in a distributed

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[22]Bomprezzi, C, *Implications of blockchain-based smart contracts on contract law*, Nomos Verlagsgesellschaft, 2021.
[23]Jaccard G, 'Smart contracts and the role of law', SSRN, 2018, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3099885.
[24]Jaccard, Jaccard, 'Smart contracts and the role of law'.
[25]Governatori G, Idelberger F, Milosevic Z, Riveret R, Sartor G, Xu X, 'On Legal Contracts, Imperative and Declarative Smart Contracts, and Blockchain Systems', 26(4) Artificial Intelligence and Law (2018), 377-409, https://doi.org/10.1007/s10506-018-9223-3.
[26] Dixit A, Deval V, Dwivedi V, Norta A, Draheim D, 'Towards User-Centered and Legally Relevant Smart-Contract Development: A Systematic Literature Review', Journal of Industrial Information Integration 26 (2022), 100314, https://doi.org/10.1016/j.jii.2021.100314.
[27]Fenwick M Vermeulen E P, 'A Primer on Blockchain, Smart Contracts & Crypto-Assets', Lex Research Topics in Corporate Law & Economics Working Paper (2019-3).

ledger technology (DLT)[28]that keeps an eye on and regulates contract execution to guarantee compliance.[29] It is merely an infrastructure that makes it easier to enter, perform, and execute "Smart Legal Contracts". The purpose of "Smart Legal Contracts" in the blockchain is to streamline commerce and business between both identified and anonymous participants, which occasionally eliminates the need for middlemen.[30]They reduce the costs and formality associated with conventional approaches without sacrificing credibility and authenticity. The fundamental premise is that unbiased computers could take the role of dishonest people in managing their operations.[31]The inclusion of "Smart Legal Contracts" in the legal frameworks of any nation is crucial as they cover vital sectors of the economy, which is experiencing a digital transition in the exchange of property, currency, shares, content, and more.

"Smart Legal Contracts" run on blockchain technology (BCT) and Ethereum.[32] Talking about "Smart Legal Contracts" requires an understanding of the BCT and Ethereum. Businesses have sought to use Ethereum and the blockchain to automate the majority of their company operations.[33] The International Business Machines Corporation (IBM) defines blockchain as a shared, immutable ledger that facilitates asset tracking and transaction recording in a business network.[34] It is a securely shared ledger of decentralised data.

Blockchain technology enables participants or groups to share data through blockchain cloud services and helps to collect, share and integrate transactional data. Specifically, Ethereum is the Blockchain that facilitates "Smart Legal Contracts" – the most popular for running "Smart Legal Contracts". Ethereum was created in 2013, released in 2015, and focused on decentralized payments in Bitcoin. "Smart Legal Contracts" are embedded in the Ethereum blockchain.[35] Some Ethereum applications that facilitate "Smart Legal Contracts" include MakerDAO and Compound, which use "Smart Legal Contracts" in lending and allow users to earn interests. In Ethereum, the 'Turing-complete' language contains a broad spectrum of computational instructions that

[28] Jaccard, 'Smart Contracts and the Role of Law'.
[29] Sharifi S, Parvizimosaed A, Amyot D, Logrippo L and Mylopoulos J, 'Symboleo: Towards a Specification Language for Legal Contracts' (2020) 2020 IEEE 28th International Requirements Engineering Conference (RE) 364-369 https://doi.org/10.1109/RE48521.2020.00049.
[30]Pinna A, Ibba S, Baralla G, Tonelli R and Marchesi M, 'A Massive Analysis of Ethereum Smart Contracts: Empirical Study and Code Metrics' ,2019, IEEE Access 7 78194-78213.
[31]Governatori et al, 'On Legal Contracts, Imperative and Declarative Smart Contracts'.
[32]Dixit et al, 'Towards User-Centered and Legally Relevant Smart-Contract Development'.
[33]Jaccard, 'Smart contracts and the role of law'.
[34]Jaccard, 'Smart Contracts and the Role of Law'.
[35]Malinvaud, 'The Overlapping Generations Model in 1947'.

programmers use to write various intelligent contracts. The Blockchain and Ethereum, therefore, are simply platforms that stores “Smart Legal Contracts” (smart “codes”), which can be used to perform legally binding obligations.

1.2.1 Understanding “code”

It is essential to differentiate “Smart Legal Contracts” from the widely accepted forms of electronic contracts in order to assess their legitimacy and enforceability,[36] that is contracting via email and World Wide Web (WWW) contracts as discussed above. Only when “Smart Legal Contracts” meet the requirements necessary under contract law can they be considered valid.[37]

The key question arises when determining whether the use of blockchain technology and the use of “code” in “Smart Legal Contracts” falls under the definition of an electronic message or a data message. A “code” is described as "a system in which one thing (e.g., a word, number, symbol) stands for something else (e.g., another word, symbol, or number; an idea or meme)". [38]

Conversely, the UNCITRAL Model Law on Electronic Commerce[39] describes a data or electronic message as "information generated, sent, received, or stored by electronic, optical, or similar means, including, but not limited to, electronic data interchange (EDI), electronic mail, telegram, telex, or telecopy”. To put it simply, a "“code” message" is encrypted data that is deployed and disseminated via Distributed Ledger Technology (DLT), whereas electronic and data communications are messages that are sent and received electronically.[40]

It is crucial to differentiate between a data message, electronic message, and “code”. The issue is whether this “code” qualifies as a design of written contracting. The case of *Clason v. Bailey*[41] defines writing as the act of giving an outward objective to enter into a contract, typically through letters or marks placed upon paper, parchment, or other material substance. In the broader sense,

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[36]Johnson J M C, ‘Validity of Electronically Concluded Contracts’ in Chapter 6, 2005, https://hdl.handle.net/10520/EJC74030.
[37]Kolvart M, Poola M, Rull A, ‘Smart Contracts’ in *The Future of Law and E-Technologies*, 2016, 133-147.

[38] Gasiorek J, ‘Chapter 4: Communicative Codes’, 2017, https://pressbooks-dev.oer.hawaii.edu/messageprocessing/chapter/chapter-4-communicative-codes/.

[39] UNCITRAL, *Model Law on Electronic Commerce* (1996) with additional Article 5 bis as adopted in 1998, Commission on International Trade Law (no date) United Nations https://uncitral.un.org/en/texts/ecommerce/modellaw/electronic_commerce accessed 21 June 2023.
[40]Dwivedi V, et al, ‘Legally Enforceable Smart-Contract Languages: A Systematic Literature Review’, 54(5) ACM Computing Surveys ,2021.
[41]Clason v Bailey, 14 Johns 484 ,1817.

'writing' refers to a document, whether manuscript or printed, as opposed to mere spoken words. Electronic messages are self-contained data packets intended for digital transmission between physical devices. It is valuable to note that the phrase “data message, “which is essentially synonymous with “electronic message,” is also used in the United Nations Commission on International Trade Rules'(UNCITRAL)model rule one-commerce[42].

“Smart Legal Contracts” combine these various elements[43] and the legal environment needs to handle the uniqueness of these contracts to ensure they receive the appropriate legal recognition and enforcement.

Programmable “code” integrated with blockchain technology [44] has paved the way for “Smart Legal Contracts”. These agreements joins traditional legal principles and automated procedures, offering efficient, secure, and transparent execution and enforcement of contractual terms.[45] The “code” encapsulates the contractual obligations, rules, and logic that govern the contract's execution.

In essence, Kenyan law has embraced technology and granted validity to transactions conducted over the internet. Below, we discuss the statutes and legislations enacted in Kenya to regulate both traditional and electronic contracts and assess their applicability to “Smart Legal Contracts”.

1.2.2 Forms and benefits of “Smart Legal Contracts”

In its report, *“‘Smart Legal Contracts: advise to government*,” the UK “Law Commission” begins its analysis by categorizing “Smart Legal Contracts” into three identifiable forms, each with distinct legal implications. A conceptual foundation for comprehending the various levels of legal complexity offered by various smart legal contract formats is provided by this classification.

[42]Raymond A H, Shackelford S J, ‘Technology, Ethics, and Access to Justice: Should an Algorithm Be Deciding Your Case?’, 35 Michigan Journal of International Law ,2013, 485.
[43]Lauslahti K, Mattila J, Seppala T, ‘Smart Contracts–How Will Blockchain Technology Affect Contractual Practices?’, Etla Reports 68 ,2017.
[44] Wang W, et al, ‘Blockchain-Enabled Smart Contracts: Architecture, Applications, and Future Trends’, 49(11) IEEE Transactions on Systems, Man, and Cybernetics: Systems 2019, 2266.
[45]Dwivedi et al, ‘Legally Enforceable Smart-Contract Languages’.

In order to maintain doctrinal consistency while acknowledging the multiplicity of smart legal contract implementations, the "Law Commission" discusses the different types of "Smart Legal Contracts". There are three primary types of "Smart Legal Contracts",[46] as discussed below.

1.2.2.1 Natural language contracts with automated execution

"Natural language" contracts with automatic execution are the initial form of smart legal contract. These contracts applies automated "code" to carry out some contractual tasks and are written entirely in natural language.[47] These contracts' "code" merely works as an executional guideline; it doesn't specify the parties' legal rights and responsibilities.[48]These contracts provide few theoretical difficulties from a legal standpoint. Courts can treat the "code" as a tool that fulfils predetermined requirements by applying traditional methods to understand the natural language. [49]

Instead of serving as a source of contractual terms, the smart element in this category effectively serves as an advanced performance mechanism. A "code" that automatically distributes money to the policyholder when specific predefined circumstances are met, like aircraft delay data from an independent oracle, might be included in a typical insurance contract.[50] While the "code" only automates the execution process, the natural language concepts continue to describe the legal rights and obligations.[51]

This category represents the least disruptive form of "Smart Legal Contracts", as it maintains a distinct separation between the legal content *"expressed in natural language"* and the technical context *"performed by "code""*. The "Law Commission" observed that these methods of

[46] Sala Climent, 'Smart Contracts – Technological, Business and Legal Perspectives', 385-389.
[47] "Law Commission" of England and Wales, *"Smart Legal Contracts": Advice to Government*, Law Com No 401, 2021, paras 2.19–2.23.
[48] Kirillova, E A, Bogdan V, Lagutin I B, Gorevoy E D, 'Legal status of smart contracts: features, role, significance', 15(1) Juridicas Cuc .2019, 285-300.
[49] Herbert Smith Freehills, 'Hashing Out the Implications of Smart Contracting Under English Law', 2018, https://www.herbertsmithfreehills.com/insights/2018-10/hashing-out-the-implications-of-smart-contracting-under-english-law accessed 13 May 2025.
[50] "Law Commission" of England and Wales, *"Smart Legal Contracts": Advice to Government*, Law Com No 401, 2021, paras 2.21–2.23.
[51] G Hertig Hertig G, Gasser J, 'Technology-Driven Financial Innovation in Banking and Capital Markets: Legal Challenges and Regulatory Policy Issues' in Ferran E et al (eds), *The Oxford Handbook of Financial Regulation*, OUP, 2015.

contracting are increasingly common in industries seeking to improve operational efficiency while maintaining legal certainty, such as financial services, insurance, and supply chain management.[52]

1.2.2.2 Hybrid Contracts

Contracts that have some of their obligations stated in normal language and others in computer program code "are called "hybrid Smart Legal Contracts"". [53]This represents the second type of "Smart Legal Contracts". Hybrid contracts combine natural language terms with "coded" elements, both of which contribute to defining the parties' obligations. The "Law Commission" notes that these contracts present moderate interpretive challenges.[54] Issues may arise when discrepancies exist between the natural language and the "code", especially where the parties have not established a hierarchy of precedence between the two components. Some hybrid contracts specify that natural language prevails, while others regard both elements as equally authoritative. In such instances, courts must evaluate the contractual text and "code" together to ascertain the intent of the parties.[55]

The hybrid model represents a more substantial departure from traditional contracting, as it distributes the contractual content across both linguistic and algorithmic expressions. The presence of both "coded" and natural language components in smart contracts may result in uncertainty, particularly if the actions of one part contradict the expectations set by the other.[56] The Commission identified several potential approaches to resolving such conflicts, including express hierarchical clauses, contextual interpretation, and the application of contra proferentem principles against the party responsible for the "code" deployment.[57]

The Commission found that hybrid contracts are becoming increasingly prevalent in complex commercial arrangements, particularly where parties seek both the legal clarity of natural language and the execution efficiency of automated "code". Examples include smart derivatives contracts, where standardized legal terms are complemented by automated calculation and settlement

[52] Lawtech UK, *Smarter Contracts & Digital Assets*, 2022, https://lawtechuk.io/programmes/smarter-contracts accessed 28 July 2022.
[53] Bomprezzi C, *Implications of blockchain-based smart contracts on contract law*, Nomos Verlagsgesellschaft, 2021.
[54] "Law Commission" of England and Wales, *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 2.26.
[55] "Law Commission" of England and Wales, *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) paras 2.27–2.30.
[56] "Law Commission" of England and Wales, *"Smart Legal Contracts": Advice to Government*
[57] "Law Commission" of England and Wales, *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) paras 2.31–2.34.

protocols, or smart leases where payment and access rights are enforced through "code" while broader legal protections remain expressed in natural language.[58]

1.2.2.3 Solely "code" Contracts

The final type of smart legal contract is one that exists purely in "code", without any supporting text written in natural language.[59] They present the most significant doctrinal and interpretive challenges because they lack the expressive markers courts traditionally use to determine legal meaning.[60] Despite these challenges, the Commission concludes that solely "code" contracts may still be legally binding if they meet the standard elements of contract formation under English law. The courts may infer agreement from the conduct of the parties, particularly their use and deployment of interoperable "code" within shared digital environments.[61]

The Commission acknowledged that "solely "code" contracts" represent the highest radical departure from traditional contracting practices. These contracts, often found in decentralized finance (DeFi) applications or blockchain-based platforms, may involve minimal human interaction beyond the initial deployment and utilization of the "code".[62] The legal content must be inferred entirely from algorithmic expressions and the parties' interactions with those algorithms.

This category poses unique challenges for legal analysis, as courts must determine whether "code" that was not necessarily designed with legal enforceability in mind nonetheless creates legally binding obligations. The Commission suggested that courts would likely focus on objective indicators of contractual intent, such as the commercial context, the value exchange, and the reasonable expectations of participants in the relevant technological ecosystem.[63]

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[58] "Law Commission" of England and Wales, *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 2.35; International Swaps and Derivatives Association (ISDA), *Legal Guidelines for Smart Derivatives Contracts: The ISDA Master Agreement* ,2019, https://www.isda.org/a/yxEDE/Legal-Guidelines-for-Smart-Derivatives-Contracts-ISDA-Master-Agreement.pdf accessed 13 May 2025.

[59] Green, S. Smart contracts: Interpretation and rectification. *Lloyd's maritime and commercial law quarterly*, *2018*(2), 234-251.

[60] "Law Commission" of England and Wales, *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) paras 2.36–2.37.

[61] "Law Commission" of England and Wales, *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) paras 2.38–2.39.

[62] "Law Commission" of England and Wales, *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) paras 2.40–2.42.

[63] "Law Commission" of England and Wales, *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) paras 2.43–2.44.

This categorization forms the conceptual underpinning of the "Law Commission"s of England and Wales analysis. It acknowledges the diverse technical architectures of "Smart Legal Contracts" and underscores the need to assess legal validity based on the substantive operation of these contracts rather than their form. This classification provides a structured approach to analyzing "Smart Legal Contracts" that respect their technological diversity while maintaining legal coherence.[64] This approach allows for a more nuanced application of traditional legal concepts to the varied manifestations of smart contract technology.

1.2.3 Differences between "Smart Legal Contracts" and traditional contracts

The legal landscape has changed dramatically as digital technologies have advanced, particularly blockchain technology, which allows for "Smart Legal Contracts". These advances have provided new ways of making, carrying out, and enforcing contracts, changing the traditional framework of contract law.[65] "Smart Legal Contracts" (SLCs) differ from conventional contracts in numerous key ways, including their form, execution, and enforcement procedures. Understanding these distinctions is critical for understanding the ramifications of "Smart Legal Contracts" in the legal area.

One of the most significant distinctions between conventional and "Smart Legal Contracts" is their form. Conventional contracts are usually drafted in natural human language, such as English, and frequently demand signatures from all parties involved. These contracts, whether physical or electronic, are typically understood and interpreted by humans. These contracts rely on human language, which is frequently ambiguous or vulnerable to interpretation. In contrast, "Smart Legal Contracts" are written in computer "code", which is executed on blockchain technology.[66] The contract terms are "encoded" in software, and once certain criteria are met, the contract automatically executes. This means that, unlike traditional contracts, the terms and performance of "Smart Legal Contracts" are established by algorithmic rules, which are usually immutable once deployed.[67]

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[64] "Law Commission" of England and Wales, *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) paras 2.45–2.47.
[65] "Law Commission" of England and Wales, *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) paras 1.4–1.6.
[66] Primavera De Filippi and Aaron Wright, *Blockchain and the Law: The Rule of Code* (Harvard University Press 2018) 42–45.
[67] "Law Commission" of England and Wales, *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) paras 2.36–2.37.

The execution of these contracts also sets them apart significantly. Traditional contracts require human execution by the parties concerned. According to the conditions of the contract, one party might be required to physically deliver goods or make payments. The opposite party may seek legal recourse through the courts or arbitration if one party does not satisfy their obligations. “Smart Legal Contracts”, on the other hand, are self-executing; that is, they carry out their terms automatically as soon as the predetermined criteria in the “code” are satisfied.[68] Case in point, in a smart legal contract involving the sale of a home, after the buyer transfers the agreed-upon quantity of cryptocurrency, ownership of the property may be transferred to them instantly, with no human participation required. This automation can decrease administrative load, accelerate operations, and eliminate the need for third-party enforcement in many circumstances.[69]

Moreover, there are major differences in legal interpretation and enforcement between the two. Lawyers or judges often interpret traditional contracts, taking into account the parties' intentions and using relevant legal concepts and case law. Courts can interpret unclear clauses and modify contracts in response to unforeseen situations or conflicts. In contrast, “Smart Legal Contracts”' interpretation is largely governed by the “code” itself.[70] If the “code” is appropriately designed and the contract's criteria are met, the contract will be executed as intended, with no space for reinterpretation or flexibility. This tight adherence to the “codes” rules means that, while “Smart Legal Contracts” provide certainty and automation, they also carry hazards if the “code” has flaws or faults. Furthermore, the capacity to change or adjust a smart legal contract after it has been performed is essentially non-existent unless the contract is explicitly written to allow for updates, making it less flexible than traditional contracts.[71]

Traditional as well as “Smart Legal Contracts” have different trust and enforcement mechanisms. Traditional contracts rely on mutual faith or, in case of a breach, legal enforcement through courts and arbitration. On the other hand, “Smart Legal Contracts” use blockchain technology to enforce the terms and do away with the need for mutual trust between the parties.[72] The blockchain serves

[68] Kevin Werbach and Nicolas Cornell, *'Contracts Ex Machina'* ,2017.67(2) *Duke Law Journal* 313, 318–320.
[69] UK Jurisdiction Taskforce, *Legal Statement on Cryptoassets and Smart Contracts*,2019,paras 32–35 https://lawtechuk.io/reports/legal-statement accessed 13 May 2025.
[70] “Law Commission” of England and Wales, *“Smart Legal Contracts”: Advice to Government* (Law Com No 401, 2021) paras 3.15–3.20.
[71] Joshua Fairfield, *Owned: Property, Privacy, and the New Digital Serfdom* (Cambridge University Press 2017) 118–120.
[72] UK Jurisdiction Taskforce, *Legal Statement on Cryptoassets and Smart Contracts* ,2019, paras 17–21.

as a decentralised and immutable ledger that records all transactions, making contract execution tamper-proof and transparent. Once the contract has been created and deployed, the "code" controls the execution process, guaranteeing that the contract's provisions are followed without the use of intermediaries. "Smart Legal Contracts"' automated nature eliminates the need for third-party enforcement, but it also raises questions about responsibility, especially if the "code" does not execute as planned or if there are defects that influence performance.[73]

Finally, traditional and "Smart Legal Contracts" have various use cases. Traditional contracts are used in a variety of situations, including business agreements, employment contracts, real estate negotiations, and personal transactions. These contracts are adaptable and can handle a wide range of conditions, including complicated human interactions that necessitate negotiation, adaptability, and interpretation. "Smart Legal Contracts", however, are well suited to scenarios in which transactions must be automated. Financial services, supply chain management, real estate transactions utilising digital assets (such as tokenised property), and decentralised finance (DeFi) platforms are examples of common use cases.[74] These contracts are appropriate for situations in which transparency, automation, and the elimination of intermediaries can give considerable advantages.

1.2.4 Challenges that "Smart Legal Contracts" raise

Despite the revolutionary potential of "Smart Legal Contracts" (SLCs), integrating them into existing legal systems poses a number of problems. One of the most major barriers is the absence of comprehensive legal control. In many jurisdictions, including Kenya, the current legal frameworks do not explicitly recognise or accept the unique aspects of "Smart Legal Contracts".[75] Traditional legal principles governing contract creation, interpretation, violation, and remedies were developed with human negotiation and language in mind. The transition to "coded" contracts, which may implement provisions without human participation, raises questions concerning legal enforceability, contractual intent, and dispute resolution. Without clear legislative or judicial

[73] Primavera De Filippi and Aaron Wright, *Blockchain and the Law: The Rule of Code* (Harvard University Press 2018) 86–90.
[74] International Swaps and Derivatives Association (ISDA), *Smart Derivatives Contracts: From Concept to Construction* ,2020, https://www.isda.org accessed 13 May 2025.
[75] "Law Commission" of England and Wales, *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) paras 1.5–1.7.

direction, courts may struggle to evaluate whether new digital instruments fit the necessary elements of a valid contract, such as mutual assent and capacity.[76]

A further difficulty is the rigidity of "Smart Legal Contracts". Once specific requirements are fulfilled, these contracts are meant to self-execute. While this provides efficiency and lowers transaction costs, it also implies that there is little or no possibility for renegotiation or discretionary interpretation after implementation.[77]Under traditional contracts, parties can frequently amend conditions or seek equitable relief under unexpected circumstances. A smart legal contract, on the other hand, firmly enforces its provisions as "coded", which may result in unjust outcomes if the conditions alter or if one party does not fully understand the consequences of the "code".[78]Such rigidity can be especially problematic in economic interactions that require flexibility or include complex, ever-changing obligations.

Technological dependence is another critical issue. "Smart Legal Contracts" are entirely reliant on "code" and the expertise of software developers. Legal practitioners often lack the technical skills to draft, interpret, or audit the "code" embedded in "Smart Legal Contracts".[79] This dependence on programmers introduces a new intermediary into the contracting process, one who may not be trained in law or fully aware of the legal implications of the "code" they write. As a result, errors in coding (bugs) or misunderstandings of legal terms can lead to unintended executions, breaches of law, or disputes that are difficult to resolve. Moreover, if the contract interacts with external data sources (oracles), the integrity and reliability of those sources become critical, yet remain vulnerable to manipulation or failure.[80]

Closely related to this is the risk of software vulnerabilities and systemic bugs. Unlike traditional contracts, where ambiguous terms can be interpreted by courts, a smart legal contract will execute whatever is written in the "code", regardless of whether it reflects the parties' actual intent. If the "code" contains errors or is manipulated by malicious actors, the consequences can be immediate and irreversible. High-profile examples, such as the 2016 DAO hack on the Ethereum blockchain, underscore the risks of deploying complex contractual logic on immutable platforms without

[76] Kelvin L , Eliza M, 'Pause the Code: Smart Contracts and the Doctrine of Mistake' 2020, 41(1) *Statute Law Review*.
[77] Joshua A T Fairfield, *Owned: Property, Privacy, and the New Digital Serfdom* CUP ,2017,112–114.
[78] Kevin W, Nicolas C, *'Contracts Ex Machina'*,2017,67(2) *Duke Law Journal* 313, 326–329.
[79] Primavera De Filippi and Aaron Wright, *Blockchain and the Law: The Rule of Code* (Harvard UP 2018) 76–78.
[80] Max Raskin, 'The Law and Legality of Smart Contracts',2017,1(1) *Georgetown Law Technology Review* 305, 310–312.

adequate testing or oversight.[81] Given the irreversibility of blockchain transactions, once a faulty smart legal contract is executed, it can be extremely difficult, if not impossible, to undo the consequences.

Another frequently overlooked challenge is the ambiguity and complexity of contractual language when translated into "code". "Smart Legal Contracts" often contain vague or imprecise terms, especially when legal drafters attempt to replicate complex human agreements through technical logic. Terms such as "reasonable effort," "good faith," or "commercially acceptable standards" are notoriously difficult to codify, yet are common in traditional contracts.[82] When such language is forced into binary logic, it risks losing the nuance and flexibility that courts rely on to interpret disputes fairly. This could lead to either over-simplification of the parties' agreement or misrepresentation of their original intentions.

Finally, "Smart Legal Contracts" create broader regulatory and ethical considerations, particularly with data privacy, consumer rights, and international transactions. Many "Smart Legal Contracts" handle personal data or include parties from several jurisdictions. This raises doubts about compliance with data protection rules, such as "Kenya's Data Protection Act of 2019",[83], the "General Data Protection Regulation (GDPR)" in the European Union[84], and international private law rules governing jurisdiction and applicable law.[85] In lacking a unified global regulatory approach, "Smart Legal Contracts" risk falling into legal grey zones where enforcement and accountability are uncertain.

"Smart Legal Contracts" are performed automatically without human intervention, provided the "code" is drawn, which means that once the automated transactions occur, the "Smart Legal Contracts" become irreversible and non-modifiable.[86] Besides, no central body internationally oversees transactions, making it more challenging to act against non-performance. Similarly, literature shows that since executable intelligent contracts are legally irreversible, it is challenging

[81] Jentzsch C, 'Decentralized Autonomous Organization to Automate Governance' (White Paper, 2016); see also Werbach and Cornell (n 5) 339–342.
[82] "Law Commission" (n 1) para 3.23.
[83] Data Protection Act, No 24 of 2019,Kenya.
[84] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 (General Data Protection Regulation),2016.OJ L119/1.
[85] Kenya Data Protection Act ,No 24 of 2019.
[86] Liu Z, Li Z. *A blockchain-based framework of cross-border e-commerce supply chain. International journal of information management*. 2020 Jun 1;52:102059.

to deal with void contracts.[87] Because "Smart Legal Contracts" can take place between two pseudo-anonymous parties, there arise practical difficulties regarding identifying the party to sue and under what jurisdiction in case of a breach. Furthermore, when outside circumstances beyond the parties' control impact the fulfilment of the contract, for example, incorrect data entry or coding errors, the question of who bears the risk arises. A recent case, "*Singapore International Commercial Court case (B2C2 Ltd v Quoine Pte Ltd)*,"[88] in which the court had to use the deterministic algorithm to focus on the contract's programmer to identify the original intention of the agreement, demonstrates this concept.

1.3 Statement of the problem

Kenya has a well-established legal system or contracts. The Contract Act is the law that governs contracts in Kenya.[89]Additionally, the Act stipulates that English Common Law, as amended by parliamentary actions and equity doctrines, is applicable in Kenya.[90]

The introduction and growing use of disruptive technologies to create "Smart Legal Contracts", however, calls into question whether Kenya's current framework for contract law also applies to "Smart Legal Contracts", even if the legal structure of contract law is well-established.

In the context of digital technology, it is assumed that a contract concluded during financial and commercial activity is sufficient proof that the parties intended to engage into a binding legal agreement. However, when contracts were "encoded" into "code", it is difficult to determine what the parties intended. In order to improve clarity, this study will assess the legal environment in order to pinpoint and suggest clauses and concerns that parties creating "Smart Legal Contracts" should take into account.

1.4 Research objectives

1.4.1 Specific objectives

1. Analyse the current contract law in Kenya and determine their applicability to "Smart Legal Contracts".

[87] Finck M. *Blockchain regulation and governance in Europe*. Cambridge University Press; 2018 Dec 20.
[88]Ng, Evan. "*B2C2 ltd v Quoine Pte Ltd [2019]* SGHC (I) 03." *Sing. Comp. L. Rev.* 2019: 207.
[89] Law of Contracts Act.
[90]Law of Contracts Act s 2.

2. Identify the legal gaps, challenges, uncertainties raised by "Smart Legal Contracts" within Kenya's current legal framework.

3. To examine the best practices adopted by other Jurisdictions, "United Kingdom (England and Wales)" and determine lessons that Kenya can Learn.

1.5 Research questions

The subsequent research questions will serve as the basis for this research:

1. What is the adequacy of the regulatory framework of contract law in Kenya in regulating the use of "Smart Legal Contracts"?

2. What are the gaps and uncertainties on the Kenyan regulatory framework of contract law in regulating "Smart Legal Contracts"?

3. What are the best practices adopted by other jurisdictions, with a focus on the United Kingdom (England and Wales) in regulating "Smart Legal Contracts"?

4. What are the recommendations that can be made to the Kenyan contract law on regulation of "Smart Legal Contracts"?

1.6 Hypothesis

The regulation of "Smart Legal Contracts" is not sufficiently covered by Kenya's current legal system. This inadequacy stems from the absence of clear legal definitions, statutory guidance, and alignment with emerging technologies. As a result, there is a need for regulatory reform to ensure legal certainty and enforceability in smart legal contracting.

1.7 Justification of the study

Given the rapid adoption of blockchain-based "Smart Legal Contracts", it is increasingly vital to oversee their creation and verification.[91] The need for "Smart Legal Contracts" to support vital activities in sectors including supply chain, banking, legal, and medical services is highlighted by the growing demand for verification and validation procedures.

[91]J Ladleif J and Weske M**,** 'A Unifying Model of Legal Smart Contracts' in *Conceptual Modeling: 38th International Conference, ER 2019, Salvador, Brazil, November 4–7, 2019, Proceedings 38* .Springer International Publishing 2019.323–337.

However, most "Smart Legal Contracts" lack explicit specifications, which are required to verify their trustworthiness.[92] Contracts, which serve to define agreements between numerous parties, are unquestionably a significant component of society and commerce.[93] Even while digital technology has made it easier to automate many contracting-related operations, the majority of contracts still contain unstructured, natural language text.[94]

The digital revolution is changing the way people, businesses, and governments interact. The combination of blockchain technology, artificial intelligence, and automated systems has ushered in a new era of digitised transactions, including "Smart Legal Contracts". These contracts are self-executing agreements, which are frequently developed on blockchain platforms. The details of the agreement are directly entered into lines of "code".[95] They promise increased efficiency, lower transaction costs, and decreased human error by automating performance whenever predefined conditions are met. However, technological innovation has overtaken the legal and regulatory frameworks governing contract law and consumer protection, particularly in developing countries like Kenya.

The intersection of technology and law is developing significantly in Kenya, but institutional and regulatory frameworks are still not prepared to handle the rapidity and complexity of innovation. The creation of the Office of the Data Protection Commissioner and the passage of the Data Protection Act of 2019 represent major advancements for the government. However, there are few specific legal documents that address the unique features of smart contracts.

Unlike conventional contracts, which entail obvious legal formality and human judgement, "Smart Legal Contracts" challenge established principles of contract law, such as offer and acceptance, purpose to create legal relations, capacity, and privity.[96] These gaps in regulation create ambiguity, which poses risks to consumers, financial service providers, developers, and other stakeholders operating within Kenya's increasingly digital economy.

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[92] Tolmach P, Li Y, Lin SW, Liu Y, Li Z. A survey of smart contract formal specification and verification. ACM Computing Surveys (CSUR). 2021 Jul 18;54(7):1-38.
[93] Farnsworth EA. *The past of promise: An historical introduction to contract*. Columbia Law Review. 1969 Apr 1;69(4):576-607.
[94] Cummins J, Clack CD. *Transforming commercial contracts through computable contracting. Journal of Strategic Contracting and Negotiation*. 2022 Mar;6(1):3-25.
[95] Szabo N. The idea of smart contracts. *Nick Szabo's papers and concise tutorials*. 1997 Apr;6(1):199.
[96] Werbach K, Cornell N. *Contracts ex machina*. Duke lj. 2017;67:313.

The important legal gap pertaining to “Smart Legal Contracts” in Kenya is the reason for this study's necessity. There is no legal literature and jurisprudence assessing the validity of “Smart Legal Contracts” under Kenyan law, despite the fact that they are being utilised in financial technology (fintech), insurance, logistics, and even land registration systems. For instance, it's still uncertain if a smart legal contract satisfies the conditions set forth by the Contract Act, particularly in cases where there are no written documents or physical signatures.

Moreover, there is no express legal provision in Kenya recognizing or defining “Smart Legal Contracts”, thereby subjecting them to the risk of unenforceability or legal unpredictability. Globally, jurisdictions such as the United States,[97] the United Kingdom, and Australia are beginning to develop interpretive frameworks or guidelines for “Smart Legal Contracts”.[98] These jurisdictions are not only addressing the technical structure of these contracts but also the broader implications for liability, dispute resolution, and privacy. Kenya risks falling behind if its legal system does not actively engage with and respond to these innovations. This research is therefore justified as a timely intervention to analyze the applicability of Kenyan contract law to “Smart Legal Contracts”, identify gaps in the legal framework, and propose reforms aligned with international best practices and local legal traditions

Another important rationale for this research is its possible impact on consumer protection and data privacy. “Smart Legal Contracts” are designed to operate autonomously, collecting, storing, and processing massive volumes of personal and transactional data. While the Data Protection Act establishes a broad framework for the protection of personal data, it does not address the novel data processing dynamics brought by “Smart Legal Contracts”. For example, in a decentralised platform, it may be unclear who the data controller or data processor is, complicating liability and redress processes in the event of a data breach or abuse. In this regard, the study seeks to explore whether existing data protection mechanisms in Kenya are sufficient to safeguard consumers participating in “Smart Legal Contracts” ecosystems, and what regulatory enhancements may be

[97] American Bar Association, *White Paper: Digital and Smart Contracts* (ABA Business Law Section 2019) https://www.americanbar.org/content/dam/aba/administrative/business_law/contract_whitepaper.pdf accessed 15 May 2025.
[98] Taskforce, UK Jurisdiction. *"Legal statement on cryptoassets and smart contracts*." The Lawtech Delivery Panel,2019.

necessary to uphold constitutional rights to privacy and fair administrative action under Articles 31[99] and 47[100] of the Constitution of Kenya, 2010.

Furthermore, this study contributes to legal theory and practice by engaging with the emerging discourse on the harmonization of technology and law in Kenya. Legal systems have lagged behind technological advancements,[101] leading to periods of uncertainty that hinder innovation. For Kenya to attract digital investments and position itself as a regional tech hub under its Digital Economy Blueprint,[102] it must establish a conducive legal environment that embraces innovation while ensuring fairness, justice, and accountability. This research aligns with national goals and can inform policymakers, legal practitioners, and technology developers on how to build a forward-looking legal framework that does not stifle innovation but guides it responsibly.

In addition, the work has academic relevance because it address an important gap. While there has been literature on "Smart Legal Contracts" from a technological standpoint, and some general debates on blockchain and law, there is limited scholarly work that particularly examines the compatibility of "Smart Legal Contracts" with the existing Kenyan legal framework.[103] This study narrows the attention to the distinction between traditional and "Smart Legal Contracts", and by critically analysing how Kenyan law accommodates this distinction, it adds new insights and innovative contributions to the academic and legal scene.

In practice, the study's findings can help courts, arbitrators, and regulatory agencies better understand how to resolve disputes involving "Smart Legal Contracts". Because these contracts can be completed without human interaction, concerns such as mistake, misrepresentation, or undue influence are difficult to assess using standard legal methods. Kenya's legal community must consequently develop new interpretive ways to handle these difficulties. Without such progress, consumers and businesses risk functioning in a legal limbo, with rights and obligations that are neither clearly defined nor easily enforced.

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[99] Constitution of Kenya 2010, art 31: *"Every person has the right to privacy, which includes the right not to have—(a) their person, home or property searched; (b) their possessions seized; (c) information relating to their family or private affairs unnecessarily required or revealed; or (d) the privacy of their communications infringed."*

[100] Constitution of Kenya 2010, art 47: *"Every person has the right to administrative action that is expeditious, efficient, lawful, reasonable and procedurally fair."*

[101] Mireles MS, Hobaugh Jr J. *Cybersecurity Law*. West Academic Publishing; 2022.

[102] Government of Kenya, *Digital Economy Blueprint* (2019).

[103] Christidis K, Devetsikiotis M. *Blockchains and smart contracts for the internet of things*. IEEE access. 2016 May 10;4:2292-303

Finally, this study is justified on several fronts: it fills a critical legal gap in Kenya's digital economy; it addresses concerns about consumer protection and data privacy; it promotes the development of legal doctrine in response to technological innovation; and it contributes to academic literature and policy. As the usage of "Smart Legal Contracts" grows, Kenya's legal system must modernise to keep up. This study lays the groundwork for that transition by critically evaluating the current legal framework and making practical and context-specific proposals for reform.

1.8 Theoretical framework

A multi-theoretical framework is used in this study to give a solid basis for analysing Kenya's smart legal contract regulations. A strictly doctrinal or technical approach would not be adequate given the disruptive nature of these technologies and their potential to change legal, social, and economic relationships. Rather, this framework offers context-specific insights and normative guidance for legal reform by integrating three complementary theories: techno-regulatory theory, legal realism, and public interest theory. When taken as a whole, these theories allow for a critical analysis of the justification for or regulation, the realities of judicial interpretation, and the way that technology is transforming legal norms. This theoretical framework facilitates the creation of fair and useful regulatory solutions that are suited to Kenya's particular situation by referencing traditional legal theory, current regulatory research, and socio-technical viewpoints.

1.8.1 The public interest theory

"The public interest theory of regulation" has emerged as a foundational pillar in modern public economics and legal regulation.[104] It posits that government intervention is necessary "to correct market failures and to safeguard the collective welfare of the public".[105] Regulation, under this theory, is justified not merely as a tool for economic efficiency, but as a mechanism to ensure fairness, equity, and justice, particularly in contexts where unregulated markets may give rise to monopolies, asymmetries of power, or social harm.[106]

The theory was prominently articulated by Richard Posner, a key figure of the Chicago School of Law and Economics.[107] *Posner* contended that, in the absence of regulation, markets are prone to

[104] Breyer, S. *Regulation and its Reform*. Harvard University Press, 2009.
[105] Stiglitz, Joseph E., and Joseph E. Stiglitz. "*Economics of the public sector*." 2000.
[106] Stiglitz, Joseph E., and Joseph E. Stiglitz. "*Economics of the public sector*."
[107] Posner RA. *Theories of economic regulation*.

fail due to factors such as monopolistic control and negative externalities.[108] He further suggested that regulation, when designed effectively, can be relatively costless when weighed against the harm it seeks to prevent.[109] The underlying assumption of public interest theory is that governments, acting as neutral arbiters, are both benevolent and competent in designing policies that serve the broader public good.[110]

However, the idea of public interest predates modern economic theorists and is deeply rooted in classical political and legal philosophy.[111] Thinkers such as Plato, Aristotle, Hobbes, and Rousseau all emphasized the moral duty of the state to act in the collective interest of its citizens. *Plato's* conception of the public interest is rooted in his political philosophy as expounded in *The Republic*, where he envisions an ideal state governed by philosopher-kings.[112] He argues that *"justice in the city-state arises when each class, rulers, auxiliaries, and producers, performs its designated role in accordance with its nature".* For Plato, the interests of individuals must be subordinated to the harmony and unity of the state, as this leads to the well-being of all. He maintained that laws and governance must be directed toward achieving this collective justice and not merely individual desires. Thus, the concept of public interest, in Plato's view, is synonymous with the just and ordered functioning of the state, which is achieved through wise governance that aims at the common good rather than private gain.

Aristotle, a student of Plato, also saw the state as a natural institution whose purpose is to promote the highest good for its citizens.[113] In *Politics*, Aristotle argues that a just government is one that rules for the benefit of all, and not for the interest of a ruler or a specific class. He distinguishes between "true" constitutions, such as monarchy, aristocracy, and polity, which serve the public interest, and "perverted" forms, such as tyranny and oligarchy, which serve private interests. Aristotle's view of law is that it should be the product of reason, untainted by personal bias, and that the law should serve to cultivate virtue in citizens.[114] The public interest, therefore, lies in the

[108] Posner RA. Theories of economic regulation.
[109] Posner RA. *Theories of economic regulation*. National Bureau of Economic Research; 1974.
[110]Hantke-Domas M. *The public interest theory of regulation: non-existence or misinterpretation?.* European journal of law and economics. 2003 Mar;15:165-94.
[111]Held D. *Political theory and the modern state*. John Wiley & Sons; 2013 Apr 24.
[112] Ferrari GR, editor. Plato: *The Republic*. Cambridge: Cambridge University Press; 2000.
[113] Galston M. *Taking Aristotle seriously: Republican-oriented legal theory and the moral foundation of deliberative democracy.* Cal L. Rev.. 1994;82:329.
[114] Galston M. *Taking Aristotle seriously: Republican-oriented legal theory and the moral foundation of deliberative democracy.*

development of a just society where governance is conducted for the common welfare and in accordance with rational principles.

In contrast to the classical theorists, Thomas Hobbes takes a more pragmatic and security-oriented approach to the public good. In *Leviathan*, Hobbes characterises humanity's natural condition as one of anarchy and perpetual struggle, with existence being "solitary, poor, nasty, brutish, and short." To avoid disorder and confusion, people agree to a social contract, surrendering some of their freedoms to an authority in return for peace and protection.

.For Hobbes, the sovereign's primary function is to maintain order and protect the people from the dangers of the natural state. Regulation and governance, from this perspective, are not only justified but essential to the public interest. The law, therefore, must be shaped and enforced by a central authority with the power to prevent societal breakdown and ensure collective security.

In legal jurisprudence, the concept can be traced back to the writings of Lord Matthew Hale, whose judgment in *Allnut v Inglis* is often cited as an early recognition of the public interest doctrine in commercial regulation.[115] In that case, Lord Hale asserted that where a public facility, such as a wharf, enjoys monopolistic status, it becomes "affected with a public interest" and is thereby subject to principles of reasonableness and moderation. The idea that certain private activities can take on a public character when they affect the community at large laid the groundwork for modern regulatory frameworks.[116]

Contemporary scholars such as Steven Croley have further expanded the theory by focusing on institutional decision-making rather than purely economic incentives.[117] Croley argues that public interest can be pursued effectively through the autonomy of regulatory agencies, even in the face of political opposition or lobbying by vested interests. According to this view, public-spirited regulators, guided by procedural rules and institutional norms, can develop regulations that promote diffuse social benefits, even when such benefits are not immediately visible or easily quantifiable.[118]

[115] *Allnut v Inglis* (1810) 12 East 527.
[116] Wilensky HL. *The welfare state and equality: Structural and ideological roots of public expenditures*. Univ of California Press; 1974.
[117] Croley SP. *Regulation and public interests: The possibility of good regulatory government*,2009.
[118]. Croley SP. *Regulation and public interests: The possibility of good regulatory government.*

In the realm of "Smart Legal Contracts", public interest theory serves as a persuasive normative foundation for Kenya's regulatory structure. "Smart Legal Contracts", which are self-executing and technologically advanced, have the potential to dramatically transform traditional contractual relationships and market dynamics. While they promise efficiency and automation, they also raise fundamental concerns about consumer protection, access to remedies, legal clarity, and technical exclusion.

Applying public interest theory, the regulation of "Smart Legal Contracts" becomes a matter of public concern. In a jurisdiction like Kenya, where legal literacy, digital access, and institutional oversight may vary widely, there is a clear justification for the state to intervene and establish clear legal parameters. Without such intervention, the use of "Smart Legal Contracts" could create uneven power dynamics, limit recourse in cases of harm, and exclude vulnerable populations from fair participation in the digital economy.

Therefore, this theory supports the proposition that the regulation of "Smart Legal Contracts" is not merely desirable, it is necessary. It aligns with constitutional obligations to promote justice, equity, and the rule of law, and underscores the role of the state as a guarantor of the public good in the face of rapid technological change.

1.8.2 Legal realism

"Legal Realism" is a jurisprudential theory that challenges the formalistic and doctrinal view of law as a set of neutral, abstract rules that are mechanically applied by judges.[119] Instead, it asserts that law is deeply influenced by social, political, economic, and personal factors.[120] Legal realists argue that legal outcomes are not solely determined by objective legal reasoning but by how the law is interpreted and applied in real-world contexts.[121]

The idea emerged in the early 1900s, notably through scholars like *Karl Llewellyn* and *Jerome Frank*, who highlighted how judges' personalities, backgrounds, and social values often influence their rulings.[122] They argued that understanding the law requires looking beyond statutes and

[119] Leiter B. *Naturalizing jurisprudence: essays on American legal realism and naturalism in legal philosophy*. Oxford University Press; 2007 Mar 22.
[120] Tamanaha BZ. *Beyond the formalist-realist divide: the role of politics in judging. InBeyond the Formalist-Realist Divide* 2009 Oct 26. Princeton University Press.
[121] Frank J, Bix BH. *Law and the modern mind*. Routledge; 2017 Jul 12.
[122] Llewellyn KN. *The bramble bush: The classic lectures on the law and law school*. Oxford University Press; 2008.

precedent to consider how it functions, focusing on the law as it exists, not just as it ideally should be.[123]

Legal realism plays a crucial role in the realm of "Smart Legal Contracts". These blockchain-based, self-executing "coded" contracts challenge traditional ideas about legal enforceability and the influence of human judgment in interpreting contracts.[124] Legal realism allows us to interrogate how such contracts will be interpreted in the Kenyan legal system, especially in the absence of specific legislative guidance.[125] It also provides a framework for understanding how judicial attitudes, institutional capacities, and societal expectations will shape the legal treatment of "Smart Legal Contracts".[126]

Furthermore, Legal Realism helps highlight the potential disconnect between the technological determinism embedded in "Smart Legal Contracts" and the human realities of commerce, inequality, and access to justice.[127] By adopting a realist perspective, this thesis examines whether the existing legal institutions in Kenya are equipped to handle disputes arising from automated contracts, and whether judicial discretion can or should be exercised in contexts where the contract performs itself.[128]

1.8.3 Law and technology (techno – regulatory theories)

The convergence of law and technology has given rise to Techno–Regulatory Theories, which examine how digital technologies shape, and are shaped by, legal norms. One of the most influential voices in this domain is Lawrence Lessig, who famously argued that "code" is law", suggesting that the structure of software can influence conduct just as powerfully as formal legal rules or informal social pressures.[129]

Under this theory, technological design becomes a form of regulation, sometimes replacing or circumventing traditional legal mechanisms.[130] This is particularly evident in "Smart Legal Contracts", where the terms of the agreement are not only expressed in natural language but

[123] Frank, J. *Courts on trial: Myth and reality in American justice*. Princeton University Press, 1973.
[124] De Filippi, Primavera,Aaron W. *Blockchain and the law: The rule of code*. Harvard University Press, 2018
[125] Verstraete M. *The stakes of smart contracts*. Loy. U. Chi. LJ. 2018;50:743.
[126] Brownsword, Roger. *Law, technology and society: reimagining the regulatory environment*. Routledge, 2019.
[127] Yeung K. 'Hypernudge': *Big Data as a mode of regulation by design. InThe social power of algorithms* 2019 Oct 23 (pp. 118-136). Routledge.
[128] Lessig L. *Code: And other laws of cyberspace*. ReadHowYouWant. com; 2009 Jul 9.
[129] Lessig L. Code: And other laws of cyberspace.
[130] Brownsword, Roger. *Law, technology and society: reimagining the regulatory environment*. Routledge, 2019.

"encoded" into self-executing "code" that performs automatically when pre-defined conditions are met.[131] In such situations, the "code" itself is enforced, which raises important concerns regarding how the law should govern or supervise these technologies.[132]

Techno–regulatory theories compel legal scholars and regulators to reconsider the boundaries of regulation in a digitized environment. They challenge the assumption that law can remain static in the face of rapidly evolving technologies. Instead, these theories call for a proactive, adaptive, and often hybrid approach to regulation, where legal frameworks interact with technical standards, digital infrastructure, and design principles to ensure accountability, fairness, and inclusivity.[133]

In the Kenyan context, this theory is crucial in assessing how the legal system can engage with emerging technologies such as blockchain, cryptographic identities, and "Smart Legal Contracts". It supports the argument that effective regulation of "Smart Legal Contracts" must go beyond traditional legal drafting to include an understanding of how technology operates as a regulatory mechanism in itself. It also underlines the importance of embedding legal safeguards, interpretability, and human oversight into technological systems to prevent unjust outcomes and ensure that the deployment of "Smart Legal Contracts" aligns with constitutional values and public policy.[134]

1.9 Literature review

1.9.1 The interface between law and technology

Palmerini[135] , states that the relationship between innovation and the law has quickly evolved into a precise and defined research issue for attorneys, virtually becoming an autonomous research domain. She observes the formation of a significant corpus of literature studying how legal analysis and regulatory efforts are evolving in response to technological advancements. She contends that there is a need for regulation of emerging technologies since they affect interests such as identification, privacy, health, and bodily integrity, as well as the principles of autonomy and

[131] De Filippi, Primavera,Aaron W. *Blockchain and the law: The rule of code*. Harvard University Press, 2018.
[132] Yeung, K. "'Hypernudge': Big Data as a mode of regulation by design." *The social power of algorithms*. Routledge, 2019. 118-136.
[133] Cohen, Julie E. *Between truth and power*. Oxford University Press, 2019.
[134] Hildebrandt, e. *Smart technologies and the end (s) of law: novel entanglements of law and technology*. Edward Elgar Publishing, 2015.

[135] Palmerini E. *The interplay between law and technology, or the RoboLaw project in context. Law and technology: the challenge of regulating technological development*. -(RoboLaw series; 1). 2013:7-24.

accountability. These advances have an impact on many other areas of the law, including tort and insurance law.

Palmerini[136] goes on to claim that the introduction of this new type of technology may result in a number of legal issues, beginning with their status as subjects capable of participating into basic transactions, committing legal acts, and being held accountable for damage caused to their users and third parties. She also observes that the law is increasingly being used to regulate scientific activities, products, and outcomes, while legal action is frequently based on expert knowledge and scientific concepts.

She contends that the interplay between technology and law generates a type of hybrid knowledge in which contributions from both legal and technological actors complement one another and mutually elicit and legitimise content. She adds that, while the legislative process is slower than the rapid advancement of technology, it should not be viewed as a weakness. Rather, it should be considered as a prudent deferral of judgement, allowing the issues at hand to mature and providing time for extensive research, ultimately leading to better-informed policy decisions and more effective implementation

On the other hand, *Brownsword*[137] holds a contrary view to *Palmerini's* optimistic portrayal of a co-evolutionary relationship between law and technology. *Brownsword* offers a more critical and cautionary perspective. He argues that in an era increasingly governed by smart regulatory technologies, the traditional regulatory environment is undergoing a profound transformation, one that may undermine the rule of law and core legal ideals such as coherence, liberty, human rights, and human dignity. *Brownsword* calls for a radical re-imagination of the legal landscape, proposing that legal rules must now be understood as only one element within a broader regulatory matrix that includes technological management systems. He warns that this shift may render traditional legal domains such as criminal law, tort, and contract law redundant, as technological mechanisms pre-emptively manage risk and behaviour. Furthermore, he questions whether the effectiveness of technological management justifies its normative legitimacy, challenging us to consider whether society is prepared for "rule by technology" as opposed to the "rule of law." This perspective presents a critical counterbalance to Palmerini's hybrid-knowledge framework, compelling

[136] Palmerini E. *The interplay between law and technology, or the RoboLaw project in context*.
[137] Brownsword, R. *Law, technology and society: reimagining the regulatory environment*.

scholars to reflect on whether the law's adaptability is sufficient to preserve its foundational values in the face of disruptive technological change.

Recently, *Brownsword*[138] has deepened his critical perspective on the impact of technological governance on legal systems by addressing what he terms the "governance dilemma." He argues that while emerging technologies offer opportunities for more efficient and effective regulatory mechanisms, they simultaneously risk undermining the foundational values of the legal order. Specifically, *Brownsword* cautions that overreliance on technological management may displace the human-centric elements of law, such as moral reasoning, accountability, and the deliberative character of legal judgment. He warns that this shift could compromise legal legitimacy, particularly if automated systems operate without transparency or public justification. In this view, technological regulation, though operationally effective, might be normatively deficient if it fails to uphold the ideals of human dignity, individual autonomy, and the Rule of Law. *Brownsword's* recent work reinforces his broader thesis that law must not simply adapt to technological change but must critically assess the terms on which that adaptation occurs, ensuring that the legal system retains its human face.

1.9.2 Jurisdiction and dispute resolution

Walden and Koutsou,[139] in their work on cybersecurity and cross-border legal issues, argue that jurisdictional challenges are heightened when "Smart Legal Contracts" operate across borders. They highlight the difficulties in assessing which jurisdiction has authority over a dispute involving a distributed ledger or blockchain technology, where the parties may be located in different jurisdictions, and the actions are executed automatically by smart "code". These challenges complicate the traditional framework for dispute resolution, as courts struggle with enforcement and recognition of multi – jurisdictional contracts. They state that "the rapid evolution of cross-border digital transactions presents unique jurisdictional challenges, where traditional principles of territoriality in jurisdiction are increasingly inadequate."

McEwen [140]examines how "Smart Legal Contracts" are reshaping dispute resolution mechanisms. She notes that self-executing contracts embedded in smart technology can lead to automatic

[138] Roger B, 'Law, Technology, and Our Governance Dilemma' ,2024. *Law and Philosophy* 13(3) 30.
[139] Ian W, Marios K, *Cybersecurity Law and Policy* (Oxford University Press 2020).
[140] (Gabriella S.L. McEwen, 'Smart Contracts and Dispute Resolution: Legal Frameworks and Challenges' 2021).58 *Journal of Technology and Law* 45)

enforcement of terms, reducing the need for traditional litigation or arbitration. However, *McEwen* warns that this raises concerns about the lack of legal oversight and potential issues with fairness if disputes arise from "code" that is not easily understood by all parties. She states that while "Smart Legal Contracts" promise efficiency in dispute resolution, they may lead to issues of fairness and accessibility, particularly when parties are unable to fully interpret or contest the "code" governing the contract.

Williams[141] also takes the same stance as the above two scholars on the issue of dispute resolution and jurisdictional challenges. She discusses the practical difficulties of cross - border "Smart Legal Contracts" and blockchain-based agreements. The emphasis is the immutability of blockchain, which means that once a transaction is recorded, it cannot be undone, complicating dispute resolution. *Williams* suggests that international cooperation and harmonized legal frameworks will be necessary to address jurisdictional issues effectively, noting that traditional court systems are ill-equipped to handle the scale and complexity of disputes arising from distributed networks. She concludes that Blockchain and "Smart Legal Contracts" present an unprecedented challenge to traditional jurisdictional frameworks, requiring new forms of international legal cooperation and the development of specialized dispute resolution mechanisms.

Conversely, *Hodges*[142] offers a more optimistic view, suggesting that current legal systems may still be capable of addressing jurisdictional challenges related to "Smart Legal Contracts". He highlights the shift toward alternative dispute resolution (ADR) mechanisms, particularly online dispute resolution (ODR), which can handle cross-border disputes more efficiently. Hodges argues that the jurisdictional ambiguity of "Smart Legal Contracts" can be mitigated through ODR, providing a flexible means for resolving international disputes without being tied to a specific jurisdiction. He concludes that "Smart Legal Contracts" and blockchain technology represent a significant shift in dispute resolution, enabling parties to resolve conflicts through digital platforms, bypassing traditional courts in favor of more accessible and efficient mechanisms.

[141] (Martha H. Williams, 'Jurisdictional Challenges in Blockchain Dispute Resolution',2023.44 *International Journal of Law and Technology* 102)
[142] Christopher Hodges, *The Future of Dispute Resolution* ,2022.

1.9.3 Consumer protection in the era of technology

McEwen[143] discusses how "Smart Legal Contracts" can lead to a lack of legal oversight in digital transactions, which raises concerns about fairness. She argues that while "Smart Legal Contracts" promise efficiency, their automated nature could disadvantage consumers, particularly those who don't fully understand the "code" governing the contract. McEwen warns that disputes arising from these contracts might be difficult to resolve due to the complexity of the "code" and the absence of traditional legal intervention.

Williams[144] highlights the jurisdictional challenges posed by blockchain and "Smart Legal Contracts" in cross-border transactions. She discusses how traditional legal systems are ill-equipped to handle the scale and complexity of disputes arising from decentralized networks. Williams suggests that international cooperation and harmonized legal frameworks are necessary to protect consumers across borders. She also emphasizes that data privacy concerns are exacerbated by blockchain's immutability, which might conflict with consumer data protection laws like the GDPR.

Fairfield[145] explores the challenges "Smart Legal Contracts" pose to traditional consumer protection laws. He emphasizes that while "Smart Legal Contracts" can automate transactions, they may also bypass established legal safeguards, potentially leaving consumers vulnerable.

Khan[146] as former Chair of the Federal Trade Commission, Khan advocated for proactive antitrust enforcement and consumer protection, particularly against large tech companies, emphasizing the importance of preventing monopolistic practices and promoting competition.

On the contrary, *Filippi*[147]*,* acknowledges the legal and regulatory gaps in blockchain systems but argues that blockchain itself can self-regulate through decentralized governance mechanisms. She cautions against imposing traditional legal frameworks on blockchain systems, suggesting that such an approach may undermine the benefits of decentralization and autonomy. Rather than

[143] Bridget M, 'Legal Automation and the Rule of Law' in Marcelo Corrales, Mark Fenwick and Nikolaus Forgó (eds), *New Technology, Big Data and the Law* Springer, 2020.
[144] Rebecca W, 'Blockchain, Smart Contracts, and Cross-Border Consumer Protection: Challenges and Solutions' ,2021.16 *Journal of International Commercial Law and Technology* 123.
[145] Joshua A Fairfield, 'Smart Contracts, Bitcoin Bots, and Consumer Protection' ,2015.71 *Washington and Lee Law Review* 535.
[146] Lina M Khan, 'Amazon's Antitrust Paradox' ,2017 126 *Yale LJ* 710.
[147] Primavera De Filippi, *Blockchain and the Law: The Rule of Code* (Harvard University Press 2018).

relying heavily on state regulation for consumer protection, she suggests alternative mode like DAO-based enforcement and community-led dispute resolution.

Werbach[148] has written extensively on blockchain governance. While he sees value in legal frameworks, he also argues that blockchain's "code"-based trust systems are often more effective than traditional legal enforcement, especially in cross-border settings. He argues that in some contexts, technical architecture might do a better job protecting consumers than national legal systems, particularly where those systems are inefficient or corrupt.

Epstein[149] a classical liberal legal theorist, often argues against paternalistic regulations. In tech contexts, he criticized consumer protection laws as being overly restrictive and diminishing individual autonomy and contractual freedom. He suggests that informed consent and market forces are sufficient to regulate tech interactions in many cases, especially for knowledgeable consumers.

1.9.4 Data protection amid innovation

Flores[150] highlights the inherent tension between the unchanging nature of blockchain-based "Smart Legal Contracts" and data protection regulations like the GDPR. She points out challenges such as the difficulty in exercising the "right to be forgotten" and ensuring privacy controls within "Smart Legal Contracts". Her analysis underscores the need for legal frameworks to adapt to these technological advancements. She however suggests that attempting to impose rigid GDPR-style controls on blockchain may be futile or counterproductive, and alternative governance models should be considered instead.

In the Cambridge Handbook of "Smart Legal Contracts", *Moerel* discusses the challenges blockchain technology poses to data protection, particularly regarding the GDPR's requirements. She emphasizes the need for new legal interpretations and possibly new regulations to address issues like data immutability and the identification of data controllers in decentralized systems.

[148] Kevin Werbach, *The Blockchain and the New Architecture of Trust* (MIT Press 2018).
[149] Richard A Epstein, *Skepticism and Freedom: A Modern Case for Classical Liberalism* (University of Chicago Press 2005).
[150] Flores, María Emiliana, 'Smart Contracts & Personal Data Protection: A Legal Perspective on Potential Issues' ,2023.11 *International Journal of Science, Technology and Society* 175.

King'ori[151] discusses how Kenya's Data Protection Act can serve as a tool to balance innovation and consumer safety in the digital finance sector. She argues that regulation doesn't necessarily hinder innovation but can provide a framework that encourages responsible technological advancement while safeguarding human rights.

Contrary to the opinion held by the above scholars, *Wright*[152] sees "Smart Legal Contracts" and blockchain as tools that can enhance trust and reduce reliance on traditional enforcement, including centralized data controllers. He contends that self-enforcing digital agreements might provide stronger protection for users in some scenarios than what regulatory frameworks currently offer.

Schrepel[153] also is of the same opinion as Wright. He is a strong advocate for innovation-friendly regulation, Schrepel criticizes overly strict privacy rules that could limit the development and scalability of blockchain technologies. He emphasizes "innovation through competition" and argues that market forces, rather than top-down regulation, can often yield better results for both privacy and technology development.

1.9.5 Research methodology

This research will employ the doctrinal methodology. The researcher of this study chooses doctrinal methodology as appropriate because contract's is a field of law with established accepted rules on its foundation, such as the formation of a contract. Contract law has settled legal principles that are accepted globally. The established principles of contract law are not up for debate in this study; rather, it critically evaluates whether the legal structures that control these principles require modification. Since the researcher will first attempt to restate the principles controlling contract law and investigate the creation, components, and operation of "Smart Legal Contracts", as well as whether these rules are adequate to govern them, a doctrinal approach is applicable.

This study will also refer to primary and secondary sources of data. Books published journal articles, and institutional reports both locally and internationally will be assessed on matters of "Smart Legal Contracts".

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[151] King'ori, Mercy, 'The Data Protection Act as a Tool for Permitting Innovation and Consumer Safety in Kenya's Digital Finance Market' (Centre for Intellectual Property and Information Technology Law, 12 February 2020) https://cipit.strathmore.edu/the-data-protection-act-as-a-tool-for-permitting-innovation-and-consumer-safety-in-kenyas-digital-finance-market/

[152] Wright, Aaron, *Blockchain and the Law: The Role of Self-Enforcement in Digital Contracts* (Oxford University Press 2019).

[153] Schrepel, Thibault, *Blockchain + Antitrust: The Decentralization Formula* (Edward Elgar Publishing 2023)

This research will also analyse available jurisprudence on the subject matter locally and globally. Being a rather new topic, the researcher seeks to identify any cases decided by the courts in Kenya, South Africa, and the United Kingdom and how the courts have applied the established principles of contract law. South Africa is appropriate jurisdiction since it's a common law country and also relevant in evaluating the progress Kenya has made in the legal and technology field as compared to its regional counterpart South Africa. The "Law Commission" of England and Wales recently did research and gave a report on the legal framework on "Smart Legal Contracts". It is also a relevant country to this study because it is a common law jurisdiction and the Kenyan Contract Act imports application of English Law on contracts.

1.10 Chapter breakdown

Chapter one outlines the background to the research problem, the research problem, the hypothesis, the literature review, the theoretical framework and limitation of the study.

Chapter two critically analyses the Kenya legal framework of contract law and its application to "Smart Legal Contracts". It examines the legal framework's provisions on the creation of "Smart Legal Contracts", offer and acceptance, contract conclusion time, and the parties' contractual intent in order to find any gaps.

Chapter three undertakes a comparative study of best practices for regulating "Smart Legal Contracts" from United Kingdom highlighting efforts it has made and identifying lessons that Kenya can learn.

Chapter four discusses the findings identified in chapter one, two and three. The chapter then assesses whether indeed there is need for regulation of "Smart Legal Contracts" in Kenya. This chapter will also give proposals for further research in order to extensively develop this area of study.

Chapter 2: The Legal Framework on the Regulation of "Smart Legal Contracts" in Kenya

2.1 Introduction

The objective of this chapter is to examine the current legal framework for contracts in Kenya and assess its suitability to "Smart Legal Contracts". It explores the current legal framework of contracts, traditional contract principles, particularly those required to form a legally binding contract. It further identifies critical gaps in the current framework that justifies the need for reforms given the growing need for "Smart Legal Contracts".

2.2 An overview of contract law Kenya

As previously discussed in Chapter One, the concept of contracts has traversed a fascinating evolutionary journey, transitioning from ancient methods such as spoken agreements, gestures such as handshakes ways[154] of contracting to the more modern, structured forms of agreement, such as written agreements.[155] In the past, contracts were often informal and could be established through oral agreements or a combination of oral and written understandings.[156]The Kenyan Courts, as illustrated in the case of "*Patrick Njuguna Kimondo v Geoffrey Vamba Mbuti [2019] Eklr"*[157] acknowledge the validity of oral contracts. The court emphasized that the absence of a written agreement does not nullify a contract. The court further affirmed the legal validity of oral contracts, stating that if the foundational elements of contract formation are present, an oral contract remains legally binding[158]. Crucially, the court made it clear that an agreement is not always void just because there isn't a written instrument. On the other hand, parties also frequently entered into contracts that were fully recorded in writing.

In contemporary Kenya, and more so on the global perspective, two methods of electronic contracting have gained prominence[159]. Parties now negotiate contracts via email, where they can attach terms and even accept offers through electronic messages as in the *Thomas Ogunde*

[154] SHS Maine and DJ Scala, Ancient Law, 1st edn, Routledge, 2002, https://doi.org/10.4324/9781315082318.
[155] RH Graveson, 'The Movement from Status to Contract' ,1940, 4 Modern Law Review 261.
[156] A Magalla, 'Cyber Contracts in Tanzania under the Electronic Transaction Act, No. 13 of 2015' ,2018,SSRN Electronic Journal https://doi.org/10.2139/ssrn.3129340.
[157] *Omar Gorhan v Municipal Council of Malindi (Council Government of Kilifi) v Overlook Management Kenya Ltd* ,2020, eKLR
[158] Contract Act (Cap 23 Laws of Kenya) s 3.
[159]Z Fauziah et al, 'Application of Blockchain Technology in Smart Contracts: A Systematic Literature Review' ,2020, 2(2) Aptisi Transactions on Technopreneurship 160.

case,[160]where the court determined that an email-based offer and acceptance constitutes a legally binding contract.

Another avenue for contracting involves the vast expanse of the World Wide Web (WWW), where a party maintains a website, advertises goods or services, and another party may perform an action, such as purchasing those goods or services, thus forming a contractual relationship. Additionally, the "Electronic Data Interchange Agreement (EDI)", which allows parties to exchange data via private networks or the internet, is recognised as another form of electronic contracting by "the United Nations Commission on International Trade Law (UNCITRAL) Model Law on E-commerce."[161]

The legal perspective in Kenya has transitioned from its English common law tradition to a framework that adapts to the ever-changing economic, social, and political environment. However, Kenya's legal system remains rooted in a judge-based system, and the reliance on precedents remains a fundamental aspect of the Kenyan legal system.[162] The Law of Contracts Act stipulates that English law on contracts applies in Kenya, subject to certain modifications, aligning Kenyan contract law with common law principles.[163] Kenyan contract law is significantly influenced by judicial decisions that have influenced how legally binding contracts are created and structured. . The Kenyan regulatory framework for "Smart Legal Contracts" is examined in this perspective.

Kenya has enacted legislation to address gaps, anticipate uncertainties, and provide legal guidelines for electronic transactions and online trade. These laws include the ***"Kenya Information and Communications Act", "the Evidence Act", "the Sale of Goods Act", "The Law of Contracts Act", "the Business Amendment Act", "Data Protection Act, 2019", "Consumer Protection Act, 2012" and the "Constitution of Kenya 2010".***

2.3 The Constitutional Framework

The "Constitution of Kenya" establishes the Constitution as the *"Supreme Law of the Republic",* binding all individuals and state organs.[164]The general rules of International Law "form part of

[160] *Thomas Ogunde Mboya v Grand Royal Swiss Hotel* [2022] eKLR.
[161] Castellani LG. UNCITRAL texts on electronic commerce. in The Elgar Companion to UNCITRAL 2023 Nov 21 (pp. 512-524). Edward Elgar Publishing.
[162] Okubasu, Duncan M. "Common law in Kenya." *The Routledge Handbook of African Law*, 2021,: 114-128.
[163] Law of Contract Act s 2
[164] Constitution of Kenya ,2010.

Kenyan law".[165]The Supreme Court of Kenya, in the case of "*Mitu-Bell Welfare Society v Kenya Airports Authority & 2 others"*, acknowledges that international law can be invoked to address deficiencies in domestic law, given its incorporation into the national legal framework. International law often functions as soft laws, providing guidelines for member states, and they are typically adopted by those states,[166]

This implies that international law can be considered in the interpretation of Kenyan law and statutes. To support the adoption of international law by member states, "the United Nations Commission on International Trade Law (UNCITRAL)" created "model laws" to serve as guidelines and be adopted by member states in the realm of electronic commerce. These model laws provide guidelines to address gaps and legal uncertainties created by domestic statutes and legislations.

Moreover, Article 10 of the Constitution sets out national values and principles of governance, including *"the rule of law, human dignity, equity, social justice, inclusiveness, equality, and accountability*".[167] These values must inform all legislative and policy decisions, including the development of digital legal infrastructure. In the context of "Smart Legal Contracts", these principles require that automated enforcement mechanisms do not undermine due process, equity, or accountability. Similarly, Article 20(4)(a) mandates that courts interpret the Bill of Rights in a manner that "most favors the enforcement of a right or fundamental freedom," a mandate that supports judicial oversight over potentially unjust algorithmic decisions.[168]

Of particular concern in the digital age is the *"right to privacy",* protected under Article 31[169]. This provision guarantees the right not to have one's person, home, or property searched or data unnecessarily revealed.[170] Given that many "Smart Legal Contracts" operate on public blockchains where data permanence and traceability are standard features, privacy rights may be threatened, especially if personal or financial information is exposed or improperly processed. Article 35, which guarantees the right to access information held by the state or required for the exercise of

[165] Constitution of Kenya ,2010, art 2(5).
[166]A Boyle, 'Soft Law in International Law-Making' (2014) 5 International Law 119.
[167] Constitution of Kenya 2010, art 10.
[168] Constitution of Kenya 2010, art 20(4)(a). *"promote the values that underlie an open and democratic society based on human dignity, equality, equity and freedom."*
[169] Constitution of Kenya 2010, art 31
[170] Constitution of Kenya 2010, art 31.

any right, also comes into play.[171] If the "code" underpinning a smart contract is opaque or inaccessible to the average user, this may violate the principle of informed consent, and by extension, the right to information.

Further, Article 27 of the Constitution prohibits discrimination on any ground, including social origin, status, or technology access.[172] This is significant in the context of digital exclusion, where certain segments of the population may be unable to understand, access, or enforce rights under "Smart Legal Contracts" due to technological illiteracy or lack of infrastructure. Article 43, which enshrines economic and social rights such as access to housing, healthcare, and food, underscores the importance of ensuring that automated technologies do not restrict access to essential services due to rigid or unaccountable execution.[173]

"Smart Legal Contracts" often include automated or algorithm-driven dispute resolution mechanisms, which resonates with Article 159(2)(c) that promotes the use of alternative dispute resolution (ADR) mechanisms, including arbitration and mediation. [174]These digital ADR systems can enhance efficiency, but they must still comply with constitutional standards of fairness and access to justice. Finally, Article 165(3)(d) grants the High Court jurisdiction to hear any question concerning the interpretation of the Constitution, offering a critical safeguard against the unregulated use of self-executing "code" that may infringe constitutional rights.[175]

2.4 General Principles of International Law and International Statutes Ratified

2.4.1 UN convention on the contracts for the international sale of goods (CISG)

The United Nations Convention on Contracts for the International Sale of Goods (CISG) governs cross-border sales agreements between parties situated in different countries[176]. It was created to give international trade a standardized set of regulations and to encourage more legal predictability and clarity in cross-border transactions.[177]

[171] Constitution of Kenya 2010, art 35.
[172] Constitution of Kenya 2010, art 27.
[173] Constitution of Kenya 2010, art 43.
[174] Constitution of Kenya 2010, art 159(2)(c).
[175] Constitution of Kenya 2010, art 165(3)(d).
[176] United Nations Convention on Contracts for the International Sale of Goods (adopted 11 April 1980, entered into force 1 January 1988) 1489 UNTS 3 (CISG).
[177]A Rosett, 'Critical Reflections on the United Nations Convention on Contracts for the International Sale of Goods' ,1984,45 *Ohio State Law Journal* 265.

Regarding its relevance to smart legal contracting, the CISG was drafted in the year 1980, a time when electronic commerce was not as prevalent as it is today. As a result, the CISG does not specifically address "Smart Legal Contracts" in its provisions. The year 1980 was a year before the internet era, let alone the age of smart contracting. The CISG does not also directly mention digital signatures, block-chain based agreements, or automated contract execution, all of which are key components of "Smart Legal Contracts". However, it does provide a framework for the formation of contracts and the obligations of the parties, which can be applied to electronic and "Smart Legal Contracts" with some adaptation.

The creation of contracts and writing requirements are the main areas of the CISG that are relevant to "Smart Legal Contracts". The CISG establishes guidelines for the offer and acceptance of contracts with regard to their formulation.[178] Emails, online forms, and other digital communications can all be covered by these guidelines. The CISG's offer and acceptance clauses have been construed by courts and academics to include electronic communication. An effective way to convey an offer and acceptance is through email correspondence. In a 2012 arbitration case before the China International Economic and Trade Arbitration Commission (CIETAC), for example, the tribunal determined that an email offer and a reply confirming the terms formed a legally binding contract under the CISG.[179] The tribunal underlined that the email correspondence between the parties demonstrated their genuine intentions and satisfied the conditions of the Convention for the formation of a contract.

Kenyan courts have shown a willingness to invoke other international treaties, when necessary, despite the fact that there is no reported Kenyan case where the United Nations Convention on Contracts for the International Sale of Goods (CISG) has been applied. For example, the Court of Appeal upheld in "*Karen Njeri Kandie v. Alassane Ba & Another (2015)* eKLR*"*[180] that, "pursuant to Article 2(6) of the Constitution, international treaties ratified by Kenya are incorporated into domestic law". In evaluating allegations of discrimination and socioeconomic rights violations, the court maintained the applicability of the International Covenant on Civil and Political Rights (ICCPR). Similarly, in the case of "*Open Joint Stock Company Zarubezhstroy Technology v Gibb*

[178]M Burri and R Polanco, 'Digital Trade Provisions in Preferential Trade Agreements: Introducing a New Dataset' ,2020, 23 *Journal of International Economic Law* 187

[179] CIETAC Arbitration Award (PRC, 2012), available at UNILEX database https://www.unilex.info/cisg/case/2429

[180] *Karen Njeri Kandie v Alssane Ba & another* [2015] KECA 826 (KLR)

Africa Limited [2017] eKLR"[181] the High Court in enforced an international arbitral award by citing "the New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards, highlighting Kenya's duty to uphold treaty-based obligations in cross-border business disputes". Despite the lack of explicit statutory domestication, these cases demonstrate the Kenyan judiciary's willingness to interact with international legal instruments.

These cases highlight the relevance of the CISG in international commercial disputes in Kenya when the parties have not specifically excluded or opted out of its application in their contracts. It is no doubt that technological advancement has created an increase in commercial trading across various jurisdictions and hence disputes across borders are bound to arise.

The evolution of the "United Nations Convention on Contracts for the International Sale of Goods (CISG)", as well as its possible adaptability to smart contracting practices, reflects the changing global commerce environment. Despite being written before widespread internet commerce, contract formation principes such as "offer and acceptance" in the CISG have been construed to include electronic interactions, indicating their relevance to "Smart Legal Contracts". Electronic transactions, including emails, can result in enforceable contracts, which is compatible with the operation of "Smart Legal Contracts" conducted electronically. Despite its adaptation to "Smart Legal Contracts", the CISG may include complex interpretations and variations among jurisdictions, emphasizing the significance of researching national legal frameworks before engaging in "Smart Legal Contracts".

While the CISG offers a general framework that courts have extended to electronic communications, it lacks precise definitions and protections applicable to "Smart Legal Contracts". For instance, the absence of clarity around automated performance, digital identity verification, and decentralized platforms leaves parties vulnerable to legal uncertainty. As "Smart Legal Contracts" increasingly facilitate cross-border transactions, there is a pressing need to either modernize the CISG or develop complementary instruments at national and international levels to address these emerging realities.

[181] *Open Joint Stock Company Zarubezhstroy Technology v Gibb Africa Limited* [2017] KEHC 6835 (KLR)

2.4.2 UNCITRAL model law on electronic commerce (1996)

The primary objective of the UNCITRAL Model Law on Electronic Commerce (1996)[182] was to facilitate and provide guidelines to member states on internationally acceptable rules. It sought to guarantee that electronic transactions were treated equally to conventional paper-based contracting and to eliminate legal barriers to electronic trade. This model law creates criteria for assessing contemporary information storage and communication technologies.

The law's application extends to data messages and is not limited to text messages and telegrams; it also includes "Electronic Data Interchange (EDI)". EDI is the "electronic transfer of information between computers using an agreed standard for structuring the data (UNCITRAL model law on electronic commerce, 1996)". This law declares that data messages should not be used to deny information their legality, validity, or enforceability. [183]This is particularly important where the law specifies that the information be in writing.

The necessity of writing is accomplished by a "data message" when the law imposes an obligation for the information to be in writing or when the absence of a written document leads to certain consequences. Where the law mandates a document to bear a person's signature, this condition is satisfied when the process used to identify a person indicates their approval of the information contained in the data message, and this method is deemed suitable for the purpose for which the data message was generated. Scholars have recognised that this aspect introduces flexibility in satisfying the signature requirement for electronic contracts, as reflected in the UNCITRAL Model Law on Electronic Commerce (1996).[184] The Model Law provides that where legislation mandates the retention of information, such a requirement is fulfilled if the data remains accessible for future reference, is preserved in the format in which it was originally transmitted, generated, or received, and is stored in a way that enables the identification of the date and time of transmission and receipt. "Smart Legal Contracts" meet this standard by leveraging blockchain technology, which uses a distributed ledger to securely and immutably record all transactions.[185]

[182]United Nations, *UNCITRAL Model Law on Electronic Commerce*.
[183] United Nations, *UNCITRAL Model Law on Electronic Commerce*, Art 5.
[184] United Nations, *UNCITRAL Model Law on Electronic Commerce*, Art 10.
[185] O Ali, A Jaradat, A Kulakli, and A Abuhalimeh, 'A Comparative Study: Blockchain Technology Utilization Benefits, Challenges and Functionalities' ,2021,9 *IEEE Access* 12730.

Chapter III of the model law addresses the communication of contracts. Article 10 allows offers and acceptances via data messages, ensuring that contracts formed in this manner are not denied validity. The 1996 model law aimed to assist countries in drafting legislation that would support electronic commerce, while reviewing legal rules and obstacles that might impede the legality and enforceability of electronic transactions.

While Kenyan courts are not bound by the UNCITRAL model laws, as discussed earlier, the Kenyan Constitution grants Kenyan courts the authority to apply international and even foreign laws to some extent.

The "UNCITRAL Model Law on Electronic Commerce (1996)" has been widely adopted by many countries as a template for creating or reforming their own electronic commerce legislation. Courts have referenced this model law in various cases to interpret and apply relevant legal principles in electronic commerce disputes. However, it is paramount to recognize that court decisions can vary by jurisdiction, and the extent to which.

Courts in several jurisdictions have actively relied on the UNCITRAL Model Law on Electronic Commerce, illustrating its wide-ranging impact on legal procedures. To begin, courts have acknowledged the equivalence of electronic signatures and documents to their paper-based counterparts, invoking the Model Law to confirm their legal existence if specific conditions are met. Second, in disputes involving contract formation in electronic commerce, courts have relied on the Model Law's rules on offer and acceptance via electronic means to inform their determinations on timing and contract establishment. Furthermore, the Model Law has contributed in the development of consumer protection decisions in e-commerce, particularly in the areas of online sales, information disclosure, and dispute resolution mechanisms. The model law is cited or referenced may differ.

2.5 Statutory Framework

2.5.1 The Law of Contract Act, Cap 23

The Law of Contract Act of Kenya[186], is the primary statutory legislation governing contracts and contractual relations in Kenya. The act provides the legal framework for the formation, validity, and enforcement of contracts in the country. The Contract Act provides guidance on the formation,

[186] *Law of Contract Act*.

capacity to enter a contract, legality of object, performance, electronic contracts and even unlawful contracts.

According to the Act, "an offer, acceptance, consideration, capacity, and legality of object "are all necessary for a contract to been enforceable. It also specifies that a contract may be formed by any lawful means which in this case refers to electronically formed contracts.[187]

2.5.1.1 The offer

To form a legally binding contract under the Act, firstly an offer has to be made, and the offer has to be unconditionally accepted[188]. According to Black's Law Dictionary, an offer is defined as a proposal made to bring something for acceptance or rejection.[189]The offer can be accepted or rejected by the person who receives it. For the offer to be legally binding, the offeror must communicate it to the intended parties. This communication can be oral, partly in writing, fully in writing, or can even be implied by the parties' conduct. An offer can also be conveyed as an electronic message through electronic means.

The question now is whether "Smart Legal Contracts" satisfy the standards for a valid offer. In "Smart Legal Contracts", an offer is essentially automated. When certain conditions are met, an offer is regarded as having been made. When these conditions are met, the contract is generated automatically. This raises concerns about the nature of automated offers and whether they fit the customary standards for a legally binding offer.

Basically, there is no available decision that has been made by the Kenyan courts regarding "Smart Legal Contracts". Regardless, there are reported cases where the courts have pronounced themselves on electronically made contracts. In the case "*Thomas Ogunde Mboya v Grand Royal swill Hotel (2018)"*[190]*,* the question arising from this case was whether there was a valid offer and acceptance where the communication was via email means. In this case, the respondent sent an offer letter to the claimant through an email. The claimant in return sent an email accepting the offer. The respondent in the email highlighted that an employment contract would be prepared once the claimant had accepted the offer through an email. In the offer letter, the respondent

[187]*Law of Contract Act* ss 2-10.
[188]A Katz, 'The Strategic Structure of Offer and Acceptance: Game Theory and the Law of Contract Formation' ,1990,89 Michigan Law Review 215.
[189] *'Offer'* in Black's Law Dictionary (4th edn, 2011) https://thelawdictionary.org/offer/.
[190] *Thomas Ogunde Mboya v Grand Royal Swiss Hotel*,2022, eKLR

indicated to the claimant that he should signify acceptance by signing and scanning the offer letter and sending it back via email to the defendant by execution by the director. The respondent later claimed that there was no valid contract as the director of the respondent had not signed the offer letter accepted by the claimant. The issue of the court was to determine whether there was a valid offer and acceptance.

The Employment and Labour Relations Court ruled that, under common law principles, acceptance of a contract constituted a legally binding contract. Under common law, the aspects to be determined when determining whether there has been a valid contract are; offer and acceptance, intention to create a contract, and agreements on the essentials of a contract such as the parties' rights and duties, start date, remunerations, and other specifications relating to the contract's start date. The court determined that accepting the offer formed a legal contract, and hence the claimant was granted damages for unjust termination.

When it comes to “Smart Legal Contracts”, the question of when an offer was made in “code” and the use of distributed ledger technology (DLT) emerges. Regarding the evaluation of offers that are automatically generated and triggered by “code” in “Smart Legal Contracts”, the Contract Act provides no guidance. In SLCs, a human actor may not consciously accept an offer or convey it in natural language. Rather, a smart contract's predetermined condition can initiate contractual obligations on its own without immediate human input. Given that one or both parties might not fully comprehend the technical workings of the contract, this raises important questions regarding how and when mutual assent is formed.

There is currently no statutory interpretation to address the lack of a ruling by Kenyan courts regarding the enforceability or validity of “Smart Legal Contracts”. There is a substantial interpretive gap in the context of SLCs because the Act does not define or make reference to important technological concepts like "automated execution," "self-executing “code”," or "distributed ledgers."

Additionally, even though the Act acknowledges electronic contracts, it does so in a way that presumes human oversight and the use of readable text. It ignores the possibility that a contract's operational terms might only exist in executable “code”, which most judges and solicitors without technical knowledge cannot access. Under the current framework, this adds another obstacle to enforcement and dispute resolution.

Kenyan courts might not be able to handle disputes resulting from SLCs without legislative reform or jurisprudential development, particularly when the strictness of the “code” complicates issues of interpretation, breach, or rectification. The Act does not give courts the authority to "read into" “code”-based contracts the same equitable considerations, like implied terms, doctrines of mistake, or unfairness, that they might apply to conventional contracts. The enforceability and dependability of “Smart Legal Contracts” in Kenya are threatened by the legal void created by this doctrinal rigidity.

2.5.1.2 Intention

The parties must also want to establish legal relations in order for the contract to be enforceable.[191] This principle applies to both traditional and electronic contracts. Kenyan courts, like courts in other common law jurisdictions, tend to apply the objective test in contract cases. This test is used to evaluate the parties' intentions objectively, rather than subjectively.[192]This involves evaluating the statements and actions of the parties from the viewpoint of a reasonable person in the same situation.

Kenyan courts usually use the parties statements and actions to determine their objective intent. This implies that the court will take into account how a reasonable person in the parties' shoes would understand their conversations and behaviour. The objective test is used to assess the intent of the parties in a contract by considering how a reasonable person would interpret their words and actions. The objective test has been used to determine several cases such as in the case of *Herbert Wafula Waswa v Kenya Wildlife Services [2020] eKLR*[193],the court of appeal emphasized the importance of employing the objective test in determining the conduct of the parties. The objective test creates an impartial assessment in ascertaining the conduct of the parties and if a breach of contract exists. *The English case of Carlill v. Carbolic Smoke Ball Co. (1893),*[194] clearly highlights the objective test. The court applied the objective test to determine the existence of a contract. The defendant had offered a prize for anyone who purchased their goods as directed and still got the flu. The court found that the objective test indicated the offer was genuine and that by using the product, the plaintiff had accepted the offer and formed a binding contract.

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[191] B Gulati, 'Intention to Create Legal Relations: A Contractual Necessity or an Illusory Concept' ,2011, 2 Beijing Law Review 127.
[192] FA Mann, 'The Proper Law of the Contract' ,1950,3 The International Law Quarterly 60.
[193] *Herbert Wafula Waswa v Kenya Wildlife Services* ,2020, eKLR
[194] *Carlill v. Carbolic Smoke Ball Company.*

Another relevant common law case is the case of *Smith v. Hughes (1871).*[195] In this classic case, the court applied the objective test to determine whether there was a valid contract. The issue was whether the buyer's actions constituted acceptance, even if the seller's horses were not as expected. The court held that the objective test showed the buyer had accepted the horses as they were presented.

The Law of Contract Act and court decisions in Kenya presume that contractual behaviour will be identifiable and attributable to human actors, which is a significant weakness in the country's framework. SLCs, on the other hand, may use algorithmic agents, blockchain wallets with pseudonyms, or automated execution that is dependent on external data inputs (oracles). In these kinds of settings, where "conduct" could include interacting with a smart contract's interface, deploying “code”, or merely authorising a transaction, actions that lack the communicative clarity assumed in traditional contracting, the current objective test is difficult to apply.

Also, when parties' conduct is expressed in “code” created by third-party developers who are frequently not directly involved in the transaction, there is no legal clarity regarding how courts should interpret the parties' intentions. In *B2C2 Ltd v. Quoine Pte Ltd [2019] SGHC(I) 03*, the Singapore International Commercial Court had to examine the deterministic logic of a trading algorithm in order to deduce the parties' intentions. There is currently a significant gap in Kenyan courts' ability to conduct such interpretive analysis because they lack both statutory authority and guidance.

Furthermore, in cases involving smart contracts made by DAOs (Decentralised Autonomous Organisations) or other decentralised entities, the Act is silent on how to ascertain intention. Commercial actors in Kenya are likely to be discouraged from adopting “Smart Legal Contracts” due to the uncertainty created by the absence of statutory and jurisprudential guidance on intention in decentralised and automated contracting environments.

It will be challenging to ascertain intention for the complexities introduced by “Smart Legal Contracts”, even though the objective test for intention is still a practical standard in traditional and electronic contracting. Kenyan law lacks the instruments required to accurately evaluate

[195] *Smith v. Hughes*.

contractual intent in situations where automated "code" execution replaces human behaviour unless specific reforms or judicial innovation are implemented.

2.5.2 Formalities of contracts

Contracts in Kenya are normally exempt from formal requirements under the Law of Contract Act (Cap.23), unless otherwise required by law. Because of this, the majority of contracts are enforceable whether they are verbal, written, or implied by behaviour. There are some exceptions, such as in land transactions, where the Land Act mandates official written agreements. land.[196] The Business Laws (Amendment) Act, 2020 and other recent statutory amendments have specifically recognised electronic signatures and electronic records in contractual transactions, allowing for the legal recognition of electronic contracts.

"Smart Legal Contracts" can meet formal requirements when electronic signatures are used. Kenya has recognized electronic contracts as valid, provided they meet the necessary criteria. This allows for contracts that require writing and signatures to be entered into electronically.

The question of whether the "code" language in "Smart Legal Contracts" meets the requirement for writing can be subject to interpretation.[197] It can be likened to contracts in a foreign language, which may necessitate experts to translate the contract terms. This interpretation would depend on local legal provisions and their acknowledgment of "code" as a valid form of writing. Courts may need to determine whether "code" sufficiently represents and documents the terms of a contract in a legally enforceable manner.

2.5.2.1 Writing requirement

The Kenyan legal system generally recognizes the use of electronic signatures, and the Business Laws Amendment Act[198] amends the Law of Contract Act to allow for electronic signatures in contracts, including those involving dispositions of land.

[196] *Law of Contract Act* s 2.
[197] E Mik, 'Smart Con E Mik, 'Smart Contracts: Terminology, Technical Limitations and Real World Complexity' 2017,9(2) *Law, Innovation and Technology* 269.tracts: Terminology, Technical Limitations and Real World Complexity' ,2017, 9(2) Law, Innovation and Technology 269.
[198] *Business Laws (Amendment) Act No 1 of 2020*.

In Kenya's legal structure, several types of contracts require written agreements. Contracts for land sales follow the written requirement of The Land Act of Kenya[199] to ensure transaction clarity and avoid disputes. For guarantees or sureties, the Statute of Frauds requires written agreements.[200] Leases and tenancy agreements, especially those with long terms, frequently necessitate formal documentation. For wills and testamentary dispositions to be legitimate, they must be in writing.[201] Company contracts may require adherence to formalities outlined in the Companies Act[202], such as written agreements and resolutions. Furthermore, insurance contracts, which are governed by the Insurance Act, often require written documents. “Smart Legal Contracts” add a new dimension to contract execution by making use of digital technologies and automation. Question arises where “Smart Legal Contracts” are used for the aforementioned agreements and whether they can be legally enforceable.

Despite these advancements, it is unclear from Kenya's legal system whether “Smart Legal Contracts” (SLCs), which use computer “code” instead of natural language, adhere to the required formalities, especially when written terms are required by law.SLCs might not generate a human-readable contract at all, in contrast to conventional digital contracts (such as electronically signed PDFs).

The law does not specify whether source “code” or smart contract logic constitutes "writing" in the sense of statutory formalities, which creates a serious legal gap. Although some jurisdictions have compared “code” to written language by drawing comparisons to contracts in foreign languages, where meaning is interpreted by expert testimony, Kenyan statutes and courts do not provide this kind of guidance. The predictability and enforceability of SLCs are compromised by the possible need for legal interpretation of computer “code”, particularly in situations where rigorous adherence to formality is required.

Furthermore, judges lack interpretive tools and principles that apply to non-traditional forms of contracting because the Law of Contract Act does not currently outline how courts should handle disputes involving “coded” terms or automated performance. Commercial actors are deterred from

[199] *Land Act* (2012) Kenya.
[200] *Prevention of Fraud (Investments) Act*.
[201] *Law of Succession Act* (Cap 160).
[202] *Companies Act* (2015) Kenya.

implementing SLCs for more formalised transactions by the lack of legislative or jurisprudential support, which also increases legal uncertainty.

Therefore, even if all substantive terms were executed perfectly through smart contract "code", it is still unclear whether an SLC could legitimately be a land sale agreement, a loan guarantee, or a corporate resolution. Due to this uncertainty, the courts would probably be forced to conduct a case-by-case analysis, perhaps requiring expert testimony on how the "code" reflects or does not reflect legally enforceable obligations. This would be an inefficient and legally unpredictable approach.

2.5.2.2 Digital signatures

"Smart Legal Contracts" can use digital signatures, and the use of private keys for initiating transactions on a blockchain platform can be considered a form of a digital signature.[203]As long as they fulfil the requirements, such as being verified by a qualified provider, this is consistent with the legal acceptance of electronic signatures. Determining whether digital signatures fall under the category of electronic signatures is crucial.

While both digital and electronic signatures serve as methods for authenticating and approving electronic documents, they differ fundamentally in their underlying technology, security measures, and legal recognition.[204] Electronic signatures encompass any electronic data or process logically associated with a document, such as a typed name, scanned handwritten signature, or click-to-sign process, providing a basic level of authentication.[205] Digital signatures, however, employ advanced cryptographic operations using public-key encryption to ensure the authenticity of the signer, integrity of the signed data, and non-repudiation, preventing tampering or modification.[206] This cryptographic nature of digital signatures often grants them higher legal recognition and evidentiary weight compared to electronic signatures in many jurisdictions.[207]While electronic signatures offer simpler and more accessible implementation, digital signatures require specialized software and hardware, such as digital certificates and public-private key pairs, to generate and

[203]GD Finocchiaro and C Bomprezzi, 'A Legal Analysis of the Use of Blockchain Technology for the Formation of "Smart Legal Contracts"' ,2020, 2020(2) Media Laws 111.
[204]L Dahabiyeh and P Constantinides, 'Legitimating Digital Technologies in Industry Exchange Fields: The Case of Digital Signatures',2022,32(1) *Information and Organization* 100392.
[205]V Jain, BI Malviya and SA Arya, 'An Overview of Electronic Commerce (E-Commerce)' ,2021,27(3) *Journal of Contemporary Issues in Business and Government* 665.
[206] VS Chowbe, 'Digital Signature' in *Digitising Enterprise in an Information Age* ,CRC Press 2021, 257.
[207]MA Mahmud, 'An Examination of the Legal and Evidential Value of Electronic Signatures and Cryptography on E-Commerce Transactions in Nigeria'.

validate the cryptographic signatures, thereby providing a higher level of security and tamper-evidence at the cost of increased complexity.

The Act recognizes the validity of electronic contracts and provides for the use of electronic signatures in contractual agreements. It aligns with the Kenya Information and Communications Act.[208]The Kenya Contract Act generally recognizes that contracts can be formed electronically, including through emails and electronic communication. The Act doesn't explicitly address “Smart Legal Contracts”, but it can be said that the use of private keys to initiate transactions on a blockchain network is a type of digital signature.[209]This is consistent with the increasing legal acceptance of electronic signatures, provided they meet the necessary criteria, such as authentication by a qualified source.

Kenya's legal system accepts electronic contracts as legitimate and allows for the use of electronic signatures in contracts, as stated in the Kenya Information and Communications Act. Although “Smart Legal Contracts” are not specifically covered by the Act, they can be appropriately included in the regulations governing the formation of contracts using electronic means, such as email and electronic communication. Therefore, even though it isn't explicitly stated, the Act's established principles might extend to cover aspects of creating and implementing “Smart Legal Contracts” inside Kenyan law.

2.5.3 The Kenya Information and Communications Act (KICA) 2013

The Kenya Information and Communications Act (KICA) 2013 is the fundamental legal framework for electronic commerce in Kenya. It facilitates digital transactions by recognising the legality and enforceability of contracts made electronically. According to Section 83J of KICA, an offer and acceptance can be made via electronic messages, and contracts made in this way cannot be rejected for lack of validity.[210] The UNCITRAL Model Law on Electronic Commerce,[211] which states that an offer and acceptance may be made by data message and “that contract shall not be denied validity or enforceability on the sole ground which acknowledges the legal significance of data messages in the formation of contracts, is consistent with section 83J of KICA.

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[208]*Kenya Information and Communications Act* s 81-82.
[209]W Fang et al, 'Digital Signature Scheme for Information Non-Repudiation in Blockchain: A State-of-the-Art Review',2020.*EURASIP Journal on Wireless Communications and Networking* 2020:1-5.
[210] Kenya Information and Communications Act (KICA) 2013, s 83J(1). *“unless otherwise agreed by the parties, an offer and acceptance of an offer may be expressed by means of electronic messages”*
[211] UNCITRAL Model Law on Electronic Commerce 1996, art 11.

KICA defines an "electronic message" as information generated, sent, received, or stored by electronic, optical, or similar means.[212]While this broad definition encompasses most digital communications, including email and web-based messaging, it does not specifically address the nature of “code”-based transactions in blockchain environments. Consequently, although “Smart Legal Contracts” might fit within the broader meaning of electronic messages, such classification is legally plausible but not authoritative.

Furthermore, while KICA provides for the use of electronic signatures, it distinguishes between basic and advanced electronic signatures. Advanced electronic signatures must be uniquely linked to the signatory, capable of identifying the signatory, and created using secure means under the signatory’s sole control.[213]“Smart Legal Contracts” typically use cryptographic keys to authenticate parties, but these systems often operate without a certified service provider as required under KICA and the Evidence Act for formal recognition and admissibility in court.[214]This mismatch undermines the integration of blockchain authentication mechanisms within Kenya’s formal electronic signature infrastructure.

Section 83L of KICA recognises that an electronic message may be attributed to the originator if it was sent by the originator, someone authorised by them, or an information system programmed to operate automatically.[215]This provision theoretically accommodates the autonomous operation of smart contracts. However, in the absence of a human-readable version of the “code”, courts may struggle to establish *consensus ad idem* (a meeting of minds), particularly where the parties did not fully understand or foresee the implications of the contract's self-executing terms.

Moreover, KICA does not provide guidance on how statutory writing or signature requirements apply to blockchain transactions. There are also no provisions acknowledging distributed ledgers as repositories of legally valid records. Unlike jurisdictions such as the UK or certain US states, Kenya has yet to adapt its legislation to reflect the unique nature of “Smart Legal Contracts” and decentralised systems.[216] This gap leaves Kenyan courts with little statutory support in resolving

[212] KICA 2013, s 2.
[213] KICA 2013, s 83O; see also s 2 (definition of 'advanced electronic signature').
[214] Evidence Act (Cap 80), s 106B (4); see also *Peter Ngethe Ngari t/a PNN Funeral Services v Standard Group Ltd & another* [2020] eKLR.
[215] KICA 2013, s 83L.
[216] UK Jurisdiction Taskforce, ‘Legal Statement on Cryptoassets and Smart Contracts’ ,2019; see also Arizona Revised Statutes Title 44 § 44-7061 (recognising blockchain smart contracts).

disputes involving self-executing “code” or determining liability where outcomes differ from parties' intentions due to programming errors or unforeseeable events.

As a result, while KICA recognises electronic communications and transactions in accordance with international standards, it does not offer a clear legal framework for “Smart Legal Contracts”. In order to prove enforceability under the current framework, parties must seek court interpretations and stretch analogies. Legislative reform, either through KICA amendments or a stand-alone legal framework that acknowledges and governs distributed ledger technologies and “Smart Legal Contracts”, is necessary for Kenya to fully adopt smart contract technologies.

2.5.4 The Evidence Act, Cap 80

The Evidence Act, Cap 80 of the Laws of Kenya, provides the statutory framework governing the admissibility and evidentiary value of electronic records in judicial proceedings. Under section 106B of the Act, electronic records are admissible provided that a certificate is produced identifying the electronic device that generated the record and confirming the integrity of the data.[217] In the context of electronic signatures, the Act is aligned with the Kenya Information and Communications Act (KICA), requiring the use of *advanced electronic signatures*, that is, signatures created using secure authentication procedures, typically through a certification service provider licensed in Kenya.[218]

These provisions were introduced to uphold the reliability, authenticity, and integrity of electronic evidence. The legislative intent was to ensure that digital documents, communications, and transactions could be safely relied upon in court, provided their origin and accuracy could be verified. However, these requirements, especially the certification condition, have proven problematic in the context of “Smart Legal Contracts” and blockchain-based systems.

“Smart Legal Contracts” often operate on decentralised blockchain platforms where verification is achieved not through a centralised certification authority but via cryptographic algorithms and distributed consensus mechanisms. Signatures are generated using private cryptographic keys, which are functionally secure but fall outside the licensing framework required by the Evidence

[217] Evidence Act (Cap 80), s 106B(4).
[218] Kenya Information and Communications Act (KICA) 2013, ss 2 and 83O.

Act. As a result, even technically sound and immutable blockchain records may be inadmissible in Kenyan courts due to the absence of statutory recognition or certification by a local authority.[219]

This limitation has been confirmed in recent Kenyan case law. In *Peter Ngethe Ngari t/a PNN Funeral Services v Standard Group Ltd & another*, the High Court stressed that electronic evidence must be accompanied by a certificate under section 106B to be admissible.[220]The court underscored that failure to comply with these requirements could render electronic evidence, however authentic, legally inadmissible. Similarly, in *Kenneth Nduati Irungu v RMA Motors (Kenya) Ltd*, the court declined to admit email correspondence as evidence due to the lack of appropriate certification.[221]These rulings illustrate the judiciary's strict adherence to procedural requirements for electronic records, a stance that poses serious challenges to the utility of blockchain-based smart contracts, which may lack certifiable provenance under Kenyan law.

Beyond admissibility, the Act also does not contemplate the interpretive complexities of "Smart Legal Contracts", which are often written entirely in computer "code". The interpretive model under Kenyan law assumes contracts are composed in natural language, allowing courts to apply objective principles of interpretation such as the *reasonable person* standard and the *contra proferentem* rule. However, smart contracts may contain self-executing logic that cannot be easily parsed without specialist technical knowledge. In such cases, expert testimony may be necessary, akin to the use of interpreters for foreign-language documents. Yet, the Evidence Act is silent on how such technical expertise should be incorporated in judicial proceedings involving "code"-based contracts.

Consequently, the Act's current framework is ill-suited to accommodate the evidentiary demands of "Smart Legal Contracts". The lack of legal mechanisms for recognising cryptographic signatures, the procedural rigidity concerning certification, and the absence of statutory recognition for "code"-based expressions of contractual intent collectively create a regulatory vacuum. These shortcomings highlight the urgent need for reform in Kenya's evidentiary laws to

[219] M Chelugui, *Legal Challenges in Admitting Blockchain Evidence in Kenya* ,2021, 7(2) East African Law Journal 45.
[220] *Peter Ngethe Ngari t/a PNN Funeral Services v Standard Group Ltd & another* [2020] eKLR.
[221] *Kenneth Nduati Irungu v RMA Motors (Kenya) Ltd* [2021] eKLR.

ensure that courts can reliably and fairly evaluate smart contracts, without being hindered by outdated procedural formalities.

2.5.5 The sale of goods act, cap 13

The Sale of Goods Act is a statute modelled closely on the English Sale of Goods Act 1893. It governs the formation, performance, and remedies arising from contracts for the sale of goods in Kenya. The Act presumes that a valid contract arises through traditional mechanisms, namely, offer, acceptance, consideration, and mutual intention, typically expressed through written or oral communication.[222] It defines a contract of sale as one in which the seller agrees to transfer property in goods to the buyer for a monetary consideration called the price.[223]

Despite its foundational role in Kenyan commercial law, the Act makes no provision for electronic contracting, let alone the use of digital signatures or self-executing "code"-based agreements. It was enacted in a pre-digital era and has not been amended to reflect the realities of modern electronic commerce or "Smart Legal Contracts". This creates significant interpretive gaps in applying the Act to transactions involving digital assets, automated performance, or decentralised platforms such as blockchain.

A central limitation is the Act's silence on whether 'goods' include intangible or tokenised digital assets, such as cryptocurrencies, non-fungible tokens (NFTs), or digital representations of real-world property. Although 'goods' are defined to include all chattels personal other than actionable claims and money,[224]the definition presumes physical tangibility and does not easily accommodate cryptographic tokens that exist only on distributed ledgers. Consequently, "Smart Legal Contracts" that facilitate the automated transfer of digital assets may fall outside the conceptual scope of the Act, unless judicial interpretation or legislative reform expressly includes them.

Further, the Act presupposes that parties engage directly and manually in negotiating and executing contracts. It does not contemplate automation, conditional logic, or immutable "code" execution as valid forms of offer and acceptance. In contrast, "Smart Legal Contracts" are programmed to execute predetermined actions, such as transferring ownership, automatically once "coded" conditions are met, often without further human input. The Act offers no guidance on how to

[222] Sale of Goods Act (Cap 13), s 3(1)
[223] Sale of Goods Act (Cap 13), s 3(1)
[224] Sale of Goods Act (Cap 13), s 2.

interpret such autonomous behaviour or whether it satisfies the traditional requirement of consensus ad idem.[225]

This statutory gap becomes particularly problematic in cases of malfunction, ambiguity in "code", or unforeseen circumstances. For instance, if a smart contract executes an unintended transfer due to a coding error, the Act offers no framework for rescission, rectification, or the allocation of liability. Unlike traditional contracts, which courts can interpret in light of the parties' intentions and surrounding context, the rigidity of "code"-based performance leaves little room for post hoc human discretion. Without statutory rules to accommodate the self-executing nature of "Smart Legal Contracts", courts would have to rely on analogical reasoning or general common law principles to resolve disputes, potentially leading to inconsistent outcomes.[226]

In its current form, the Sale of Goods Act is ill-equipped to address the complexities of digital commerce and the automation of contract performance through smart technologies. This legal vacuum introduces uncertainty and risk for parties engaging in transactions involving digital goods, automated execution, or decentralised platforms. The Act's failure to modernise, or to incorporate electronic and digital contracting mechanisms, severely limits its effectiveness in regulating "Smart Legal Contracts" and underscores the urgent need for reform.

2.5.6 The Business Laws (Amendment) Act, 2020

The enactment of the Business Laws (Amendment) Act, 2020 marked a significant step in Kenya's legislative effort to promote the digitisation of commercial practices. It introduced targeted amendments to statutes including the Law of Contract Act, the Land Registration Act, and the Companies Act, among others, to facilitate electronic transactions and reduce formal legal obstacles to doing business electronically.[227]One of the most notable reforms was the recognition of *advanced electronic signatures* as valid for contract formation, including in sensitive transactions such as contracts involving land and guarantees.[228]

Specifically, the Act amended section 3 of the Law of Contract Act to allow for signatures to be affixed using advanced electronic means, thus legitimising contracts that were traditionally

[225] R Brownsword, 'Smart Contracts, Blockchain, and the Limits of Legal Reform' ,2019. 67(1) Am J Comp L 37, 41–45.
[226] L Atzori, 'Blockchain Technology and Decentralized Governance: Is the State Still Necessary?',2015, 6(1) J Gov Reg 45, 52.
[227] Business Laws (Amendment) Act 2020 (Kenya), Preamble and Explanatory Memorandum.
[228] Law of Contract Act (Cap 23), s 3(6) as amended.

required to be signed in writing and witnessed physically.[229]An *advanced electronic signature* under Kenyan law must be uniquely linked to the signatory, capable of identifying them, and created using means that are under their sole control and linked to the data such that any changes are detectable.[230]This aligns with international standards such as the EU's eIDAS Regulation and the UNCITRAL Model Law on Electronic Signatures.

However, while the Act signalled progress in digitising legal processes, its scope remains largely procedural and does not expressly address the unique technological and legal dimensions of "Smart Legal Contracts". It does not define or regulate smart contracts, nor does it engage with core features of blockchain technology such as decentralised execution, automated performance, or cryptographic authentication mechanisms. Consequently, "Smart Legal Contracts" operating on public blockchains where identity verification is carried out through public-private key encryption rather than certification by a licensed service provider, may not meet the legal threshold for advanced electronic signatures under Kenyan law.

This presents a significant legal limitation. Under the current framework, only those electronic signatures issued by recognised certification service providers are treated as advanced electronic signatures for the purpose of legal recognition.[231]As a result, blockchain-based contracts authenticated using cryptographic keys, however secure, may not be admissible or enforceable under Kenyan law without additional legislative clarification. This regulatory misalignment undermines the validity and utility of "Smart Legal Contracts" within Kenya's commercial legal system.

Moreover, the Act provides no guidance on how to interpret or enforce agreements formed by autonomous "code", nor does it create mechanisms for dispute resolution where contract performance deviates from parties' expectations due to programming errors or unforeseen events. Thus, while the Act supports digital contracting in principle, it does little to bridge the regulatory gap between traditional electronic contracts and "Smart Legal Contracts", which depend on "code"-based logic and decentralised infrastructure.

[229] Law of Contract Act (Cap 23), s 3(6) as amended.
[230] Kenya Information and Communications Act (No 2 of 1998), s 2 (definition of "advanced electronic signature").
[231] Evidence Act (Cap 80), s 106B; see also KICA, s 83O.

The Business Laws (Amendment) Act, 2020 represents a forward-looking but ultimately limited effort to modernise Kenya's contract law regime. While it supports the digitalisation of formalities, it does not offer the substantive regulatory architecture necessary for the recognition and enforcement of "Smart Legal Contracts". Further legislative reforms will be required to ensure that Kenya's legal system can fully accommodate the legal and technical innovations introduced by blockchain technologies.

2.5.7 The Data Protection Act, 2019

The Data Protection Act, 2019 (DPA) establishes Kenya's framework for the protection of personal data, drawing heavily on the principles of the European Union's General Data Protection Regulation (GDPR). The Act promotes key data governance principles such as data minimisation, purpose limitation, lawful processing, and accountability. It also enshrines several rights for data subjects, including the right to access, rectify, and request erasure of their personal data under specific circumstances, as provided under section 40(1)(b).[232]

While the DPA offers a strong foundation for protecting personal data, it does not contemplate the technological realities of decentralised systems like blockchain, which underpin "Smart Legal Contracts". Smart contracts, particularly those used in decentralised applications (DAPPS)often involve automated processing of user data, sometimes without continuous or granular user input. Such autonomous processing challenges the DPA's foundational assumption that users can exercise meaningful control over their data at all times.[233]

More critically, blockchain's immutable architecture poses a direct conflict with the DPA's enforcement mechanisms. Once personal data is recorded on a blockchain ledger, it is extremely difficult, if not technically impossible, to delete or amend it, rendering the right to rectification or erasure ineffective.[234]This tension between data permanence and legal compliance raises significant questions about whether "Smart Legal Contracts" operating on public blockchains can comply with Kenya's data protection regime.

Furthermore, the DPA does not provide specific guidance on the designation of data controllers or processors in decentralised networks, where functions are distributed among nodes rather than

[232] Data Protection Act, No 24 of 2019 (Kenya), s 40(1)(b).
[233] Data Protection Act, No 24 of 2019, ss 25 and 26.
[234] Michael Raskin, 'The Law and Legality of Smart Contracts' 201, 1 Geo L Tech Rev 305, 318–319.

concentrated in a single entity. This absence of clarity regarding accountability and liability in blockchain-based systems increases the legal uncertainty surrounding "Smart Legal Contracts" and their compliance with data protection obligations.[235]

Accordingly, unless the DPA is reformed to address the unique characteristics of blockchain technology, "Smart Legal Contracts" may, by design, fall outside the bounds of lawful data processing in Kenya.

2.5.8 The Consumer Protection Act, No. 46 of 2012

The Consumer Protection Act, No. 46 of 2012 is a comprehensive statute designed to safeguard the rights of consumers in Kenya. It establishes key protections such as the right to full and timely disclosure of information, protection from unfair contract terms, and access to legal remedies in the event of defective goods or services. Specifically, sections 12 and 13 of the Act mandate that suppliers provide clear, comprehensible terms and prohibit misleading representations to ensure that consumers enter into agreements with informed consent.[236]

However, these safeguards are significantly challenged in the context of "Smart Legal Contracts", which are often deployed on decentralised platforms and written in "code". Unlike traditional contracts, smart contracts typically lack a plain-language version accessible to non-technical users. Instead, they operate through pre-programmed scripts that execute automatically when certain conditions are met. This opacity prevents consumers from fully understanding their contractual obligations or the consequences of triggering execution, thereby undermining the statutory requirement for transparent and fair terms.[237]

Furthermore, the automated and self-executing nature of "Smart Legal Contracts" eliminates conventional avenues for consumer engagement and redress. For instance, once a smart contract is deployed and executed, there may be no opportunity for a consumer to cancel the contract, renegotiate its terms, or even dispute a transaction prior to enforcement. This runs counter to consumer protections enshrined in the Act, such as the right to withdraw from a contract in certain circumstances, section 36 or to receive a remedy for unfair practices , Part VI.[238]

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[235] Consumer Protection Act, No. 46 of 2012 (Kenya), s 12.
[236] Primavera De Filippi and Aaron Wright, *Blockchain and the Law: The Rule of Code* (Harvard University Press 2018) 78–82.
[237] Consumer Protection Act, No 46 of 2012 (Kenya), ss 36, 49–56.
[238] Consumer Protection Act ,No 46 of 2012, s 36 and Part VI.

Compounding these concerns is the fact that the Consumer Protection Act does not expressly acknowledge or regulate "Smart Legal Contracts". It lacks definitions, interpretive guidance, or procedural rules for dealing with "coded" contractual terms or automated transactions. The absence of statutory recognition means that courts would be required to interpret the Act's provisions by analogy, potentially leading to inconsistent outcomes and gaps in enforcement.

As "Smart Legal Contracts" become more prevalent in digital commerce, particularly through blockchain-based platforms, the need for regulatory reform becomes urgent. Without clear rules addressing consent, accessibility, dispute resolution, and contract interpretation, consumers face unregulated risks and limited protection under the current legal framework. To ensure that technological innovation does not erode consumer rights, Kenya's consumer protection laws must evolve to address the distinct characteristics and risks associated with smart contract environments.

2.6 Conclusion

This chapter has evaluated Kenya's existing legal framework for contracts in light of "Smart Legal Contracts", identifying both foundational strengths and significant shortcomings. While laws such as the Law of Contract Act, the Kenya Information and Communications Act, and the Evidence Act acknowledge electronic contracts and digital signatures, they were designed for conventional electronic transactions and fail to address the autonomous, "coded", and decentralised nature of "Smart Legal Contracts". Traditional contract principles like offer, acceptance, and intention, based on human agency and textual clarity, are difficult to apply to algorithmic and automated contract performance.

Moreover, sector-specific laws including the Sale of Goods Act, Business Laws (Amendment) Act, Data Protection Act, and Consumer Protection Act do not accommodate the technological realities of blockchain-based "Smart Legal Contracts", leaving critical issues like legal recognition of "code", accountability in decentralised execution, and enforceability of immutable terms unaddressed. This legislative gap creates uncertainty for businesses and consumers alike, and courts are left without clear authority or interpretive tools to resolve disputes involving smart contracts. The chapter underscores the urgent need for comprehensive legal reforms in Kenya to modernise contract law, clarify the status of "Smart Legal Contracts", and protect fundamental rights, thereby enabling a fair and innovative digital economy.

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Chapter 3: The Regulation of "Smart Legal Contracts": Lessons for Kenya from the United Kingdom (England and Wales)

3.1 Introduction

With an emphasis on the extensive work of the "Law Commission" of England and Wales, this chapter aims to conduct a comparative analysis by examining the measures taken by the United Kingdom (England and Wales) in regulating "Smart Legal Contracts" and highlighting lessons that Kenya can learn.

The primary reason for the UK's inclusion in this comparative study is that it is a common law jurisdiction whose legal traditions greatly influence Kenya's own legal system. English law has a significant influence on Kenyan contract law, which is codified in the Law of Contract Act (Cap. 23). English legal principles are still applied in Kenya through the Judicature Act, which imports English common law and equity doctrines. Because both jurisdictions follow the precedent doctrine, English case law and legal developments continue to have a strong influence in Kenyan courts, particularly in areas where local jurisprudence is still in its infancy or nonexistent, like "Smart Legal Contracts".

The "Law Commission" concluded in its 2021 report, *"'Smart Legal Contracts': Advice to Government,"* that the current English contract law principles such as agreement, consideration, certainty and completeness, intention to create legal relations, and adherence to formalities are strong enough to govern "Smart Legal Contracts". These technologically advanced agreements, although innovative, do not necessitate comprehensive reform of contract law.[239] Rather, "Smart Legal Contracts" can be recognised and enforced under the current legal framework because of the common law traditions, flexibility and adaptability, especially its emphasis on substance over form.

The UK's proactive approach to smart contract law, especially through the UK "Law Commission"'s work, offers a wealth of pertinent legal knowledge that can guide Kenya's future. As a result, the UK provides both a useful model for modifying traditional contract law to accommodate new technological realities as well as a doctrinally sound point of comparison. The analysis's conclusions will guide suggestions for Kenya's legal and regulatory framework for "Smart Legal Contracts".

[239] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021)

3.2 Agreement

A legally binding contract under English law necessitates an agreement, which is made up of an objectively evaluated offer and acceptance.[240] This idea is still essential to "Smart Legal Contracts". The "Law Commission" acknowledged that "Smart Legal Contracts", especially those made entirely of "code", present special difficulties in determining agreement, whereas traditional contracts offer unambiguous indications of consent through written or spoken terms.

3.2.1 Establishing agreements in different smart legal contract types

Three categories of "Smart Legal Contracts" were established by the Commission: contracts in natural language that are executed by "code", contracts that combine "code" and natural language, and contracts that are made entirely of "code".[241] Courts can usually determine mutual consent for the first two types by using standard communication analysis and embedded terms. Because natural language terms express the parties' intentions clearly, courts can use them to determine offer and acceptance in contracts with automated execution. Simultaneously, the "code" only fulfils predefined tasks.[242]

The analysis is similar to that of traditional contracts for contracts in natural language that are executed automatically. The proposed terms can be interpreted by courts as an offer, and the counterparty's consent to those terms can be interpreted as an acceptance. Instead of being a part of the agreement process, the automated execution component only implements the agreed-upon terms; it does not change this fundamental analysis. This method acknowledges the technological advancement of the execution phase while remaining consistent with long-standing contract law principles.[243]

Hybrid contracts which combine natural language and "code", demand courts to consider the whole spectrum of communications, including technical and linguistic exchanges. The Commission recommended that occasionally the deployment of "code" itself could be an offer, with later interaction with that "code" serving acceptance. This approach acknowledges that agreement can show up technologically instead of in conventional written or spoken form.[244]

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[240] Karl N Llewellyn, 'On Our Case-Law of Contract: Offer and Acceptance, I' (1938) 48 *Yale LJ* 1
[241] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 2.16.
[242] "Law Commission", *"Smart Legal Contracts": Advice to Government* (n 1) para 2.17.
[243] "Law Commission", *"Smart Legal Contracts": Advice to Government para 2.17*

[244] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 2.19

The Commission pointed out that given the interaction between natural language expressions and "coded" elements, hybrid contracts demand a more complete evaluation of the agreement. A smart legal contract implemented on a blockchain platform might, for instance, combine executable "code" with natural language explanations of terms and conditions. Under such circumstances, the court would have to assess whether the counterparty's interactions with the "code" showed acceptance of those terms or whether the natural language sufficiently expressed the offer.[245]

3.2.2 Agreement in solely "code" contracts

"Smart Legal Contracts" made entirely of "code", sometimes known as "solely "code"" contracts, pose serious legal questions in decentralised systems, particularly when the identities of the parties involved are obscured or pseudonymous.[246] These agreements frequently lack formal documentation or explicit communication, which calls into question established legal doctrines of offer and acceptance. However, rather than rigorously adhering to traditional formalities, judicial approaches have increasingly shifted towards interpreting such contracts based on objective manifestations of intent.[247] The willingness of courts to deduce contractual agreement from actions related to "code" deployment and usage is a clear example of this doctrinal flexibility.

In its Legal Statement on the Status of Crypto Assets and "Smart Legal Contracts", the UK Jurisdiction Taskforce (UKJT) listed a number of indicators that could indicate agreement when it comes to contracts that are only "code"-based. First, posting "code" to a public or shared blockchain could be interpreted as an offer in which the party makes the terms contained in the "code" available to possible counterparties.[248] Second, acceptance may be indicated by a party's intentional engagement with that "code", such as starting an automated execution or an intelligent contract function. An intention to interact with and be bound by the "encoded" terms is evident in this exchange.[249]

Third, technical documentation can help interpret the parties' intentions even though it isn't always included in the contractual corpus. These could be "code" comments that explain the purpose and

[245] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 3.31.
[246] Mukhtarli, Nihad. *The use of blockchain technology in the formation and enforcement of contracts*. Diss. Vilniaus universitetas., 2025.
[247] Schwartz, Alan, and Robert E. Scott. "Contract interpretation redux." *Yale LJ* 119,2009: 926.
[248] UK Jurisdiction Taskforce, *Legal Statement on the Status of Cryptoassets and "Smart Legal Contracts"* (Lawtech Delivery Panel, November 2019) para 78
[249] UK Jurisdiction Taskforce, *Legal Statement on the Status of Cryptoassets and "Smart Legal Contracts"* (Lawtech Delivery Panel, November 2019) para 78.

reach of the deployed smart legal contract, GitHub repositories, or protocol whitepapers.[250] Fourth, the court's interpretation of a legitimate agreement within that technological context may be influenced by ecosystem norms, such as community practices within blockchain platforms or the protocols governing innovative contract platforms.[251] Finally, even in the absence of conventional contractual formalities, the exchange of substantial value through automated “code” execution may be strong evidence of a shared desire to establish legally binding obligations.

The long-standing objective interpretation principle in contract law, as stated by Lord Wilberforce in *New Zealand Shipping Co Ltd v AM Satterthwaite & Co Ltd [1975] AC 154*, is consistent with this practical approach.[252]English law, he noted, frequently "places into a contract a promise or promises which were not made, but which were objectively manifested." This fundamental idea encourages the recognition of contractual relationships that emerge from “code”-based interactions, even in the absence of more conventional agreement markers like written consent or a signature.[253]

As “Smart Legal Contracts” become more prevalent, particularly in decentralized finance (DeFi) and Web3 applications, legal systems must continue to adapt by focusing on the functional and contextual elements of contractual formation. Recognizing intent through objective conduct, “code” interaction, and industry norms may become essential to resolving disputes in these technologically mediated environments.

3.2.3 Objective assessment and pseudonymity

Pseudonymous digital environments, like those found on blockchain-based platforms, make it much more difficult to apply the objective test for determining contractual agreements.[254] English contract law has long relied on the objective approach, which emphasizes the external expressions of intent rather than personal opinion. When parties use pseudonymous profiles or anonymised wallet addresses to communicate, this method must handle the absence of identifiable players and conventional modes of expression.

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[250] Allen & Overy LLP, *Are “Smart Legal Contracts” Contracts?*,2020. https://www.allenovery.com/en-gb/global/news-and-insights/publications/are-smart-contracts-contracts accessed 15 May 2025.
[251] Allen & Overy LLP, *Are “Smart Legal Contracts” Contracts?*2020. https://www.allenovery.com/en-gb/global/news-and-insights/publications/are-smart-contracts-contracts accessed 15 May 2025.
[252] *New Zealand Shipping Co Ltd v AM Satterthwaite & Co Ltd* [1975] AC 154, 167 (Lord Wilberforce).
[253] *New Zealand Shipping Co Ltd v AM Satterthwaite & Co Ltd* [1975] AC 154, 167 (Lord Wilberforce).
[254] Nawari, Nawari O., and Shriraam Ravindran. "Blockchain and the built environment: Potentials and limitations." *Journal of Building Engineering* 25,2019: 100832.

The “Law Commission” of England and Wales directly addressed this conflict by noting that agreements signed between parties who are not aware of one another's true names have been upheld by the law on numerous occasions and that pseudonymity does not necessarily hinder the establishment of legally enforceable contracts.[255] Contractual dealings under assumed names or through agents are examples of situations where mutual assent can take place without complete identity revelation, according to historical contract philosophies.

The Commission did admit, nevertheless, that evaluating consent between parties under pseudonyms is more difficult, particularly in cases where “Smart Legal Contracts” are carried out automatically without the need for a traditional exchange of terms or clarifications. In these situations, the question is not whether an agreement was made, but rather whether the parties might have rationally consented to a legally binding relationship based on their interactions with “code”, even in the absence of identifying information.

The “Law Commission” proposed a refined analytical framework to address this issue, one that adapts its application to technological realities while maintaining the objective principle of contract formation. The Commission specifically recommended that courts use a context-sensitive version of the objective test, posing the question of what a reasonable participant in the relevant technological ecosystem, such as the Ethereum or blockchain, would have inferred from the use and interaction with specific “code”.[256] The functional realities of decentralised platforms, where conventional indicators of identity, negotiation, and intention might be lacking, are balanced with the fundamental necessity of mutual consent. Courts can determine whether a smart legal contract interaction resulted in a legally binding agreement without requiring parties to disclose or validate their offline identities by basing the test on the norms, expectations, and practices of a particular blockchain community. In ecosystems with automated execution, decentralised governance, and open-source protocols, where legal intention must be deduced from technologically mediated behaviour rather than official declarations, this interpretation model is particularly pertinent.

The Commission used persuasive analogies from unilateral contract jurisprudence where legally binding obligations are often formed without reciprocal negotiation or knowledge of the accepting party's identity when proposing this modified objective standard. In these situations, courts have

[255] “Law Commission”, *“Smart Legal Contracts”: Advice to Government* (Law Com No 401, 2021) para 4.18.

[256] “Law Commission”, *“Smart Legal Contracts”: Advice to Government* para 4.25.

acknowledged that, if the offeree complies with the terms of the offer and performs the requested Act, a legally binding agreement may result.[257]

In the case of *Carlill v. Carbolic Smoke Ball Co [1893] 1 QB 256*,[258] it was decided that a general advertisement promising payment upon fulfilling specific requirements created contractual obligations even though the business was unaware of the identities of possible claimants. This logic emphasizes a fundamental idea: as long as the offer is sufficiently explicit and acceptance is objectively demonstrated, contract law does not require that parties be aware of one another's identities at the time the contract is formed. As long as the relevant behaviour, like activating smart legal contract "code", shows assent from a reasonable, technologically savvy participant, the Commission's analogy to unilateral contracts thus supports the feasibility of contract formation in pseudonymous blockchain environments.

In the long run, pseudonymity does not inherently compromise the enforceability of "Smart Legal Contracts", even though it adds doctrinal complexity. Rather, it calls for judicial flexibility and a sophisticated application of preexisting rules to new technological situations. Legal precedent and a contextual understanding of how "Smart Legal Contracts" function within digital ecosystems are necessary for the court to evaluate objective intentions in decentralised systems. By doing this, legal systems can accommodate the functional realities of blockchain technology and the changing nature of digital identity while maintaining the integrity of contract law.

3.3 Certainty and completeness

Long regarded as crucial doctrinal safeguards to differentiate legally binding agreements from merely informal arrangements or statements of intent, the principles of certainty and completeness are fundamental to the enforceability of contracts under English law. In order for the courts to grant legal effect to a contract, its terms must be sufficiently complete in scope and sufficiently certain in meaning. This requirement makes sure that the judiciary doesn't go beyond its interpretive role by essentially rewriting the contract and that courts aren't left to guess what the parties might have agreed upon.[259]

[257] See *Carlill v Carbolic Smoke Ball Co* [1893] 1 QB 256; also *Bowerman v Association of British Travel Agents Ltd* [1996] CLC 451, where the court upheld a unilateral contract arising from public representations.
[258] *Carlill v. Carbolic Smoke Ball Co [1893] 1 QB 256*
[259] Chitty on Contracts (34th ed, Sweet & Maxwell 2021) para 2-145.

Regardless of whether they are “coded”, automated, or digital, “Smart Legal Contracts” follow the same guidelines. In its 2021 report, the “Law Commission” of England and Wales confirmed that the enforceability of “Smart Legal Contracts” depends on whether or not the agreement complies with conventional contract law principles, such as completeness and certainty. The special characteristics of “Smart Legal Contracts”, especially those that are fully or partially written in computer “code”, present complex issues regarding the application of these principles, particularly when the terms are embedded in technical “code” that may be unreadable or unintelligible to regular parties or adjudicators without the help of experts.[260]

The central question is whether a certain level of functional clarity that meets legal requirements for certainty is inevitably implied by the automated execution of a smart legal contract. Deterministically operating, “Smart Legal Contracts” are made to carry out their programmed outcome without additional human intervention when certain conditions are met. This trait, which is sometimes referred to as "self-execution," might imply a high degree of accuracy.[261]

On a technical level, ambiguity functions that either run or do not are frequently left out of “codes” binary logic. However, achieving legal certainty necessitates more than just mechanical execution; it also calls for the rights and obligations of the parties to be articulated in a way that is predictable and understandable within a legal framework. This tension was acknowledged by the “Law Commission”, which came to the conclusion that although “code” may encourage determinism, not all terms that are “coded” are legally certain, particularly if the underlying reasoning is ambiguous, undocumented, or subject to different interpretations. Courts must therefore determine what legal effect the “coded” terms were meant to have, either directly or with the help of experts.[262]

Incomplete agreements present additional challenges, particularly when crucial terms are left out or the “code” leaves some issues up for decision-making after execution. Courts are typically reluctant to enforce agreements that are considered incomplete under traditional contract law, particularly when important terms like price, subject matter, or duration remain unclear.[263] Similarly, “Smart Legal Contracts” that depend on future input from oracles or assign discretion

[260] “Law Commission”, *“Smart Legal Contracts”: Advice to Government* (Law Com No 401, 2021) paras 2.40–2.42.
[261] Kevin Nicolas C, ‘Contracts Ex Machina’ ,2017, 67 *Duke Law Journal* 313, 318.
[262] “Law Commission” (n 2) para 3.42.
[263] *Scammell v Ouston* [1941] AC 251 (HL)

to off-chain processes run the risk of being labelled as agreements to agree or arrangements with insufficient finality. However, courts have shown flexibility in handling complicated business contracts, acknowledging that as long as there is a practical framework for resolving ambiguity, not all terms need to be fully specified.[264]

An instructive example arises in hybrid "Smart Legal Contracts", where natural language terms are supplemented or mirrored by "code". In such cases, certainty may be evaluated not just by the "code" itself but by reference to the combined effect of the written and "coded" provisions.[265]This dual-form approach allows courts to apply traditional construction methods to the natural language contract while treating the "code" as an implementation tool or as evidence of how the parties intended to perform their obligations. Where ambiguity arises, expert testimony may be admitted to interpret the "coded" elements, much like courts rely on expert evidence to understand technical or scientific terms in specialized contracts. In this sense, the requirement of certainty is not defeated by "code". However, contextual interpretation is required based on the technical and commercial background of the transaction.

In supporting the notion that "coded" "Smart Legal Contracts" can meet the legal requirements of certainty and completeness, the "Law Commission" also drew upon established case law, including *Foley v Classique Coaches Ltd [1934] 2 KB 1*, where the court held that an agreement could be complete and enforceable even if some terms were to be settled by future conduct, provided that a mechanism for determining those terms was in place.[266] Based on this concept, a "coded" contract may be considered complete even if not all contingencies are predefined if it has explicit execution logic or external input mechanisms (like oracles or dispute resolution modules). To sum up, the "Law Commission" came to the conclusion that "Smart Legal Contracts" can meet the requirements of completeness and certainty, but that will depend on how the "code" is written, whether the functional output is legally coherent, and whether the contract as a whole can support the inference of enforceable obligations when viewed through the lens of legal reasoning.

For countries like Kenya, where smart legal contract regulation is still in its infancy, these insights have significant implications. Local legal systems must incorporate interpretative flexibility,

[264] *Pitt v PHH Asset Management Ltd* [1994] 1 WLR 327 (CA).
[265] Christopher Wray, '"Smart Legal Contracts": The Emergence of Code as Law?',2022, 9 *Journal of Law & Innovation* 233, 245.
[266] *Foley v Classique Coaches Ltd* ,1934,2 KB 1.

technical literacy, and contractual fairness principles as the nation investigates legislative or judicial frameworks for acknowledging "Smart Legal Contracts". Kenyan courts, like their English counterparts, must be ready to decide cases involving "coded" terms by determining whether the actions of the parties and the way the smart legal contract functions result in a sufficiently clear and comprehensive agreement. Building trust in "Smart Legal Contracts" and fostering the expansion of fintech innovation and digital commerce in the area will require the development of local jurisprudence along these lines.

3.3.1 The distinction between technical and legal certainty

The "Law Commission" stressed that predictable "code" operation should not be confused with legal certainty. "code" may run deterministically and error-free, but this technical certainty does not ensure that the legal effect of the contract is equally obvious. In "Smart Legal Contracts", where the execution logic may seem exact to a programmer but remain unclear or ambiguous in legalese, this distinction is especially important. The Commission emphasized that legal certainty pertains to whether the terms of a contract are specific enough to determine the rights and obligations of the parties. Technical certainty, on the other hand, refers to whether "code" works as intended and performs the specified operations based on specified inputs.

A number of possible discrepancies between these two types of certainty were noted by the Commission. First, non-specialist parties may find it challenging to comprehend the practical implications of contractual obligations due to the growing algorithmic complexity of certain "Smart Legal Contracts". Second, there may be uncertainties introduced by "Smart Legal Contracts" that rely on external systems, such as oracles, that are absent from closed contractual systems. Third, because legal concepts like reasonableness and best efforts are interpretive and context-dependent by nature, the strict logic of "code" may not be able to adequately convey them. Last but not least, because "code" usually lacks procedures to handle unexpected or extraordinary situations, failing to foresee such situations can compromise the arrangement's comprehensiveness and legal certainty.[267]

3.3.2 Applying certainty standards to different types of "Smart Legal Contracts"

The "Law Commission" reiterated that there is no doctrinal novelty in natural language contracts that incorporate automated execution when discussing the application of legal certainty to different

[267] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) paras 6.24–6.28.

smart legal contract forms. These agreements are still subject to the same standards that courts use to evaluate the completeness and clarity of conventional contracts. In these situations, the "code" serves only as a performance tool and does not replace the natural language used to express legal obligations.

However, there are special interpretive difficulties with hybrid contracts, where legal obligations are partially stated in "code" and partially in natural language. Courts may be asked to decide which should be followed when there are differences between the "code" and the prose. The Commission pointed out that by incorporating explicit clauses creating a hierarchy between the "code" and natural language, parties can prevent this kind of ambiguity. In the absence of such provisions, courts are likely to take a contextual approach, taking into account the contract as a whole, including the functionality of the "code", any supporting technical documentation, and the transaction's commercial circumstances.

In contrast, sole "code"-based contracts are the most difficult to interpret legally. In these situations, the "codes" functionality, which may entail multiple levels of abstraction, reliance on external protocols, or interaction with a larger digital infrastructure must be used to fully infer legal obligations. The Commission acknowledged that this kind of intricacy raises the possibility of ambiguity and could make it more difficult for judges to determine enforceable duties. In order to address these issues, a number of stakeholders including renowned legal firms like Herbert Smith Freehills recommended creating best practices that support adding natural language explanations to "coded" contracts in order to increase their legal clarity.[268]

3.3.3 Judicial approach to uncertainty in "Smart Legal Contracts"

Notwithstanding these interpretive challenges, the "Law Commission" stressed that English courts are hesitant to declare contracts void for uncertainty, reflecting a longstanding judicial philosophy rooted in commercial pragmatism and a preference for upholding bargains where possible. The Commission recalled the well-established principle in "*Hillas & Co Ltd v Arcos Ltd [1932] All ER 494"*,[269] where Lord Wright warned against invalidating agreements simply because their form did not conform to legal conventions. Lord Wright noted that commercial parties frequently record

[268] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) paras 6.29–6.33.
[269] Sutton, Kenneth C. "The Uncertainty of Certainty of Contract." *Otago L. Rev.* 5,1981: 11.

their agreements in a way that may seem imprecise to those in the relevant business context but is sufficiently comprehensible to those in the relevant business context.

This approach is especially relevant in "Smart Legal Contracts", where agreements can be expressed in ways that are not familiar to judges or solicitors but still make sense within their technological realm. The Commission affirmed that a finding of invalidity shouldn't be made based solely on ambiguity or the lack of conventional documentation. Rather, courts can use well-established interpretive principles to manage this kind of ambiguity. If the underlying business intentions can be identified, there is no reason to doubt that the judiciary's experience with complex instruments in sectors like finance and construction can be applied to "Smart Legal Contracts".[270]

3.3.4 Best practices for ensuring certainty

The Commission presented a number of suggestions to improve enforceability and legal certainty. The same legal requirements of comprehensiveness and clarity that apply to all contracts also apply to "Smart Legal Contracts", despite the possibility of new technical forms. Clear and comprehensive documentation is a useful tool for demonstrating certainty. When added to or incorporated into the "code", natural language explanations can serve as a useful interpretive link between legal requirements and digital functionality.

Furthermore, parties are advised to include provisions specifying the precedence of natural language or "code" in the event of inconsistency. These express hierarchical clauses can help courts resolve ambiguity and avoid protracted interpretive disputes. From a technical perspective, the Commission recommended that developers follow established programming standards and write transparent and adequately annotated "code" to enhance its comprehensibility. Including fallback mechanisms to address system failure or unexpected contingencies is another measure that can contribute to overall certainty.

Additionally, the Commission urged parties to incorporate dispute resolution procedures in cases where "code" behaviour deviates from what is required by law. These clauses could refer to off-chain adjudicative procedures or incorporate built-in governance systems. In the end, the Commission confirmed that the flexible and principle-based framework of English law can handle

[270] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) paras 6.34–6.36.

technological complexity without compromising the legal requirement that parties comprehend the nature and content of their obligations.[271]

3.4 Consideration in "Smart Legal Contracts"

The requirement of consideration, which demands that each party confer something of value to support a legally binding promise, remains central to English contract law. The Commission found that this doctrine applies seamlessly to "Smart Legal Contracts", regardless of whether they are expressed in natural language, hybrid forms, or pure "code". In traditional or natural language "Smart Legal Contracts", consideration can be readily identified in the terms of the agreement or through its performance. This analysis equally applies to hybrid contracts, where the consideration may arise in either the "code" or prose elements, provided the objective evidence of a value exchange exists.

In many cases, "Smart Legal Contracts" perform familiar transactions, such as delivering services in return for payment, albeit through automated mechanisms. For instance, a smart legal contract may trigger a cryptocurrency transfer upon receiving a digital good. The Commission regarded such arrangements as uncontroversial, reiterating that the technological medium does not alter the underlying legal reality that a mutual exchange of value has occurred. Even where the consideration consists of novel digital assets, such as tokens or access rights within decentralized applications, the Commission confirmed that these could constitute valid consideration, provided they are of identifiable value to the parties involved. English law's historically inclusive approach to recognizing varied forms of benefit and detriment supports this conclusion.[272]

3.4.1 Consideration in Purely "code"-Based Contracts

Pure "code"-based "Smart Legal Contracts", where value is transferred through algorithmic means without any supporting natural language, raise more complex questions, especially concerning the identification of the contracting parties and the nature of the value exchanged. Nonetheless, the Commission found no conceptual obstacle to recognizing consideration in these arrangements. Such contracts often enhance evidentiary certainty, as blockchain transactions provide immutable records of value exchanges. This verifiability helps to demonstrate that a mutual bargain occurred.

[271] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) paras 6.37–6.41.
[272] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) paras 4.15–4.20.

The Commission pointed out that the typical operation of "Smart Legal Contracts" reflects the key consideration elements. Usually, a pre-agreed value is defined in the contract's "code", a reciprocal exchange that reflects mutual obligations and an economic reality that supports a binding arrangement. Importantly, even when autonomous systems or decentralized protocols execute contracts, courts may still be able to identify human actors who exercise control over the systems or who benefit from their operation. These individuals may be treated as parties to the contract, preserving the doctrinal foundation of consideration while accommodating modern technological forms.[273]

3.4.2 Traditional application to "Smart Legal Contracts"

The application of consideration principles is straightforward in traditional and natural language contracts with automated execution. Courts can identify value exchanges within written terms or through manifested performance. The analysis is similarly conventional for hybrid contracts: value can be found in either the natural language or the "coded" elements, provided the intention to exchange value is objectively demonstrated.[274]

The Commission noted that consideration in "Smart Legal Contracts" often takes traditional forms, such as payment for goods or services, albeit executed through technological means. For example, a smart legal contract might automate cryptocurrency payment in exchange for digital or physical assets. From a legal perspective, this arrangement presents no novel challenges the consideration lies in the mutual exchange of value, regardless of the mechanism through which that exchange occurs.

In some cases, consideration in "Smart Legal Contracts" may involve digital assets or rights that have no direct traditional counterpart, such as cryptographic tokens or access privileges within a decentralized application. The Commission confirmed that such digital value could constitute valid consideration under English law, historically recognizing a wide range of benefits and detriments as sufficient consideration.[275]

[273] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) paras 4.21–4.26.
[274] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 5.4.
[275] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 5.9.

3.5 Intention to create legal relations

The requirement of an intention to create legal relations distinguishes enforceable agreements from social or informal arrangements. Under English law, commercial contracts are presumed to carry such intention, while domestic or social contracts do not.

3.5.1 Presumptions in commercial and social contexts

The "Law Commission" came to the conclusion that "Smart Legal Contracts" are still subject to this principle. Determining legal intentions in natural language and hybrid contracts presents no new legal challenges; the courts may employ well-known analytical techniques, such as the transaction's context and the parties' conduct. "Smart Legal Contracts" will be presumed to have the same legal intent as their conventional counter parts, the Commission reiterated. Whether the contract is written in "code", natural language, or both, this presumption still holds true. This presumption is still primarily determined by the commercial context rather than the technical medium.

On the other hand, the conventional presumption against legal intention would apply to "Smart Legal Contracts" used in domestic or social contexts. For instance, without clear proof, a clever legal contract app that helps friends make informal agreements might not establish legally enforceable commitments.

3.5.2 Determining intention in "code"-based contracts

Still, the legal doctrine of intention to create legal relations, a fundamental prerequisite for contractual enforceability under English law faces unique challenges when it comes to "Smart Legal Contracts" that are entirely composed of "code". In conventional contracts, the language of the agreement and its context are usually used to infer intention. Nevertheless, particularly in decentralised settings, "code"-based contracts frequently lack natural language, clarifying documentation, and direct communication between the contracting parties. The "Law Commission" confirmed that courts can and should continue to use an objective test that focusses on whether a reasonable observer would conclude that the parties intended to enter into legal relations, even though it acknowledged that these characteristics make the standard analytical approach more difficult.[276]

[276] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) paras 3.15–3.16.

In order to aid in this assessment process, the Commission suggested that objective indicators could be used as stand-ins for intention in the absence of traditional documentation. Contextual factors that courts may take into account include the type of transaction, the financial stakes, and the relevant platform's commercial realities.[277] The Commission emphasized that a court could determine legal intention based on the overall commercial context and the financial ramifications of the parties' actions, even in interactions involving pseudonymous actors on a blockchain.

The "Law Commission" identifies several factors that can help courts determine whether parties intend to create legal relations in wholly "code"-based "Smart Legal Contracts". Although not exhaustive, these factors offer a useful framework for courts navigating this emerging area of technology. One such factor is the *platform context*.[278] The platform on which parties deploy a smart legal contract can provide clues about their intention. For example, when parties use a platform commonly associated with commercial or financial transactions such as decentralised finance (DeFi) systems the court can more readily infer an intention to create legal relations. This approach aligns with the courts' broader practice of evaluating surrounding circumstances to determine contractual intent.

The *value of the transaction* also plays a critical role. When parties exchange high-value digital assets, the scale of the transaction often supports a finding that they intended to engage in a legally binding arrangement. This mirrors how courts in traditional settings assess the seriousness of consideration to infer intent. Courts can also evaluate the *technical complexity* of a smart legal contract. When parties design contracts that include fallback mechanisms, dispute resolution protocols, or references to legal standards, they likely intend the agreement to be legally enforceable. By contrast, when parties use simple or experimental "code", they may lack that intention.[279]

Courts may further consider *industry norms* within specific blockchain communities. When the parties operate in an ecosystem with widely accepted practices reflected in white papers, protocol rules, or governance documents, those customs can help clarify whether parties usually treat "Smart Legal Contracts" as legally binding. These practices may function like trade usages in conventional contract law. In addition, *user interface elements* can provide important signals. For

[277] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 3.18.
[278] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) paras 4.43
[279] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) paras 4.43–4.66.

instance, natural-language disclaimers, terms of service, and confirmation prompts embedded in the interface can demonstrate clear intent, much like traditional written contracts.

The “Law Commission” ultimately confirms that parties can demonstrate an intention to create legal relations even in wholly “code”-based “Smart Legal Contracts”, as long as objective evidence supports that intention. This view reflects English contract law’s ability to accommodate technological innovation without requiring major doctrinal reform.[280]

3.5.3 Objective manifestation of intention

In circumstances in which interactions are purely “code”-based, intent must be deduced from behaviour and context. This point of view is consistent with case law, which upholds the enforceability of contracts even in technologically innovative forms and concentrates on what the agreement would mean to a reasonable person.

In “*RTS Flexible Systems Ltd v. Molkerei Alois Müller GmbH & Co KG [2010] UKSC 14”*, the Commission referenced Lord Clarke's statement: "Whether there is a binding contract between the parties and, if so, upon what terms depends not upon their subjective state of mind, but upon a consideration of what was communicated between them by words or conduct, and whether that leads objectively to a conclusion that they intended to create legal relations and had agreed upon all the terms which they regarded or the law requires as essential for the formation of legally binding relations."[281]

The Commission cited Lord Clarke's statement in “*RTS Flexible Systems Ltd v Molkerei Alois Müller GmbH & Co KG”*, “whether there is a binding contract between the parties and, if so, upon what terms depends not upon their subjective state of mind, but upon a consideration of what was communicated between them by words or conduct, and whether that leads objectively to a conclusion that they intended to create legal relations and had agreed upon all the terms which they regarded or the law requires as essential for the formation of legally binding relations”.[282]

Even when parties use automated systems or pseudonyms, courts can still find legally binding relationships thanks to this objective approach, as long as the parties' actions are intended to create

[280] “Law Commission”, *“Smart Legal Contracts”: Advice to Government* (Law Com No 401, 2021) paras 4.43–4.66.
[281] Stone, R.,‘Forming Contracts Without Offer and Acceptance, Lord Denning and the Harmonisation of English Contract Law’,2012,19(2) *Web JCLI*
[282] *TS Flexible Systems Ltd v Molkerei Alois Müller GmbH & Co KG* [2010] UKSC 14

enforceable obligations. The Commission underlined that the law can adapt to technological advancements while upholding principled consistency because it places more emphasis on objective behaviour than subjective intent.

3.5.4 Practical implications for smart legal contract design

After analysing the intention to establish legal relations in the context of "Smart Legal Contracts", the "Law Commission" produced a number of useful suggestions meant to help parties draft legally binding agreements. The Commission underlined that such intention can be demonstrated in a variety of ways, including digital or "coded" formats, since English contract law uses an objective test to ascertain whether the parties intended to establish legal relations.[283] As long as the parties take the necessary actions to express their intent, this practical approach enables "Smart Legal Contracts" to function within the well-established framework of English law.

First, where such a result is desired, the Commission advised parties to include explicit statements of legal enforceability. These statements can be included directly in the contract "code" as metadata or comments, or they can be written in plain language alongside the "code".[284] The goal is to satisfy the evidentiary threshold required by English law by leaving no room for doubt regarding the parties' desire for the agreement to be legally binding.

Second, adding legal integration clauses like mentioning the jurisdiction, governing law, or dispute resolution procedures can support the idea that the contract was meant to be legally binding.[285] Although such clauses are not conclusive, their inclusion lends credence to the idea that the parties considered the legal ramifications of their agreement and attempted to place it within a legal framework. This advice is especially important for decentralised or cross-border "Smart Legal Contracts", where issues with relevant laws and enforcement channels could otherwise make decision-making more difficult.

Third, the Commission emphasized the importance of thorough documentation outlining the function, goal, and legal background of the smart legal contract.[286] User manuals, technical specifications, or legal memoranda that go with the contract are examples of this type of documentation. As interpretive aid, these supplemental materials help courts comprehend the

[283] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 3.21.
[284] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 3.23.
[285] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 3.24.
[286] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 3.25.

intent and structure of the "coded" agreement, particularly in cases where disagreements emerge. This approach is consistent with the more general idea that courts may use context and the actions of the parties to infer intention from a document's four corners.

The Commission, on the other hand, recommends that clear disclaimers be prominently displayed in any accompanying natural language documentation or "code" in cases where the parties do not intend legal enforceability.[287] This is especially important in demonstration or experimental settings where parties may want to test a smart legal contract's functionality without being bound by any legal requirements. Any presumption of legal intention that might otherwise result from reciprocal obligations or performance automation is lessened by explicit disclaimers.

Ultimately, the Commission concludes that "Smart Legal Contracts" of all types can satisfy the requirement of intention to create legal relations, provided that such intention is objectively manifest.[288] This reinforces the view that English contract law's flexible and principle-based nature is well suited to accommodating innovation in digital contracting. Rather than requiring bespoke legislation to validate "Smart Legal Contracts", the Commission's approach underscores how existing legal doctrines can evolve to encompass new technologies without undermining legal certainty or enforceability.

3.6 Formality requirements

Certain contracts under English law must meet statutory formality requirements to be enforceable, including being in writing, signed, or witnessed. These requirements are particularly relevant in the context of "Smart Legal Contracts" where performance is executed by computer "code".

3.6.1 Writing requirements

One major legal concern in the adoption of "Smart Legal Contracts" is whether the "code" supporting them complies with statutory requirements for writing. This problem is particularly noticeable when laws require that specific types of contracts be in writing in order to be enforceable. Contracts of guarantee governed by the Statute of Frauds 1677[289] or contracts for the sale or disposition of land under section 2 of the Law of Property (Miscellaneous Provisions) Act 1989[290] are two examples. The "Law Commission" of England and Wales examines in its 2021

[287] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 3.26.
[288] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 3.27.
[289] Fridman, G. H. L. "The necessity for writing in contracts within the Statute of Frauds." *U. Toronto LJ* 35 1985: 43.
[290] Hill, G. Section 2 of the Law of Property (Miscellaneous Provisions) Act 1989',1990. *LQR*, *106*, 396.

report whether smart legal contract “code” can satisfy legal definitions of *"writing,"* particularly when implemented using distributed ledger technology or blockchain.

The “Law Commission” referred to the Interpretation Act 1978, which broadly defines writing, including "typing, printing, lithography, Photography and other modes of representing or reproducing words in a visible form.[291] On this basis, the Commission concluded that certain types of smart legal contract “code”, particularly source “code”, can likely satisfy statutory writing requirements, at least when presented in a readable or visible format.[292]

In particular, the Commission made a distinction between the various “code” formats and forms utilised in “Smart Legal Contracts”, highlighting the fact that not all digital representations of contractual terms are equivalent in terms of functionality or law. First, source “code” is considered likely to meet the statutory writing threshold because it is written in programming languages like Solidity and is understandable to developers. This is especially true when the “code” is printed or shown on a screen, making the words visible and accessible. According to the Commission, source “code” may be considered a type of human-readable text and thus qualify for the broad definition of "writing" that the Interpretation Act envisions.[293] The Commission notes that source “code” may constitute a type of text that is readable by humans, thus falling under the broad definition of "writing" that the Interpretation Act envisions.[294]

Second, the compiled, machine-readable source “code” version, known as byte”code”, was more challenging. Usually designed to be executed by virtual machines, byte”code” may be difficult for laypeople or even legal experts to understand without specialised tools. In cases where byte”code” cannot be translated or interpreted into a form that expresses contractual terms in a language that is understandable to humans, the Commission voiced doubts about whether it could be considered writing.[295] Stated differently, the legal recognition of “code” on a digital ledger may depend on its reasonable interpretation and human verification.

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[291] Interpretation Act 1978, s 5 and Sch 1.

[292] “Law Commission”, *“Smart Legal Contracts”: Advice to Government* (Law Com No 401, 2021) para 4.19.
[293] “Law Commission”, *“Smart Legal Contracts”: Advice to Government* (Law Com No 401, 2021) para 4.23.
[294] “Law Commission”, *“Smart Legal Contracts”: Advice to Government* (Law Com No 401, 2021) para 4.26.
[295] “Law Commission”, *“Smart Legal Contracts”: Advice to Government* (Law Com No 401, 2021) para 4.27.

Third, the Commission discussed blockchain records, which comprise the data entries related to transactions involving "Smart Legal Contracts". As long as the data can be converted into a readable format using the proper technological interfaces, such records meet writing requirements.[296] The legal efficacy of a smart legal contract with regard to writing requirements may therefore rely on whether human parties or courts can consistently extract and comprehend its terms, even in cases where the contract is fully operated through distributed ledger systems.

These findings have obvious practical ramifications: even if a contract is executed or carried out via computer "code", it is still advisable for the key terms to be written in a way that is readable by humans when the contract is subject to a statute that requires writing. This improves legal certainty and protects against possible challenges to enforceability. The Commission's stance emphasises the idea that legal substance should not be overshadowed by technological form, and that the clarity and visibility of contractual terms are still crucial when determining their legality.

3.6.2 Signature requirements

The enforceability of "Smart Legal Contracts" depends on the legal recognition of digital and electronic signatures, especially in countries like England and Wales where certain contracts require a signature to be enforceable. In its 2021 report on "Smart Legal Contracts", the "Law Commission" confirmed that digital signatures, such as distributed ledger technologies' cryptographic authentication techniques, can meet statutory signature requirements as long as they show the signatory's intent to authenticate the contract.[297]

The Electronic Communications Act 2000, which states that an electronic signature is admissible as evidence in court proceedings and cannot be denied legal effect just because it is in electronic form, is consistent with this stance.[298] According to the Act, an electronic signature is any data in electronic form that is logically connected to or attached to other electronic data and used as an authentication method.[299]

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[296] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 4.30.
[297] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 4.31.

[298] Electronic Communications Act 2000, s 7(1).

[299] Electronic Communications Act 2000, s 7(2).

A functional approach to signatures, which emphasizes the signatory's intention over the signature's form, is further supported by English case law. In *Golden Ocean Group Ltd v. Salgaocar Mining Industries PVT Ltd,* the Court of Appeal ruled that an email signature could fulfil the Statute of Frauds 1677's section 4 signature requirement for guarantees, highlighting the importance of determining whether the signature was meant to authenticate the document .[300] Similar to this, the High Court acknowledged in *Neocleous v. Rees* that, when used with authenticating intent, an automatically generated email footer that included the sender's name qualified as a legitimate signature for section 2(3) of the Law of Property (Miscellaneous Provisions) Act 1989.[301]

The "Law Commission" examined how well different technological approaches used in "Smart Legal Contracts" could satisfy the requirements for statutory signatures in its 2021 report.[302] The Commission acknowledged that cryptographic keys can function as legitimate signatures, especially private keys that are used to approve blockchain transactions. [303]This is particularly true in cases where the signatory's intention to authenticate the agreement is demonstrated by the use of the key. Intentionality and authentication, which are consistent with the general rules of English contract law, continue to be crucial components.[304]

Furthermore, the Commission recognised that multi-signature agreements, in which several parties must use cryptography to approve a transaction, could also meet signature requirements.[305] Each party's act of authorisation in these situations must expressly state that they intend to be bound by the terms of the agreement. For "Smart Legal Contracts" that involve shared responsibilities or group decision-making, these mechanisms are especially pertinent.[306]

The use of digital signature algorithms, particularly those that function within a Public Key Infrastructure (PKI) framework, was also taken into consideration by the "Law Commission". If these signatures are used with the intention of authenticating the document or agreement, they might meet legal requirements. PKI-based signatures are already commonly used in electronic

[300] *Golden Ocean Group Ltd v Salgaocar Mining Industries PVT Ltd* [2012] EWCA Civ 265.
[301] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 4.33.
[302] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 4.23.
[303] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 4.28.
[304] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 4.29.
[305] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 4.31.
[306] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 4.32.

transactions, so it makes sense from a legal and practical standpoint to extend them to "Smart Legal Contracts".[307]

Lastly, the Commission considered the function of biometric authentication, including facial recognition and fingerprint technologies. In some situations, biometric identifiers that are incorporated into the smart legal contract execution process could be considered legitimate signatures.[308]This is especially true when such techniques are connected to the person's explicit desire to authenticate and accept the terms of the contract.

The "Law Commission" emphasized the overarching principle that the validity of a signature in the context of "Smart Legal Contracts" depends not on the specific technological method employed but on whether the method demonstrates an authenticating intention in the relevant context.[309] This approach ensures that the legal framework remains adaptable to technological advancements while upholding the fundamental requirement of intention to authenticate in contractual agreements.

3.6.2.1 Challenges with deeds

Deeds pose more significant difficulties. English law requires that deeds be in writing, signed, witnessed, and delivered. The witnessing requirement, in particular, is problematic for smart deeds. The Commission referred to the Mercury case (*R (Mercury Tax Group Ltd) v HMRC* [2008] EWHC 2721),[310] Which mandates that witnessing and signing occur on the same physical document. This presents a barrier to fully digital deed execution. Although some consultees proposed workarounds like digital attestations or timestamping, these remain legally uncertain. The Commission recommended that legislative reform be considered to clarify how smart deeds could meet these requirements.

The witnessing requirement presents challenges for blockchain-based transactions, which typically operate without human observation. The Commission considered several potential approaches. One approach was the hybrid execution model, in which a deed is created and witnessed in natural language form while performance is executed by "code". This model preserves the legal validity of the deed by adhering to witnessing formalities while allowing for the benefits of automated

[307] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 4.35.
[308] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 4.38.
[309] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 4.31.
[310] *R (Mercury Tax Group Ltd) v HMRC* ,2008.EWHC 2721.

execution. However, it introduces complexity and may limit the efficiency gains of using a fully "coded" solution.[311]

The Commission also examined the potential use of multi-signature protocols, which require multiple parties to sign a transaction digitally. These protocols can provide a form of digital attestation, particularly in systems where a third party confirms the validity of a transaction. Nonetheless, the Commission cautioned that such protocols do not necessarily meet the common law requirements of "presence" and "attestation" that underpin traditional witnessing.[312]Without a human witness confirming that the signatory applied their signature with intention, these protocols may fall short of legal sufficiency.

A further option involved using trusted third parties to serve as digital witnesses. These entities would observe or confirm the execution of a smart deed and record this event on the blockchain or another secure digital medium. While this could theoretically satisfy the need for independent verification, it introduces issues of trust, costs, and potential centralization in systems otherwise designed to be decentralized.[313]

Finally, the Commission explored technological solutions that could replicate or replace witnessing in a digital environment, such as timestamping, biometric verification, or secure video witnessing mechanisms.[314]Although innovative, these solutions are still in developmental stages and face legal and practical uncertainties in their ability to satisfy statutory and common law requirements.

Ultimately, the Commission concluded that none of the existing or proposed solutions fully resolve the doctrinal and practical challenges posed by witnessing requirements in the context of "Smart Legal Contracts".[315] As such, the Commission identified this as an area requiring further legislative intervention to ensure clarity and confidence for parties seeking to execute deeds digitally. Without statutory reform, the enforceability of smart deeds remains uncertain, which may hinder the broader adoption of "Smart Legal Contracts" in contexts where deeds are commonly used.

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[311] Law of Property (Miscellaneous Provisions) Act 1989, s 1(3).
[312] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) paras 6.42–6.45.
[313] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) paras 6.46–6.47.
[314] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 6.48.
[315] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 6.49.

None of these approaches fully resolves the tension between traditional deed requirements and smart legal contract execution. The Commission, therefore, highlighted this area as requiring potential legislative intervention to provide legal certainty.

3.7 Consumer protection formalities

The Commission also addressed formality requirements from consumer protection legislation, such as the Consumer Rights Act 2015 and Consumer Contracts Regulations 2013. These regulations impose specific disclosure and transparency requirements for consumer contracts, which may be challenging to satisfy through "code" alone.

The "Law Commission" identified the asymmetry of information and bargaining power between consumers and businesses as a major concern, which is what consumer protection laws are meant to address. The opacity of "code"-based terms in "Smart Legal Contracts" may make this imbalance worse, especially in cases where consumers lack the technical know-how to understand automated performance mechanisms. This increases the possibility that, if not properly translated into accessible formats, fundamental consumer rights like the ability to comprehend contractual obligations, the right to withdraw, and the need for unambiguous pre-contractual information could be compromised.[316]

In order to reduce these risks, the Commission underlined that "Smart Legal Contracts" used in consumer contexts must comply with "transparency" as defined by section 68 of the Consumer Rights Act of 2015. This means that the terms of the contract must be written in a clear and understandable manner so that customers can evaluate their rights and responsibilities in a meaningful way. A purely "coded" smart legal contract is unlikely to meet these statutory requirements because "code" is not "language" in the legal sense by definition. In order to effectively bridge the gap between "code" and consumer comprehension, the Commission recommended that any implementation of smart legal contract technology in consumer-facing applications be accompanied by a natural language interface or explanation.[317]

Furthermore, traders are required by law to give specific information prior to the formation of a contract, including the primary features of goods or services, the total cost, and information about cancellation rights, under the Consumer Contracts (Information, Cancellation, and Additional

[316] "Law Commission", *"Smart Legal Contracts": Advice to Government* (Law Com No 401, 2021) para 7.33.
[317] "Law Commission", *"Smart Legal Contracts": Advice to Government* , paras 7.35–7.37.

Charges) Regulations of 2013. These pre-contractual disclosure requirements must be given "in a clear and comprehensible manner" to facilitate informed decision-making."[318]

The Commission recognised that “code” alone might not always be sufficient to fulfil these responsibilities, particularly when the smart legal contract runs automatically when triggering data is entered. As a result, the Commission advised companies using “Smart Legal Contracts” to proactively provide additional natural language documentation that mirrors the functionality of the underlying “code”.[319]

The Commission's suggestions highlight a more comprehensive regulatory understanding: “Smart Legal Contracts” must not circumvent substantive consumer protection standards, even though they provide notable efficiency and execution certainty. The dual-format strategy, which combines “code” and an explanation in natural language, is a useful tool for compliance and a way to boost consumer confidence in new legal technologies. This hybrid model acknowledges that language's communicative function in guaranteeing equity and transparency in contractual dealings cannot be replaced by “code”, despite its accuracy and automation.

3.8 Lessons for Kenya

This part concludes this chapter and highlights the lessons Kenya can learn from the United Kingdom's approach to regulating “Smart Legal Contracts”.

Firstly, the UK demonstrates that existing legal principles can be adapted to accommodate new technologies without always requiring new legislation. The “Law Commission” of England and Wales confirmed that classic contract concepts, including offer, acceptance, consideration, and intention to form legal relations, are sufficiently flexible to govern “Smart Legal Contracts”, even when they are written fully or in part in “code”. Kenya, whose legal system is founded on English common law, can follow suit by pushing courts to interpret and apply known contractual concepts in technologically complicated circumstances. This adaptable approach allows the judiciary to gradually build jurisprudence relating to “Smart Legal Contracts” while avoiding hurried statutory legislation.

Secondly, the UK's classification of “Smart Legal Contracts” into three forms, natural language contracts with automated performance, hybrid contracts combining “code” and natural language,

[318] Consumer Contracts (Information, Cancellation and Additional Charges) Regulations 2013, SI 2013/3134, reg 13.
[319] “Law Commission” (n 1) paras 7.38–7.41.

and solely “coded” contracts, offers a helpful conceptual framework that Kenya can emulate. This classification allows for differentiated legal treatment depending on the contract's complexity and level of automation. For instance, contracts that merely automate performance without altering legal obligations raise fewer interpretive challenges, while solely “coded” contracts require deeper judicial engagement to establish intent and enforceability. Kenya could provide drafters and adjudicators clarification by implementing this three-step process, which would allow for more accurate guidance and risk assessment when implementing “Smart Legal Contracts”.

Thirdly, the significance of technological neutrality in contract regulation is demonstrated by the way the UK handles formalities like witnessing and signatures. The UK “Law Commission” suggested in its recommendations to the government that cryptographic authentication techniques and digital signatures can fulfil the legal need for a signature as long as they show the parties' intention to be bound. Kenya can improve the legal recognition of “Smart Legal Contracts” without compromising current protections by extending the legal definition of a signature under its Law of Contract Act and Evidence Act to include blockchain-based authentication.

Finally, the UK has underlined how crucial it is to guarantee accessibility and transparency for all parties involved in “Smart Legal Contracts”, particularly consumers. The UK suggests that “coded” contracts be accompanied by plain-language explanatory documents in order to strike a balance between automation and informed consent. By requiring “Smart Legal Contracts”, especially in retail or fintech contexts, to include plain language summaries of the “coded” terms, Kenya can use this example to update its consumer protection framework. This can shield customers from the opaqueness of algorithmic contracting and is consistent with the constitutional ideals of fair administrative action and information access.

Taking the above into account, the UK's strategy is a sensible and cautious model that promotes innovation while strengthening legal certainty. Kenya stands to benefit greatly from such a model by upholding the core principles of contract law while encouraging the responsible use of technology in contracts, updating evidentiary standards, and improving judicial preparedness.

Chapter 4: Findings, Recommendations and Conclusion

4.1 Findings

This study set out to assess critically how well Kenya's current legal system supports the acceptance, enforcement, and control of smart contracts. Several important conclusions were drawn from the doctrinal and comparative analysis presented in Chapters 2 and 3.

First, Kenya's framework for contract law is based on traditional ideas of contracts created by natural language and the autonomy of humans. It is anchored in the Law of Contract Act and is supplemented by sectoral statutes like the Evidence Act, the Kenya Information and Communications Act, and the Data Protection Act. Even though electronic contracts are now legally recognised, especially thanks to judicial interpretation and legislative developments, these provisions are not adequately adapted to handle the complicated nature of "Smart Legal Contracts", particularly those that are partially or fully "coded".

Second, the study discovered that although "Smart Legal Contracts" can be covered by general contract law principles like offer, acceptance, consideration, and intention to establish legal relations, there is no specific legal guidance or case law in Kenya that unequivocally confirms their enforceability. Due to disagreements over the parties' intentions, the interpretability of the "code", and the relative importance of "coded" and natural language terms, this absence leads to legal ambiguity, particularly when it comes to contracts that are entirely "coded" or hybrid.

Third, Chapter 3's comparative analysis with the UK showed that although both countries have a common law heritage, the UK has advanced significantly thanks to the efforts of organisations like the "Law Commission", which has offered precise interpretive guidelines on how intelligent legal contracts can work within preexisting legal frameworks. In this sense, this method differs from Kenya's comparatively unstructured legal system since it promotes technological neutrality while providing helpful advice.

Finally, the study confirmed that innovation, investor confidence, and legal certainty may be hampered by Kenya's lack of a focused legal and policy framework for "Smart Legal Contracts". Parties utilising "Smart Legal Contracts", particularly those in the financial technology industry, may function in a grey area where issues with data governance, consumer protection, and dispute resolution are still unclear in the absence of reforms.

4.2 Recommendations

Based on the findings above, the following recommendations are made to support the integration of "Smart Legal Contracts" into the Kenyan legal system:

a. Give "Smart Legal Contracts" a legal definition and typology. "Smart Legal Contracts" ought to be officially recognised by Kenyan law or regulatory guidelines. This entails defining them according to their technical characteristics and classifying them into three categories: fully "coded" contracts, hybrid contracts, and natural language contracts with automation. In courts and in practice, these typologies will direct interpretation and enforcement.

b. Existing statutes should be amended to make their applicability clear. "coded" contracts, digital signatures, and blockchain-based performance mechanisms should all be specifically allowed for in the Law of Contract Act, Evidence Act, and KICA. The legality and admissibility of evidence of smart contracts created and executed through decentralised platforms ought to be confirmed by these amendments.

c. Issue regulatory and judicial guidance notes. The Chief Justice, the Attorney General, or the Kenya Law Reform Commission should publish practice notes or guidelines for courts and practitioners on how to interpret "Smart Legal Contracts", following the UK's lead. These notes might make it clearer how "coded" interactions can be used to infer intention, offer, and acceptance as well as how "code"-language differences should be addressed.

d. Establish a "Smart Legal Contracts" regulatory sandbox. A cross-agency sandbox should be established by regulators like the Communications Authority, Capital Markets Authority, and Central Bank of Kenya to test blockchain-based "Smart Legal Contracts" in public procurement, real estate, and fintech. In addition to providing regulators with information and insight on new risks, the sandbox would foster innovation.

e. Develop technical-legal proficiency in legal practice and education. Training programs that combine legal reasoning and technological literacy should be introduced by universities, judicial training organisations, and professional associations (like LSK). Judges, regulators, and attorneys need to be able to read, comprehend, and evaluate the legal ramifications of smart contract "code". Research in this field may be funded by grants or scholarships.

4.3 Conclusion

This study set out to evaluate whether Kenya's current legal framework is adequate to support the emergence of "Smart Legal Contracts". It concludes that while foundational principles of contract law remain applicable, the unique features of "Smart Legal Contracts" particularly their reliance on "code", automation, and decentralized technologies necessitate targeted reforms. Without these, Kenya risks legal ambiguity, stunted innovation, and potential harm to consumers and businesses operating in the digital space.

Therefore, Kenya must take deliberate steps to amend and modernize existing contract statutes to explicitly recognize "Smart Legal Contracts", equip courts and regulatory institutions with the interpretive and technical tools necessary to handle disputes and ensure compliance, and foster inter-agency collaboration alongside sector-wide education to build a supportive ecosystem for the responsible use of this emerging technology. These reforms are crucial not only for ensuring legal clarity and predictability but also for advancing Kenya's broader ambition to position itself as a regional digital innovation hub. "Smart Legal Contracts" are not a fleeting trend; they represent a fundamental shift toward automation and decentralization in global commerce, and the law must evolve accordingly to remain relevant and effective.

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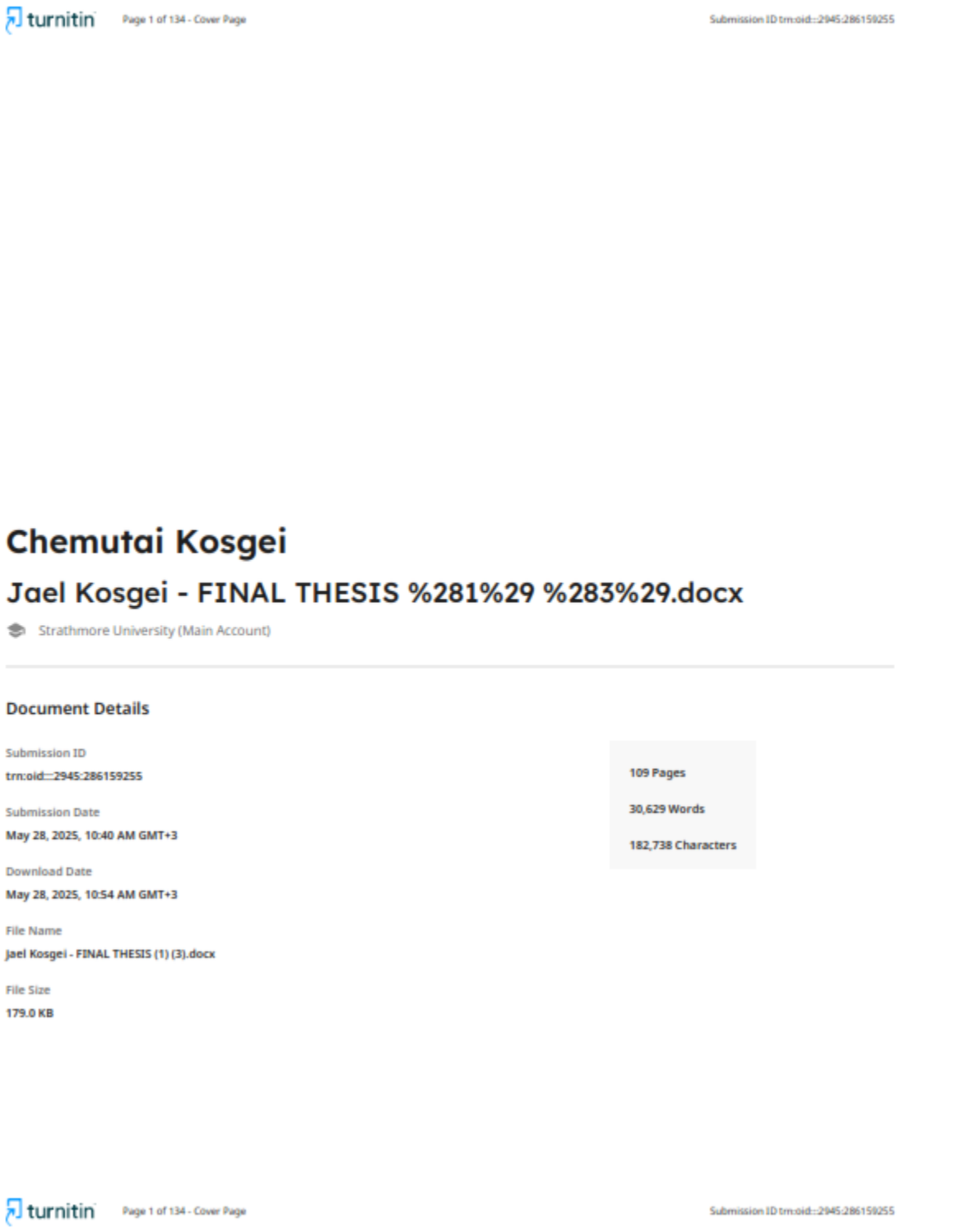
Appendices

Appendix A: Similarity Report



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Appendix B: Ethical Clearance Confirmation

Strathmore UNIVERSITY

13th June 2023

Ms Kosgei Jael,
chemutai.kosgei@strathmore.edu

Dear Ms Kosgei,

RE: An Assessment of the Legal Framework Governing Smart Legal Contracts in Kenya

This is to inform you that SU-ISERC has reviewed and **approved** your above **SU-masters** research proposal. Your application reference number is **SU-ISERC1788/23**. The approval period is from **13th June 2023 to 12th June 2024.**

This approval is subject to compliance with the following requirements:

i. Only approved documents including (informed consents, study instruments, MTA) will be used.
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-ISERC.
iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-ISERC within 72 hours of notification.
iv. Any changes anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-ISERC within 72 hours.
v. Clearance for the export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to the expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days of completion of the study to SU-ISERC.

Before commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology, and Innovation (NACOSTI) https://research-portal.nacosti.go.ke/ and obtain other clearances needed.

Yours sincerely,

for: **Mr Ambrose Rachier,**
Chairperson; SU-ISERC

(SU-ISERC)
13-Jun-2023

Ole Sangale Rd, Madaraka Estate, PO Box 59857-00200, Nairobi, Kenya. Tel +254 (0)703 034000
Email admissions@strathmore.edu www.strathmore.edu