Smart Contracts from the Perspective of Kuwaiti Law(*)

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Abstract

When working with another contracting party, one of the most significant problems that parties face is a lack of trust. Contracting parties exercise caution and spend time and money on intermediaries while finalizing contracts due to a lack of trust and transparency. Smart contracts, a blockchain-based technology, may be able to address these issues. They enable the creation of contracts that are automated and immutable.

This research examines whether or not smart contracts adhere to the Kuwaiti legal regime of traditional contracts. We found that smart contracts, for the most part, follow the same rules as traditional contracts in terms of formation and dissolution. However, because of their unique characteristics, such as automation and digitalization, smart contracts may face challenges such as irreversibility.

The study recommends that Kuwaiti legislative intervention is required to account for the unique characteristics of smart contracts. This will lead to the desired outcome of promoting these contracts and therefore of business.

Keywords: automation, blockchain, code, digitalization, vending machine, trust, and transparency.

(*) Research Submission Date: 22 May 2022 Acceptance Date: 26 June 2022.

1. Introduction

Since the first contracts were signed, thousands of years have passed. Yet, many of the greatest notable advances in contracting history took place throughout the previous century. Contracts are essential to all transactions because they play a key role in the structure of liberal market relations. Contracts are often the product of a bargaining process between equal bargaining power parties. Therefore, contract law is possibly the core of private law of individual self-determination, and it has altered as new contract models have been introduced. Like many other legal institutions, contract law is currently facing digitization issues.

This was moved by the standardization of contractual provisions, which enabled national and global mass-market contracting. Certainly, the rise of the information society, in particular, required the fundamentals of contract law to be adapted to new conditions(1).

In this vein, the current appearance of "smart contracts", which are stored and performed using blockchain, represents another step forward in the computerization of the contracts process(2). This is the reason why smart contracts might pave the way for a new era of contracting and provide a potential shift from the traditional notions of contract law(3).

Surprisingly, the smart contract, which is software that operates without the interference of a third party, is not a new concept. It is related to the "mechanist" trend of the 1950s. In this sense, the smart contract came before the blockchain. In fact, consuming products through a vending machine is a smart contract: a self-executing program that does not require the participation of a third party. However, it is the combination of this robotic mechanism with blockchain technology that is innovative(4).

Despite the fact that the expression "smart contract" dates back to the 1990s and there has been a lot of buzz about them for a few years now, there is no one definition for it. Identifying their legal nature, in particular, has proven

(1) Maren K. Woebbeking, The Impact of Smart Contracts on Traditional Concepts of Contract Law, Journal of Intellectual Property, Information Technology and Electronic Commerce Law, Vol. 10, N. 1, (2019), p. 106.

(2) Jenny Cieplak and Simon Leefatt, Smart Contracts: A Smart Way to Automate Performance, Georgetown Law Technology Review, Vol. 1, No. 2, (2017), p. 417.

(3) Maren K. Woebbeking, op. cit., p. 105.

(4) Mustapha Mekki, Le contrat, objet des smart contracts Partie 1, Dalloz IP/IT, 2018, p. 409.

to be one of the most contentious challenges surrounding smart contracts(5). Simply put, a smart contract has no commonly agreed definition.

However, many believe Nick Szabo, the creator of the smart contract, to have defined the concept of a smart contract in this regard. In Szabo's own words: "The basic idea behind smart contracts is that many kinds of contractual clauses (such as collateral, bonding, delineation of property rights, etc.) can be embedded in the hardware and software we deal with, in such a way as to make breach of contract expensive (if desired, sometimes prohibitively so) for the breacher"(6).

Therefore, smart contracts, according to Szabo, could provide new approaches to understanding and safeguard digital interactions that are significantly more operational than their inert paper-based forefathers. These ideas are now possible to adopt thanks to the blockchain's adaptation of smart contracts(7).

Simply said, the blockchain is a decentralized, immutable ledger. Each block holding transaction data is produced in chronological order. They are linked to each other in a linear, chronological order and kept and updated every set of minutes, much like a chain. This successive arrangement explains the terms "block" and "chain." The outcome is immutability, because the blockchain is an identical record shared by all users, and data is tamper-proof and cannot be modified once it is published(8).

Based on the above, a smart contract is a computer protocol (code) that is placed on a blockchain and is automatically executed by the nodes on the blockchain's system when certain criteria are met(9). This autonomy of a smart contract explains its most important feature: it is the self-executing feature that stems from the immutability of blockchain, which makes it difficult to undo

(5) Joseph J. Bambara and Paul R. Allen, Blockchain - A Practical Guide to Developing Business, Law and Technology Solutions, McGrawn-Hill Education, 2018, p. 82.

(6) Nick Szabo, Formalizing and Securing Relationship on Public Networks, First Monday (Peer-Reviewed Journal on the Internet), Vol. 2, N. 9, 1997. Available on: https://firstmonday.org/ojs/index.php/fm/article/view/548/469 (Last visit: 11 May 2022).

(7) Hélène Christodoulou, Les nouvelles technologies à l'origine de l›évolution contractuelle, LexisNexis - Communication - Commerce électronique, n. 11, (2020), p. 21.

(8) Sai Agnikhotram, Antonios Kouroutakis, Doctrinal Challenges for the Legality of Smart Contracts: Lex Cryptographia or a New, Smart Way to Contract, Journal of High Technology Law, Vol. 19, N. 2, (2019), p. 307.

(9) Jérôme Huet, Pratique des contrats électroniques - Contrat conclu avec un serveur numérique selon un processus automatisé, Fascicule 2420, 2022, § 32.

a transaction once it has been formed(10). In this sense, when the contracting parties agree to a coded version of the transaction they want to perform, the smart contract will unmistakably execute the transaction when certain terms are fulfilled(11).

That is why smart contracts can be used for a variety of purposes. Furthermore, smart contracts may have a growing impact as a result of the internet of things. These contracts are well-suited for use in domains such as the sharing economy, energy, supply chain, and identity control, in addition to the financial and insurance industries, which have recently gained prominence(12). So, as we can see, smart contracts, like traditional contracts, can be applied to almost anything.

Smart contracts, more specifically, resemble traditional contracts with conditional clauses, which are widespread in the business world. In fact, smart contracts use conditional clauses that are performed automatically by programming(13). While the peculiarity of programming languages precludes natural language sentences, code similarly represents these clauses: if party A performs X, party B obtains Y. In other terms, "if" such an event occurs, "then" such another event is triggered, and the outcome will be recorded on a blockchain(14).

The smart feature of the contract derives from conditionality, which allows classical contracts to be digitalized by automation performance(15).

Based on the foregoing, we may deduce that, while there are differences between smart and regular contracts, there are also similarities.

It is worthwhile to mention that when it comes to the drafting of the smart contract, it is necessary to distinguish between the situation where the contracting parties use the smart contract solely as contractual support for a traditional contract, and the situation where the contracting parties use the

(10) Jonathan Rohr, Smart Contracts and Traditional Contract Law, or: The Law of the Vending Machine, Cleveland State Law Review, Vol. 67, N. 1, (2019), p. 72.

(11) Tiffany M. Sillanpaa, Freedom to (Smart) Contract: The Myth of Code and Blockchain Governance Law, IALS Student Law Review, Vol. 7, N. 2, (2020), p. 39.

(12) Hélène Christodoulou, Les nouvelles technologies à l'origine de l'évolution contractuelle, LexisNexis - Communication - Commerce électronique, N. 11, (2020), p. 20.

(13) Joseph J. Bambara and Paul R. Allen, op. cit, p. 92.

(14) Simon De Charentenay, Blockchain et Droit: Code Is Deeply Law, Gazette du Palais, N. 39, (2017), p. 17.

(15) Antoine Garapon, Le devenir systématique du droit, La Semaine Juridique, Edition Générale, N. 21, 2018, p. 1019.

smart contract as the sole contractual support. In the first scenario, the smart contract is therefore not strictly speaking a contract, but in the legal sense an accessory to the main traditional contract. Indeed, it does not contain the essential elements to its validity but constitutes a mode of performance of this one(16).

In contrast, the second scenario, in which contracting is carried out entirely through smart contracts, appears to be the most interesting to us, and will thus be the primary focus of this paper. However, it is important to note that smart contracts are not suitable for every business transaction. This is because smart contract code is frequently insufficient or ineffective for conveying complex legal language(17). In this case, we can use a blended contract in which part of it is written in natural language and part is written in code(18).

As a result, we can see that using smart contracts at all times provides a variety of benefits, particularly contract formalization. Without a doubt, this formalization is an instrument for contract formation and performance enhancement.

Furthermore, let us not forget that who says contracts says lawsuits, because there is always the possibility of contract nullity or non-performance. And, because a contract is an economic medium, every time one is wasted, the economy suffers. Consequently, the implementation of smart contracts by the State of Kuwait in our instance would result in contracting enhancement and hence economic advancement.

Contracts, in other words, are no longer viewed as traditional legal tools, but rather as business tools that are clear and straightforward that can be used to achieve business objectives for a win-win outcome(19). However, the use of smart contracts in Kuwait raises the question of whether or not they are compatible with the existing Kuwaiti legal system.

We can see by now that this essay is looking into a problem at the intersection

(16) Ludovic Mounoussamy, Le smart contract, acte ou hack juridique?, Petites Affiches, N. 37, (2020), p. 16.

(17) Creating a smart contract will thus necessitate close collaboration between lawyers and computer scientists to determine what is and is not programmable.

(18) Erika J. Nash, Blockchain & Smart Contract Technology: Alternative Incentives for Legal Contract Innovation, Brigham Young University Law Review, Vol. 799, N. 3, (2019), p. 821.

(19) Marcelo Corrales and Mark Fenwick and Helena Haapio, Legal Tech, Smart contracts and Blockchain, Springer, 2019, p. 9.

of law and technology: smart contracts[20]. And this topic, as indicated below, presents the following questions: Is the smart contract subject to the same Kuwaiti legal framework as traditional contracts? In other terms, what are the similarities between smart contracts and traditional contracts? And what are the specificities of smart contracts?

To answer these problems, we will examine the main analogies between smart and regular contracts (2), followed by main specificities of smart contracts and the challenges they pose (3).

2. The main analogies between smart and traditional contracts

2.1. Contract Formation

2.1.1. Impact of smart contracts during the pre-contractual period

Smart contracts operate on the same principles as traditional contracts in that contracting parties can use them to manage pre-contractual relationships to organize the contract's final draft. More precisely, smart contracts using blockchain technology can reduce expenses, delays, and sources of vulnerability during the contract's phase conclusion, resulting in a greatly quicker negotiating process[21].

In general, the negotiation phase can involve a large number of participants, be composed of several successive stages, necessitate the provision of various supporting documents, necessitate the notification of certain documents or deeds, and serve as the starting point for various deadlines for decision, reflection, or withdrawal[22].

Consequently, it is important to find a secure, quick, and low-cost method of performing these tasks[23]. These tasks may undoubtedly be completed by smart contracts. Smart contracts could, for example, apply to the promise to contract, which is one of the forms of pre-contractual negotiations. Article 72 of the Kuwaiti Civil Code states that a contract in which one or both contracting parties agree to form a specific contract in the future is only valid if all of the contract's fundamental provisions are envisaged and the period when the contract should be concluded is stated.

(20) Larry A. DiMatteo, Smart contracts: are they contracts and are they smart?, Revue des juristes de sciences po, No. 17, juin 2019, p. 92.

(21) Bruno Ancel, Les smart contracts: révolution sociétale ou nouvelle boite de Pandore? Regard comparatiste, LexisNexis - Communication - Commerce électronique, No. 7-8, (2018), p. 2.

(22) Melvin A. Eisenberg, Foundational principles of contract law, Oxford University Press, UK, 2018, p. 31.

(23) Mustapha Mekki, Le contrat - objet des smart contracts, Partie 1, Dalloz IP/IT, 2018, p. 409.

As a result, these requirements (essential terms and duration) could be inserted into a smart contract. If these data are validated, the self-executing smart contract will automatically convert this promise to a definitive contract(24). As a result, pre-contractual agreements become more efficient, with a greater potential to trigger the formation of the final contract at the appropriate time.

2.1.2. Consent, capacity, and form

First and foremost, the contract is formed according to article (32) of the Kuwaiti Civil Code by the meeting of an offer and an acceptance by which the parties declare their willingness to commit. Moreover, according to this article, contracts must include the following fundamental elements: the parties' free consent, the object of the contract, and a valid cause. Article 39 adds that the nature of the contract to be concluded, as well as its basic terms, must be included in the offer.

Likewise, the user of a smart contract has to comprehend all of the terms of his commitment during the contract formation stage(25). Smart contracts differ only in their writing and compliance methods(26): these contracts are written in code language. As a result, the initial stage of an agreement does not differ significantly between smart and traditional contracts(27).

In addition to that, since smart contracts are written in code language, they could raise the parties' understanding of the scope of their commitments by implementing in computer code the phases presiding over the meeting of the offer and acceptance(28).

Moreover, if the traditional contract's proposal is not precise and firm, its acceptance will not result in the contract being signed. Again, this scenario should not cause any issues in smart contracts because it is handled by code(29).

Second, for a traditional contract to be valid, the parties must have the

(24) Husneara Sheikh and Rahima Meer Azmathullah and Faiza Rizwan, Smart contract: development, adoption, and challenges: the powered blockchain, international research journal of advanced engineering and science, Vol. 4, I. 2, (2019), p. 322.

(25) Catherine Elliott, Frances Quinn, Contract Law, 7th ed., Pearson Education Limited, 2009, p. 34.

(26) Guillermo Martinez Cons, Importance of a legal framework in smart contracts, Blockchain and distributed systems, 2019, p. 605.

(27) Max Raskin, The law and legality of smart contracts, Georgetown Law Review, Vol. 1, N. 2, (2017), p. 322.

(28) Célia Zolynski, Blockchain et smart contracts: premier regard sur une technologie disruptive, Revue de droit bancaire et financier, janvier-février 2017, p. 3.

(29) Bruno Ancel, Les smart contracts: révolution sociétale ou nouvelle boite de Pandore? Regard comparatiste, LexisNexis - Communication - Commerce électronique», No. 7-8, (2018), p. 2.

capacity to contract. If one of the parties lacks capacity, the contract is unenforceable(30). Indeed, article 83 provides that consent to contract is not valid unless it is given by a capacitated person to perform it. Likewise, if smart contracts are to be considered legally binding, they must be subject to the same contractual limits that apply to the legal capacity to contract in traditional contracts(31).

However, there may be doubts here about the parties' legal capacity to enter into a contract. The process is more challenging because the entire concept of blockchain technology, on which the smart contract is founded, is based on anonymity(32). In the meantime, fraud appears to be a possibility, such as when a hacker steals an individual's identity. We can also assume an inaccuracy on the age of the contracting party(33). Despite these scenarios, the program might always include a method for controlling the contracting parties' ages to exclude those who have not been deemed by the law to be of total or partial legal incapacity (article 84 of the Kuwaiti Civil Code).

Third, article 65 of the Kuwaiti Civil Code states that no specific form of consent is required for the contract to be concluded unless otherwise required by law. This article is an application of the contractual freedom principle. This principle allows the parties to freely choose and agree on the contents of their contract, as well as its form (except when the law requires a special form). As a result, in terms of contract form, the parties can diverge from the standard paradigm and employ code(34). Therefore, it is entirely conceivable that computer programs formalize contractual duties under Kuwaiti civil law(35). This will allow the contract to be consolidated and the contractual parties to reap the benefits of automation outlined in the paper below.

(30) Chris Monaghan and Nicola Monaghan, Beginning Contract Law, Routledge, 2013, p. 40.

(31) Christiana Aristidou, Smart contracts: A discussion for lawyers on capacity and the role of consideration. Available on: https://www.blockchain.com.cy/smart-contracts-a-discussion-for-lawyers-on-capacity-and-the-role-of-consideration/#:~:text=Minors%20may%20enter%20smart%20contracts,legally%20binding%20and%20enforceable%20contracts (Last visit: 8 May 2022).

(32) Leslie Bensoussan, Le smart contract: enjeux juridiques et pratiques, Revue de droit bancaire et financier, n. 2, mars-avril 2019, p. 1.

(33) Bruno Ancel, Les smart contracts: révolution sociétale ou nouvelle boite de Pandore? Regard comparatiste, LexisNexis - Communication - Commerce électronique, N. 7-8, (2018), p. 3.

(34) Marcelo Corrales and Mark Fenwick and Helena Haapio, Legal Tech, Smart contracts and Blockchain, Springer, 2019, p. 8.

(35) However, because smart contracts are built on «if-then» logic, the obligations that may be specified by this method are very limited. See, Corinne Boismain, Quelques réflexions sur les contrats intelligents (smart contracts), Petites Affiches, N. 42, (2021), p. 6.

2.2. Dissolution of the contract

2.2.1. The exception of on-performance

The exception of non-performance is classically defined as the right, of a party, to suspend the performance of its obligations as long as its co-contractor has not performed its own(36). Article 219 of the Kuwaiti Civil Code states that where reciprocal obligations are due for performance under contracts enforceable on both parties, one party may decline to perform his obligation if the other party fails to meet his obligation. Likewise, a smart contract can be used to codify consequences for non-performance. As a matter of fact, a smart contract as it can program the automatic performance of a contract, it can also program its non-performance in reaction to the absence or poor performance of the expected service, and thus automate the exception of non-performance.

For instance, one could codify that the delivery of crypto assets automatically causes the performance of a bitcoin transaction: if the crypto assets are not provided, the sum in cryptocurrency is not paid.

Furthermore, smart contracts go beyond this control role by giving other functionalities. For instance, if the blockchain has information that the quantity specified in the contract has not been fulfilled, the usage of smart contracts could nonetheless automatically trigger the payment of a penalty clause or the price reduction(37).

2.2.2. Contract rescission and restitution

2.2.2.1. Contract rescission

Contract rescission is a sanction consisting in the retroactive enforcement of contractual obligations when one of the parties fails to perform its obligations(38).

First, on the one hand, executions that are instantaneous or automatic are tolerated to some extent under Kuwaiti civil law. Indeed, article (209) of the Kuwaiti Civil Code provides that in contracts binding on both parties, if one of the parties fails to perform his obligation, the other party may, upon written notification to the former, seek its rescission and claim any damages caused by such failure to perform.

(36) Yvaine Buffelan-Lanore, Virginie Larribeau-Ternyere, Droit civil - Les obligations, 17e éd., Sirey, 2020-2021, p. 608.

(37) Garance Cattalano, Smart contracts et droit des contrats, AJ contrat, 2019, p. 321.

(38) Catharine MacMallan and Richard Stone, Elements of the law of the contract, University of London, 2012, p. 170. Also see, Remy Cabrillac, Droit des Obligations, 14e éd., Dalloz, Paris, 2020, pp. 182-183.

Furthermore, article (210) of the Kuwaiti Civil Code states that the parties may agree that, in the event of a breach of the contract's obligations, the contract will be regarded rescinded ipso facto without the need for a judicial ruling. Such an agreement may not limit the judge's authority to terminate the contract unless the contract specifically states that this is the parties' mutual intention. An agreement to consider a contract rescinded ipso facto, save in commercial transactions, does not relieve the parties of the obligation to provide a formal notice.

Any agreement to the contrary between the parties is void. Based on these two articles, we can conclude that contract rescission is not automatic in civil transactions, but rather requires formal notice. Nonetheless, as stated in article (210), there is one unique circumstance in which automatic resolution, without recourse to the courts, could be tolerated: when the contract expressly provides that the common will of the parties is to rescind automatically the contract.

On this point, it could be argued that smart contracts, specifically, allow for the avoidance of litigation because everything is pre-determined and managed by neutral and effective artificial intelligence. It would be pointless to seek the assistance of a third party in this situation. In fact, some believe that the ability to automate execution represents a crucial discord. In other words, rather than going to court to request contract enforcement from the state, the parties can automate the contract rescission(39). In fact, if contracts are enforced through code rather than law, judicial intervention is avoided, although being statutorily needed(40). This logic corresponds to the one stated in article (210) of the Kuwaiti Civil Code.

Even if the issue is undisputed, it appears difficult to completely exclude third parties from smart contracts. In some circumstances, it is impossible to proceed without the trust of third parties, particularly those responsible for validating the occurrence of a triggering event(41).

For this reason, with the advancement of blockchains and smart contracts, new trusted third parties are emerging. To begin with, trustworthy third parties have not vanished from blockchains, which frequently entrust a third party

(39) Max Raskin, The law and legality of smart contracts, Georgetown Law Review, Vol. 1, N. 2, (2017), p. 324.

(40) Sai Agnikhotram, Antonios Kouroutakis, Doctrinal Challenges for the Legality of Smart Contracts: Lex Cryptographia or a New, Smart Way to Contract, Journal of High Technology Law, Vol. 19, N. 2, (2019), p. 309.

(41) Jean Christophe Roda, Smart contracts, dumb contracts?, Dalloz IP/IT, 2018, p. 397.

with overseeing their proper operation(42). The Oracle is a person or application that allows the connection to be made between what is happening within the blockchain's virtual world and what is happening outside of the blockchain, in the real world. The Oracle can take the form of a natural or legal person, or a program(43).

The presence of one or more oracles, therefore, allows for the collection, certification, and integration of information from outside the blockchain to trigger smart contracts. The role of oracles obviously matches the case-by-case post hoc judicial examination(44).

Second, unilateral acts are viewed with suspicion by Kuwaiti civil law. Accordingly, article (220) of the Kuwaiti Civil Code stresses that a "legal act by sole will shall not create any obligation or amend or terminate any existing obligation, other than where provided by law. If the law provides that an obligation is created, amended, or terminated by such legal act made by sole will, such act shall extend to the provisions of the law that govern the contract in general, other than those in conflict with acting by sole will". To put it another way, the Kuwaiti Civil Code recognizes, to a limited extent, the unilateral termination of obligations.

In contrast, for instance, the French Civil Code, which was amended between 2016 and 2018, supports unilateral sanctions and provides fertile ground for smart contracts. Many techniques in this direction are included in Civil Code articles (1217) and following: exception for non-performance (articles 1219 and 1220), option of replacement outside the court (article 1222), unilateral price reduction in the event of imperfect execution (article 1223), and resolution by notification (articles 1224 and 1226)(45).

In this spirit, it might be suggested that Kuwaiti civil law be amended to broadly accept unilateral sanctions, so providing an appropriate framework for the smart contract's automaticity as well as protection from a debtor's resistance or contestation by eliminating the prior interference of the court(46).

(42) Mustapha Mekki, If code is law, then code is justice? Droits et algorithmes, Gazette du Palais, N. 24, (2017), p. 12.

(43) Mustapha Mekki, Le smart contract - objet du droit, Partie 2, Dalloz IP/IT, 2019, p. 27.

(44) Larry A. DiMatteo and Cristina Poncibo, Quandary of Smart Contracts and Remedies: The Role of Contract Law and Self-Help Remedies, European Review of Private Law, Vol. 26, N. 6, (2018), p. 815.

(45) François Terré et Philippe Simler et Yves Lequette et François Chénedé, Droit civil - Les obligations, 12e éd., Dalloz, Paris, 2019, p. 832 et s.

(46) Mustapha Mekki, Le contrat - objet des smart contracts, Partie 1, Dalloz IP/IT, Pairs, 2018, p. 409.

Nevertheless, in this hypothetical case, the smart contract code should incorporate the specificities of Kuwaiti law in order to prevent untimely and disproportionate executions, and it should provide the judge with the ability to halt unfair enforcement actions.

2.2.2.2. Restitution

The restitution mechanism allows the parties when a contract disappears or an undue payment is made, to be returned to the situation they would have been in if the contract or the undue payment had not existed(47).

Accordingly, article (211) of the Kuwaiti Civil Code stipulates that "when a contract is rescinded, the contracting parties shall be reinstated to the position they were in before the date of the conclusion of the contract". If reinstatement is impossible, the judge can award compensation. As a result, the restitution principles are intended to prevent "unjust enrichment"(48).

Likewise, if the contract upon which the parties rely is terminated, the smart contracts' effects may need to be reversed(49). In general, utilizing so-called reverse transactions, one can return to the previous state of a blockchain. However, the transaction history is not deleted, and the withdrawn transaction is persistently recorded in the blockchain.

3. The main specificities of the Smart contract

3.1. Automation of performance

3.1.1. Understanding automation of performance

By using digital contracts, contracting parties streamlined contracting by reducing transaction costs and human input. While digital contracts are widely recognized in this sense, smart contracts go further than their range by performing some of the conditional clauses autonomously. However, we should mention that the automation of performance is not a new phenomenon(50).

It is not new, because a large number of derivatives contracts are daily performed without the involvement of a human. Indeed, before blockchain,

(47) Gaël Chantepie and Mathias Latina, Le nouveau droit des obligations, 2e éd., Dalloz, Paris, 2018, p. 944.

(48) Richard Stone and James Devenney, The modern law of contract, 11th ed., Routledge, 2015, p. 470.

(49) Maren K. Woebbeking, The Impact of Smart Contracts on Traditional Concepts of Contract Law, Journal of Intellectual Property, Information Technology and Electronic Commerce Law, Vol. 10, N. 1, (2019), p. 110.

(50) Jerry Hsiao, Smart Contract on the Blockchain-Paradigm Shift for Contract Law, US-China Law Review, Vol. 14, N. 10, (2017), p. 687.

smart contracts were computer programs that enabled negotiation while also verifying and enforcing performance on a centralized server(51). When financial institutions implemented computer code to simplify bookkeeping operations and options contracts, they were utilizing a type of pre-blockchain smart contract. Similar pre-blockchain smart contracts feature telecom operators locking phones and automotive manufacturers installing automated speed limits(52).

As previously said, the concept of automatic performance is not new, as Szabo made a similar point in his first explanation of smart contracts, with a discussion on the history of vending machines, twenty years ago(53). Current vending machines are programmed with a series of requirements that are carried out autonomously and automatically after completing a condition, which is the insertion of a coin. In this regard, vending machines give an offer, and after acceptance, the human selection, they allow for the automated execution of vending a product(54).

Similarly, smart contracts are pre-coded and placed on the blockchain, with condition terms that operate following a trigger event. When this event occurs, the agreement is carried out in accordance with the programmed terms. This contract cannot be reversed or terminated during its performance(55).

In this context, a basic vending machine is a relevant example demonstrating how a smart contract works. This machine accepts coins and properly dispenses the relevant goods using a simple mechanism(56). Notably, a party cannot cancel the operation before the vending machine entirely performs the transaction. Because the machine's software embeds the terms of the transaction, once the merchandise has been delivered, the machine cannot refund the money. This is how a smart contract works: once the program deems that the parties have completed the requirements, the contract is immediately

(51) Sophie Moreil, IA contracts - Optimiser les potentialités de l'IA, Cahiers de droit de l'entreprise, N. 3, (2020), p. 22.

(52) Morgan N. Temte, Blockchain Challenges Traditional Contract Law: Just How Smart Are Smart Contracts, Wyoming Law Review, Vol. 19, N. 1, (2019), p. 95.

(53) Marcelo Corrales and Mark Fenwick and Nikolaus Forgo, Robotics - AI and the future of law, Springer, 2018, p. 45.

(54) Erika J. Nash, op. cit., p. 818.

(55) Sai Agnikhotram, Antonios Kouroutakis, Doctrinal Challenges for the Legality of Smart Contracts: Lex Cryptographia or a New, Smart Way to Contract, Journal of High Technology Law, Vol. 19, N. 2, (2019), p. 312.

(56) Marcelo Corrales and Mark Fenwick and Helena Haapio, Legal Tech, Smart contracts and Blockchain, Springer, 2019, p. 5.

executed[57]. Therefore, vending machines show that components of smart contracts follow similar patterns in our daily lives.

Nonetheless, according to Nick Szabo, the smart contract "would go beyond the vending machine by proposing to embed contracts in all sorts of valuable assets and managed by digital means"[58]. There appears to be a simple change in degree: smart contract technology is built on the same logic as vending machines, but with more efficient processes and a broader variety of operations[59].

3.1.2. Performance automation's challenges

When a specific digitally confirmed event occurs, smart contracts can implement portions of or perhaps all contractual obligations instantly[60]. In theory, the contracting parties to a smart contract gain from this automation because they no longer have to supervise performance obligations to the same level that regular contracts do. When a smart contract recalls obligations that cannot be executed through the judicial system, automated performance becomes even more important.

Nonetheless, smart contract automation introduces some incompatibilities with traditional contracts. To begin with, smart contracts' automaticity is difficult to reconcile with the notion of good faith. Accordingly, article (197) of the Kuwaiti Civil Code states that a contract must be performed in accordance with its terms and in line with the requirements of good faith and honor dealing. Good faith, as the core of the contractual public order, cannot be taken into account by a smart contract in which the very working basis is not to examine the behavior of the parties[61].

Besides that, smart contracts would not permit intentional breaches when circumstances change, and one party is unable to fulfill its obligations under the contract. This can happen in severe cases where circumstances beyond the breaching party's control would either result in causing hardship in

(57) Morgan N. Temte, Blockchain Challenges Traditional Contract Law: Just How Smart Are Smart Contracts, Wyoming Law Review, Vol. 19, N. 1, (2019), p. 94.

(58) Nick Szabo, Formalizing and Securing Relationship on Public Networks, First Monday Peer-Reviewed Journal on the Internet, Vol. 2, N. 9, (1997). Available on: https://firstmonday.org/ojs/index.php/fm/article/view/548/469 (Last visit: 11 May 2022).

(59) Jean Christophe Roda, Smart contracts, dumb contracts?, Dalloz IP/IT, Paris, 2018, p. 397.

(60) Florence Guillaume et Sven Riva, DAO, code et loi: le régime technologique et juridique de la decentralized autonomous organization, RDIA, Paris, N. 4, (2021), p. 208.

(61) Cyril Bloch and Adeline Cerati-Gauthier and Vincent Perruchot-Triboulet, L'influence de la réforme du droit des obligations sur le droit des affaires, Dalloz, Paris, 2018, p. 141.

the performance of the contract (article 198 of the Kuwaiti Civil Code), or performance impossibility (article 214 of the Kuwaiti Civil Code).

Likewise, the subject matter or performance of the contract itself may become illegal at any time. In a traditional contract, this would render the contract null and void, allowing a party to violate it by refusing to supply illegal products or perform illegal acts(62).

Moreover, smart contracts raise concerns about their compatibility with a set of public order standards. Consider article (209) of the Kuwaiti Civil Code, which makes the judge's grace period a public order provision. In fact, this article provides that the judge may "determine a period of grace within which the obligor shall perform his obligation". This begs the question of whether or not automaticity is compatible with this provision.

In addition, if the blockchain's appeal is based on the guarantee it provides for the immutability of contract terms and the transparency of transactions, and hence their security, there is also a potential restriction to this method of contractual performance. Because the contract's terms are immutable, any later amendment of the contract's terms is null and void, and no party may object to the agreement's performance.

Consequently, how do we square this method of implementing promises, smart contracts, with some of the contract law's essential mechanisms, such as the aforementioned issue of good faith as entrenched in the Kuwaiti Civil Code?

As previously stated, it is reasonable to expect that smart contracts, and more broadly programming, will have difficulty implementing ambiguous terms and ideals such as good faith.

As a result, a regulatory measure is required to control the specificities of smart contracts so that they can fit inside Kuwait's existing contract law system. Many options may exist to solve the question of good faith. First, an amendment of article (197) of the Kuwaiti Civil Code might specifically exempt smart contracts from the good faith mandate.

Second, article (65) of the Kuwaiti Civil Code might be changed to make smart contracts an exception. In this situation, the revised article would require that the creation of a smart contract be followed by the creation of a written contract in natural language. In this sense, a judge could always rely

(62) Tiffany M. Sillanpaa, Freedom to (Smart) Contract: The Myth of Code and Blockchain Governance Law, IALS Student Law Review, Vol. 7, N. 2, (2020), p. 46.

on the written contract to interpret it and assess whether or not the fulfillment of an obligation is in accordance with good faith in the event of a future disagreement between the contracting parties.

Third, alongside main contracts, promises to contract, contracting by earnest money, contracting by auction, and contracting by adhesion, a section titled "smart contracts" might be introduced under the title "certain particular types of contracting (articles 70-82)".

This last option appears to be the simplest and best way to not only comply with the obligation of good faith, but also to demonstrate the characteristics of smart contracts and hence incorporate them into the essential mechanisms of Kuwaiti contract law.

Furthermore, coding could be another option to study to find a solution to the unique characteristics of smart contracts. Parties, for example, could program the right to amend the conditions of automatic execution from the beginning of the code(63).

3.2. Codification of the contract

3.2.1. Codable form

The dynamics of business operations have shifted as a result of digitalization. Today, we interact via electronic messaging, keep track of our finances using digital spreadsheets, and confirm business over the internet. This assumes that digital contracts have legal legitimacy, at least in some circumstances.

Smart contracts differ from electronic (digital) contracts in that electronic contracts are expressed in plain language, whereas smart contracts are not(64). Instead of writing the terms of a smart contract in English, Arabic, or any traditional language, coders write them in blockchain computer code. No one person or program can overrule or amend the ledger(65).

This begs the question of whether judges believe the lines of code can constitute contractual terms or electronic writing. Unfortunately, this problem remains unaddressed because the Kuwaiti Civil Code and the courts have yet

(63) Célia Zolynski, Blockchain et smart contracts : premier regard sur une technologie disruptive, Revue de droit bancaire et financier, janvier-février 2017, p. 3.

(64) Jérôme Huet, Pratique des contrats électroniques - Contrat conclu avec un serveur numérique selon un processus automatisé, Fascicule 2420, 2022, § 32.

(65) Julie Klein, Repenser le contrat à l'ère numérique, Revue des juristes de sciences po, AJSP, LexisNexis, N. 17, 2019, p. 74.

to address the issue of the readability of code in smart contracts(66).

However, two proposals can be made to enforce coded language if self-execution leads to litigation.

On the one hand, smart contracts could require writing(67). This is the reason why, it could be argued that the smart contract is not the contract itself, but rather a contract proof and a technical manner of contract performance(68).

Naturally, the signing of a contract and its digital embodiment in a smart contract can happen at the same time. Nonetheless, it may be predicted that the majority of smart contracts will be contextualized in a separate written or electronic agreement in natural language(69).

On the other hand, article (3) of the Kuwaiti law n. 20 of 2014 concerning electronic transactions states that "each of the electronic record, document, message, transaction and signature, in the field of civil, commercial and administrative transactions, shall have the same legal effects of written records, documents, and signatures in terms of its binding effect upon the parties thereto or its force as proof or evidence whenever carried out pursuant to the provisions of this law". Furthermore, article (14) provides that "the electronic document or record may be kept for the purposes of evidence, documentation or any other purpose. The same shall be considered an evidence binding the parties thereto, all unless a specific provision in another law requires the keeping of a written evidence"(70).

What interests us is that the term "electronic means" inserted in article (1) of Kuwaiti law n. 20 of 2014 regarding electronic transactions might include lines of code recorded on a blockchain, which is accessible through the internet as long as it exists.

That is why we believe that Kuwaiti Law No. 20 of 2014 constitutes a suitable legal justification for the judicial recognition of the enforceability

(66) Morgan N. Temte, Blockchain Challenges Traditional Contract Law: Just How Smart Are Smart Contracts, Wyoming Law Review, Vol. 19, N. 1, (2019), p. 98.

(67) Corinne Boismain, Quelques réflexions sur les contrats intelligents (smart contracts), Petites Affiches, N. 42, (2021), p. 6.

(68) Célia Zolynski, Blockchain et smart contracts: premier regard sur une technologie disruptive, Revue de droit bancaire et financier, janvier-février 2017, p. 3.

(69) Florence Guillaume et Sven Riva, DAO, code et loi: le régime technologique et juridique de la decentralized autonomous organization, RDIA, N. 4, (2021), p. 210.

(70) Law N. 20 of 2014 concerning electronic transactions. Available on: https://www.informatica-juridica.com/ley/law-no-20-of-2014-concerning-electronic-transactions/ (Last visit 18 May 2022).

of smart contracts, as well as a catalyst to develop, as previously said, a full section in the Civil Code for their regime.

3.2.2. Challenges of language and code

Smart contracts are "data-oriented," which means that rather than using natural language, they use data or code(71). Because smart contracts are usually written in code rather than a common language, comprehension may be challenging. As a result, the average contracting party cannot understand what the agreement states. The parties are instead at the behest of the coded language and the coders who created it(72).

Again, the solution to all of the aforementioned issues appears to be the enactment of simple legislation establishing smart contracts. In the United States, for example, the state of Arizona has enacted legislation recognizing smart contracts. To prevent any potential ambiguities regarding smart contracts relating to specific digital assets, the State of Arizona amended the Arizona Electronic Transactions Act in 2017(73), passing HB 2417, which includes a very specific definition of smart contracts as an "event driven program, with state, that runs on a distributed, decentralized, shared, and replicated ledger that can take custody over and instruct transfer of assets on that ledger". Other states, like Florida, Nebraska, New York, Ohio, Tennessee, and Delaware, permit the use of smart contracts and provide that they cannot be denied legal effect or enforceability(74). Progressive-thinking states such as Arizona and the aforementioned states pass such legislations to foster the implementation of smart contracts in their respective states.

Another issue that must be addressed is the determination of liabilities in the event of a smart contract system failure(75). Coders should construct the smart contract in a way that it flawlessly executes the parties' intentions. However, the contracting parties should not presume that the coders who

(71) Jerry Hsiao, Smart Contract on the Blockchain-Paradigm Shift for Contract Law, US-China Law Review, Vol. 14, N. 10, (2017), p. 689.

(72) Morgan N. Temte, Blockchain Challenges Traditional Contract Law: Just How Smart Are Smart Contracts, Wyoming Law Review, Vol. 19, N. 1, (2019), p. 97.

(73) Joseph J. Bambara and Paul R. Allen, op. cit., p. 86.

(74) Heather Morton, Blockchain state legislation. Available on: https://www.ncsl.org/research/financial-services-and-commerce/the-fundamentals-of-risk-management-and-insurance-viewed-through-the-lens-of-emerging-technology-webinar.aspx#:~:text=Defines%20smart%20contract%20as%20an,Delaware (Last visit 13 May 2022).

(75) Célia Zolynski, Blockchain et smart contracts: premier regard sur une technologie disruptive, Revue de droit bancaire et financier, janvier-février 2017, p. 4.

created the contract are flawless. A programmer will create software code that tells the smart contract what requirements must be met for self-execution. Certainly, a software programmer could make a mistake, or an operator could infect the code with a virus, misinforming the smart contract(76).

As a result, the inflexibility of code-based executions poses potential challenges when errors in the code produce wrong effects for one party(77). It is critical to understand who is responsible for any damage caused by this incident. It might be the software programmer, the "miners" in charge of making sure the operation goes successfully, or even the contract parties(78).

For this reason, to avoid misallocation of responsibility in a smart contract, parties should divide risk in a prior agreement or in the smart contract itself. The parties' risk allocation shall be determined by whether the coding error is attributed to the contractual parties or a third party(79).

Therefore, smart contracts may result in the acknowledgment of extra-contractual remedies as a result of the last scenario. The tort of negligence is one that comes to mind(80). This is consistent with the provisions of article (227) of the Kuwaiti Civil Code specifying that any person who conducts an act that causes damage to another party is obligated to compensate for that damage. Keeping in mind that this "act" could be perceived as intentional or negligence.

4. Conclusion

Smart contracts, a relatively new phenomenon that has recently emerged, have the potential to disrupt the current contractual methods. Smart contracts are often linked to cutting-edge blockchain technology(81).

The goal of a smart contract is to enable the automatic execution of an obligation when a predetermined condition occurs and is detected by the software. In this way, technology is similar to a coffee machine or cash

(76) Joseph J. Bambara and Paul R. Allen, op. cit, p. 87.

(77) Tiffany M. Sillanpaa, Freedom to (Smart) Contract: The Myth of Code and Blockchain Governance Law, IALS Student Law Review, Vol. 7, N. 2, (2020), p. 40.

(78) Leslie Bensoussan, Le smart contract: enjeux juridiques et pratiques, Revue de droit bancaire et financier, N. 2, mars-avril 2019, p. 1.

(79) Bruno Ancel, Les smart contracts: révolution sociétale ou nouvelle boite de Pandore? Regard comparatiste, LexisNexis - Communication - Commerce électronique, N. 7-8, (2018), p. 3.

(80) Larry A. DiMatteo, Cristina Poncibo, Quandary of Smart Contracts and Remedies: The Role of Contract Law and Self-Help Remedies, European Review of Private Law, Vol. 26, N. 6, (2018), p. 815.

(81) Joseph J. Bambara and Paul R. Allen, op. cit, p. 101.

dispenser that provides a service when a coin or card magnet is placed. The smart contract, also known as a "self-executing" contract, is thus based on the following logic: if such a condition is verified, such a consequence is carried out(82).

The major topic of this study is whether smart contracts fall under the legal framework of traditional contracts. As previously stated in this paper, we found that traditional contract law would be sufficient to manage many aspects of smart contracts, which would thus be subject to the norms of Kuwaiti Civil Code articles (31 to 219) in terms of both formation and performance. Nonetheless, we showed that smart contracts have their own features and present certain unique challenges, and we determined that legislative intervention is essential to address the various challenges identified here, which are primarily connected to automation, language, and code issues.

Amending the Kuwaiti Civil Code to include a section addressing the peculiarities of smart contracts and providing solutions to the aforementioned difficulties could be the best suggestion to recognize these contracts[83]. More specifically, we recommend that any legal intervention should focus on the drawbacks of smart contracts, the bulk of which revolve around uncontrollability, which frequently expresses itself in the form of understandability and code rigidity(84).

Once this legislative intervention occurs, smart contracts will be able to be implemented, allowing contractual parties in Kuwait to enjoy a variety of benefits, such as simplified business activities, increased speed and efficiency in business transactions, and low-cost contract enforcement, without risk of being exposed to any of their current drawbacks.

Finally, it is crucial to note that smart contracts are still a relatively new phenomenon, and the courts have not yet addressed all of the difficulties that they raise. Furthermore, the ongoing advancement of artificial intelligence will surely lead to the improvement of these contracts. Having said that, some believe that a self-regulation law will emerge. Many authors predict that the introduction of a new set of regulations - Lex Cryptographia - will supersede

(82) Sophie Moreil, IA contracts - Optimiser les potentialités de l'IA, Cahiers de droit de l'entreprise, N. 3, (2020), p. 25.

(83) Leslie Bensoussan, Le smart contract: enjeux juridiques et pratiques, Revue de droit bancaire et financier, N. 2, mars-avril 2019, p. 1.

(84) Garance Cattalano, Smart contracts et droit des contrats, AJ contrat, 2019, p. 321.

private law[85]. To summarize, law will have to adjust to blockchain-based technologies in the same way that it adapted to the Internet[86].

(85) Hubert De Vauplane, La blockchain défiera-telle la règle?, Revue de droit bancaire et financier, Revue trimestrielle Lexisnexis Jurisclasseur, Novembre-Décembre 2016, p. 2.

(86) Joseph J. Bambara and Paul R. Allen, op. cit., p. 101.

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