LAW IN THE AGE OF DIGITAL AND GLOBAL TRANSFORMATION

Editor

Nguyen Huy Hoang

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LAW IN THE AGE OF DIGITAL AND GLOBAL TRANSFORMATION

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PREFACE

This volume brings together a collection of scholarly contributions that explore contemporary legal, economic, and technological transformations shaping modern societies. In an era characterized by rapid globalization and digitalization, legal systems and regulatory frameworks are increasingly challenged to adapt to new forms of economic activity, social relations, and technological innovation.

The chapters in this book address a range of critical issues across different legal and institutional contexts. The analysis of fake civil transactions in Vietnamese law highlights the importance of legal clarity and reform in ensuring transparency and fairness. The discussion of Islamic law within contemporary global issues offers valuable insights into the interaction between tradition and modern legal challenges. In addition, the examination of intellectual property in the context of digital transformation underscores the need to protect innovation while adapting to evolving business environments. The exploration of consumer journeys in digital finance further illustrates how mobile technologies are reshaping financial inclusion and access to economic opportunities.

By adopting a multidisciplinary perspective, this volume integrates insights from law, economics, and digital transformation studies. It not only contributes to academic discourse but also provides practical implications for policymakers, legal professionals, and researchers navigating the complexities of contemporary regulatory environments.

It is hoped that this book will serve as a valuable resource for scholars, students, and practitioners interested in legal studies, digital economies, and global development, while encouraging further research on the evolving relationship between law, technology, and society.

Editorial Team
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CHAPTER 1
FAKE CIVIL TRANSACTIONS IN VIETNAMESE LAW: CONCEPT, CHARACTERISTICS, CLASSIFICATION AND LEGISLATIVE REFORM

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INTRODUCTION

The Concept of Fake Civil Transactions

In Vietnamese law in general, and in the 2015 Civil Code of Vietnam in particular, the concept of fake civil transactions is not explicitly defined. Article 124 of the 2015 Civil Code of Vietnam provides for only two forms of fake civil transactions, namely: "1. Where the parties falsely enter into a civil transaction for the purpose of concealing another transaction, the false transaction shall be invalid, while the concealed transaction remains valid, unless it is also invalid under this Code or relevant laws; 2. Where the parties falsely enter into a civil transaction for the purpose of evading obligations toward a third party, such transaction shall be invalid". This provision identifies fake civil transactions solely on the basis of their purposes, namely the concealment of another civil transaction or the evasion of obligations toward a third party. However, it does not provide a general legal definition of what constitutes a fake civil transaction.

Under Article 117 of the German Civil Code (BGB), fake civil transactions are regulated as follows: "(1) If a declaration of intent made to another person is, with that person's consent, made merely for the sake of appearance, it is void; (2) Where a fake transaction conceals another legal transaction, the provisions applicable to the concealed transaction shall apply".

Similar to the 2015 Civil Code of Vietnam, German law does not expressly define the concept of a fake civil transaction. Instead, it characterizes such transactions primarily on the basis of their purpose of concealment and the collusive intent of the parties. A comparable approach can be observed in the laws of several other jurisdictions. Article 1201 of the 2016 French Civil Code provides that where the parties conclude an apparent contract concealing a secret contract (also known as a counter-letter), the concealed contract takes effect between the parties but may not be asserted against third parties. Article 146 of the 2020 Chinese Civil Code stipulates that a civil juristic act based on a false expression of intent is void, while the validity of any concealed act shall be determined in accordance with the relevant laws. Likewise, Article 6:103 of the European Principles of Contract Law states that, as between the parties, the true agreement prevails over an apparent contract not intended to reflect their real intention.

Similar provisions are found in the Thai Civil and Commercial Code (Article 155), the Japanese Civil Code (Article 94), and the Philippine Civil Code (Article 1345), all of which address fictitious or simulated transactions through criteria such as collusion, concealment, and the divergence between apparent and genuine intent. A survey of Vietnamese law, European contract principles, and the legislation of various jurisdictions indicates that, rather than providing a comprehensive definition, these legal systems identify fake civil transactions through a set of common indicators, including: (a) the purpose of concealing another civil transaction; (b) collusion between the parties; and (c) the absence of an intention to produce genuine legal consequences. This raises the question of how a fake civil transaction should be understood in doctrinal terms. According to the Vietnamese Dictionary, "fake" refers to something that is unreal or artificially created (SohaTraTu, n.d.). From this perspective, the defining feature of a fake civil transaction lies in its lack of authenticity. Similarly, a jurisprudential dictionary defines a fake civil transaction as one established to conceal another genuine transaction, in which the parties do not intend to create rights and obligations toward each other (Hanoi Law University, 1999). Legal scholarship has proposed various formulations of this concept. Some scholars define a fake civil transaction as one in which the outward manifestation of intent diverges from the parties' inner will and from the actual results of performance (Legal Science Research Institute – Ministry of Justice, 2001, p. 280; Hoang, T. H. H., 2017, p. 280). Others emphasize the artificial nature of such transactions, noting that the parties knowingly participate in transactions that do not reflect their true intent or that are designed to evade the law or avoid legal obligations (Nguyen, M. T., 2016, p. 194; Do, V. D., 2017, p. 688).

According to the textbook of Ho Chi Minh City University of Law, a forged contract is one that does not reflect the true nature of the parties' genuine relationship, typically created to conceal another transaction or an unlawful act (Ho Chi Minh City University of Law, 2015, p. 157). Despite differences in wording, these definitions converge on a core element: the discrepancy between the parties' expressed intent and their genuine inner will, such that the apparent transaction is not intended to produce legal consequences.

As noted by Ho Chi Minh City University of Law, in fake civil transactions there is no concurrence between true intent and its expression, even though the parties deliberately express a false will to conceal their real intention (Ho Chi Minh City University of Law, 2015, p. 332). The motives for establishing fake civil transactions may include concealing another legal act, evading obligations toward third parties, or pursuing other unlawful or strategic purposes.

We can identify fake civil transactions through some of the following cases:

Legal Situation 1: Decision No. 102/2011/DS-GDT. (2011, February 14). Civil Court of the Supreme People's Court of Vietnam

Ms. Van and Ms. Tuyet jointly entered into a contract for the donation of a residential property located at 69/4B2 Pham Van Chieu Street, which was notarized on June 5, 2006, at Notary Office No. 1 of Ho Chi Minh City. However, when a dispute arose, both Ms. Van and Ms. Tuyet acknowledged that the parties' true agreement concerning the above-mentioned house was in fact a contract of sale, with a purchase price of VND 1,200,000,000, rather than a donation contract. The donation contract was concluded for the purpose of reducing the amount of tax payable to the State.

Commentary

In this case, the donation contract between Ms. Van and Ms. Tuyet constitutes a bogus (fake) contract. In reality, the parties intended to enter into a contract of sale, not a contract of donation. However, they deliberately agreed to execute a donation contract in order to conceal the true sale and purchase transaction.

From the perspective of intent, although there was a mutual agreement between Ms. Van and Ms. Tuyet in executing the donation contract, the externally expressed will of the parties was inconsistent with their true internal will. Specifically, the true intention of both parties was directed toward a sale transaction rather than a gratuitous transfer.

The purpose of establishing the donation contract in this case was to evade obligations toward another subject, namely, tax obligations owed to the State.

Legal Situation 2: Judgment No. 22/2019/DS-ST (27 May 2019), People's Court of Hon Dat District, Kien Giang Province, Vietnam

On August 22, 2018, Mrs. Q and Mr. H lent VND 200,000,000 to Mr. C and Mrs. V at an agreed interest rate of 2% per month. Instead of executing a loan contract, the parties concluded a contract for the transfer of land use rights as a form of security. The subject matter of the transfer was a parcel of land and a riverside house measuring 5.5 meters in width and 17 meters in length, with a total area of 93.5 m^2, located in Hon Duong Quarter, Hon Dat Town, Hon Dat District, Kien Giang Province, and not covered by a certificate of land use rights.

The agreed loan term was three months. If Mr. C and Mrs. V failed to repay the principal and interest upon maturity, they were required to hand over the land and house for the use of Mrs. Q and Mr. H. However, upon expiration of the loan term, Mr. C and Mrs. V failed to repay the debt, and the property was not handed over as agreed.

Commentary

In this case, the contract for the transfer of land use rights between Mr. C and Mrs. V and Mrs. Q and Mr. H constitutes a fake civil transaction, as it does not reflect the parties' true intention. The transfer contract was executed solely to secure the performance of the loan obligation, rather than to effect an actual transfer of land use rights. The establishment of the land use right transfer contract was not intended to give rise to genuine rights and obligations between the parties concerning ownership or use of the land. The transfer contract was concluded for the purpose of concealing the true loan contract.

General Analysis

In practice, fake civil transactions may take not only the form of contracts but also fake unilateral legal acts, which are established by subjects in order to evade obligations toward third parties or to achieve other unlawful or strategic purposes. Under the 2015 Civil Code of Vietnam, fake civil transactions are recognized for two primary purposes: (i) to conceal another civil transaction, or (ii) to evade obligations toward a third party. Nevertheless, in reality, fake civil transactions may pursue additional objectives, such as creating artificial legal conditions, for example, entering into a fictitious labor contract with an inflated salary to obtain child custody in divorce proceedings.

Based on the above analysis and practical legal situations, the essential elements of a fake civil transaction may be identified as follows:

- the existence of unreal or artificial conduct;
- the absence of the subject's true and genuine will;
- the lack of intent to produce real legal consequences; and
- the purpose of concealing another legal act, evading obligations toward other subjects, or achieving other improper purposes.

Accordingly, a fake civil transaction may be defined as follows:

"A fake civil transaction is a bogus legal act, expressed in the form of a contract or a unilateral legal act, which is not established on the basis of the true will of the subject and is not intended to give rise to genuine rights and obligations, but is created for the purpose of concealing another legal act, evading obligations toward other subjects, or achieving other improper purposes".

1. FEATURES OF FAKE CIVIL TRANSACTIONS

Basic Characteristics of Fake Civil Transactions

A fake civil transaction exhibits the following fundamental characteristics:

First, lack of authenticity (untruthfulness).

The unreal nature of the transaction constitutes a core characteristic of fake civil transactions. A fake transaction is, by definition, not genuine.

The lack of authenticity is reflected in the fact that the legal act presented to the outside world has no real value for the parties and is created solely to serve as a "cover" for another legal act or for other concealed intentions. This lack of authenticity is also manifested in the inconsistency between the parties' internal intent and their external conduct.

As illustrated in the first case discussed above, the donation contract for the house between Ms. Van and Ms. Tuyet was merely a façade concealing a sale and purchase contract. Similarly, in the second case, the parties did not genuinely intend to enter into a land use right transfer contract, but used it as an artificial legal form.

Second, the existence of prior collusion between the parties.

Prior collusion is widely recognized in legal scholarship as a defining feature of fake civil transactions, particularly forged contracts. Not every fictitious expression of intent constitutes a fake transaction; rather, a transaction is considered fake only where there is prior agreement or collusion between the parties before entering into the transaction (Nguyen, V. C., 2005, p. 65). As noted by Tran, H. T. (2014, p. 48), the common feature of such transactions lies in the parties' collusion to create a false appearance for third parties.

This element of collusion is also reflected in the laws of several jurisdictions, such as the German Civil Code and the Thai Civil and Commercial Code. Under German law, collusion is evidenced by a false declaration of intent made to another person with that person's consent, while Thai law refers to the complicity of the other party. It should be noted, however, that prior collusion is characteristic of fake contracts, whereas fake unilateral legal acts do not involve collusion, as they are created solely by the will of a single subject.

Third, the absence of the subject's true will.

Although a fake civil transaction appears to be established voluntarily, the subject's true will does not correspond to the outward manifestation of intent. What is externally expressed is not what the subject genuinely desires. In the first case, Ms. Van and Ms. Tuyet did not intend to donate the house; their true intention was to sell it. Likewise, in the second case, Mr. C and Mrs. V had no intention of transferring their land use rights, despite having outwardly executed a transfer contract.

Fourth, the lack of intention to create rights and obligations.

When establishing a fake civil transaction, the parties do not intend to give rise to genuine rights and obligations arising from that transaction. Because the transaction is unreal and does not stem from the true will of the parties, they neither expect nor intend to perform the rights and obligations ostensibly created by the fake legal act.

Fifth, the purpose of concealing another legal act or evading obligations.

Fake civil transactions are established to serve specific purposes. These purposes may include concealing another legal act or evading obligations toward another subject. Typical examples include executing a donation contract to conceal a sale and purchase contract, entering into a sale contract to disguise a loan agreement, or deliberately declaring a contract price significantly lower than the actual price paid.

Sixth, manifestation in the form of contracts or unilateral legal acts.

Civil transactions may take the form of contracts or unilateral legal acts; accordingly, fake civil transactions may also appear either as fake contracts or as fake unilateral legal acts.

In addition to these basic characteristics, some scholars argue that fake civil transactions also involve other features, such as the lack of voluntariness or the existence of two concurrent transactions (Vu, T. T. N., 2011, pp. 25–28). Whether fake civil transactions violate the condition of voluntariness remains a subject of scholarly debate. As for the existence of two transactions, this characteristic should be assessed relatively. While many fake civil transactions involve both an apparent transaction and a concealed one, this is not always the case.

For example, in a situation where a debtor fabricates a debt of VND 500,000,000 in order to avoid repaying an existing obligation, and subsequently enters into a fictitious contract transferring all assets to a third party, some scholars consider this to be a fake civil transaction despite the absence of a genuine concealed transaction (Do, V. D., 2017, pp. 670–671). Similarly, Rouhette observes that fake transactions may aim to create the appearance of a contract that the parties never intended to establish, such as fictitious sales to avoid distraint or the creation of virtual companies to limit liability (Rouhette, G., 2003, p. 266).

Conversely, other scholars argue that even in such cases, fake civil transactions still involve two transactions: an apparent contract and a secret agreement that no genuine contractual relationship exists between the parties (Huynh, C. B., 2021, p. 617). In the author's view, fake civil transactions may indeed consist of only a single transaction that is entirely unreal and created solely to evade obligations toward a third party. This position is consistent with Clause 2, Article 124 of the 2015 Civil Code of Vietnam, which provides that "where a civil transaction is falsely entered into for the purpose of evading obligations toward a third person, such transaction shall be invalid."

2. CLASSIFICATION OF FAKE CIVIL TRANSACTIONS

In practice, fake civil transactions occur frequently and take diverse forms and purposes. Their classification may therefore be conducted on the basis of different criteria. Depending on the chosen criterion, different analytical approaches to fake civil transactions may be adopted. Fake civil transactions may be classified as follows.

2.1 Classification Based on the Expression of Will

Based on the manner in which the will of the subject is expressed, fake civil transactions may be divided into fake contracts and fake unilateral legal acts.

Fake Contracts

Civil transactions include contracts and unilateral legal acts. In practice, however, fake civil transactions most commonly occur in the form of contracts. Contractual relations are highly diverse and frequently used in social and economic interactions, such as sale and purchase, exchange, donation, or loan agreements. Parties often exploit contractual freedom to establish fake contracts for various purposes. Although the 2015 Civil Code of Vietnam contains a separate chapter governing contracts, it does not define the concept of a fake contract.

According to the Textbook on Contract Law and Non-Contractual Damage Compensation of Ho Chi Minh City University of Law, a fake contract is "a contract that is created but does not reflect the true nature of the relationship between the parties, typically established to conceal another civil transaction or an illegal act" (Ho Chi Minh City University of Law, 2015). Other scholars define a fake contract as one in which the outward manifestation of will differs from the parties' inner will and the actual performance results (Hoang, T. L., 1996), or as a contract jointly created by the parties to conceal another genuine contract or transaction concluded simultaneously or earlier (Hoang, T. H. H., 2017).

Despite differences in wording, these definitions converge on the same essential characteristics: the absence of genuine intent, the lack of correspondence between internal will and external expression, the absence of intent to produce legal consequences, and the purpose of concealing another legal transaction or evading obligations toward a third party.

As a specific form of fake civil transaction, a fake contract shares all the fundamental characteristics of fake civil transactions. In essence, a fake contract is an agreement between the parties to establish an apparent contract that is not intended to create, modify, or terminate rights and obligations, but rather to conceal another legal act or evade obligations toward another entity or achieve other improper purposes. Unlike contracts tainted by deception, intimidation, or coercion, a fake contract is characterized by mutual awareness and collusion between the parties. The parties fully understand the artificial nature of the contract but deliberately establish it for their own purposes.

Accordingly, a fake contract may be defined as follows:

"A fake contract is an agreement between the parties to establish a bogus contract that is not intended to give rise to legal consequences, but is created to conceal another legal act, evade obligations toward a third party, or pursue other improper purposes".

Fake Unilateral Legal Acts

Similar to fake contracts, the concept of a fake unilateral legal act is not expressly defined in the Vietnamese Civil Code.

Unlike fake contracts, which require at least two parties, a fake unilateral legal act involves only the will of a single subject. This distinction constitutes the fundamental difference between fake contracts and fake unilateral legal acts.

A fake unilateral legal act is an outward expression of will that does not reflect the subject's true intention and is created to conceal another legal act, evade obligations toward other subjects, or pursue other purposes. For example, a person may formally refuse an inheritance in order to avoid fulfilling property obligations toward a creditor, while secretly agreeing with other co-heirs to receive the inheritance value indirectly. In such a case, the refusal to accept the inheritance constitutes a fake unilateral legal act aimed at evading obligations toward third parties.

Accordingly, a fake unilateral legal act may be understood as: "A unilateral expression of will that is not intended to give rise to legal consequences and is created to conceal another legal act, evade obligations toward other subjects, or pursue other improper purposes".

2.2 Classification Based On Purpose

Based on their purposes, fake civil transactions may be classified into: (i) fake civil transactions intended to conceal other civil transactions; and (ii) fake civil transactions intended to evade obligations toward third parties.

Article 124 of the 2015 Civil Code of Vietnam provides that a fake civil transaction is invalid where it is established either to conceal another transaction or to evade obligations toward a third party. These two purposes constitute the primary statutory grounds for identifying fake civil transactions. However, in practice, fake civil transactions may also pursue purposes beyond those expressly mentioned in the law, such as creating artificial legal conditions to achieve certain objectives.

Fake Civil Transactions Intended To Conceal Other Legal Acts

Under Article 124(1) of the Civil Code, a civil transaction falsely entered into for the purpose of concealing another transaction shall be invalid. In such cases, there typically exist at least two transactions: an apparent fake transaction and a concealed genuine transaction.

In practice, fake contracts are frequently used to conceal other contracts for various reasons, including property appropriation or the circumvention of legal requirements. For example, a borrower may be required by a lender to execute a notarized land use right transfer contract as security for a loan, with the lender subsequently exploiting this formality to appropriate the property. Fake contracts may also be created merely to facilitate the management or use of property.

Fake Civil Transactions Intended to Evade Obligations Toward Third Parties

Article 124(2) of the Civil Code provides that a civil transaction falsely entered into for the purpose of evading obligations toward a third party shall be invalid. This type of fake civil transaction is common in practice, where parties deliberately establish artificial legal acts to avoid fulfilling existing obligations.

Fake Civil Transactions For Other Purposes

Beyond concealing other transactions or evading obligations, fake civil transactions may also be created to establish artificial legal conditions. For instance, in child custody disputes following divorce, a parent may execute a fake employment contract with an inflated salary to demonstrate superior economic capacity. Similarly, individuals may create fictitious labor contracts to satisfy income requirements when applying for bank loans. In such cases, the fake transaction is not intended to conceal another civil transaction or evade obligations, but to fabricate favorable legal or factual conditions.

2.3 Classification Based on the Forged Element

Based on the forged element, fake civil transactions may be classified into: (i) fake civil transactions concerning the subject;(ii) fake civil transactions concerning the content; and (iii) fake civil transactions concerning the nature of the transaction.

Fake Civil Transactions Concerning The Subject

In this type of fake civil transaction, the subject named in the apparent transaction differs from the actual subject of the concealed transaction.

This situation often arises in cases of "name lending," where the real party remains anonymous and uses another person's name to establish a fake transaction (Huynh, C. B., 2021, p. 616). The real subject may be unwilling or unable to appear formally in the transaction and therefore relies on another entity to conceal the true legal relationship.

Such cases must be distinguished from lawful representation or authorization. Where a person validly authorizes another to act on their behalf, the resulting transaction reflects the true intent of the principal and does not constitute a fake civil transaction.

Fake Civil Transactions Concerning The Content

In this category, the identity of the parties is genuine, but the content of the transaction does not reflect their true will. The most common example concerns fake pricing, particularly in transactions involving land use rights or house ownership, where the price stated in a notarized contract is significantly lower than the actual agreed price. In such cases, the parties often execute a second, secret agreement reflecting the true price.

Fake Civil Transactions Concerning The Nature of the Transaction

A fake civil transaction concerning its nature occurs where the apparent transaction fundamentally differs in nature from the concealed one. For example, a transaction may appear as a donation but in reality constitute a sale, or appear as a sale while in fact being an exchange of assets. In such cases, the apparent transaction serves merely as a façade to disguise the true legal nature of the parties' agreement.

3. TYPES OF FAKE CIVIL TRANSACTIONS UNDER VIETNAMESE LAW

Under the Vietnam Civil Code 2015 (VCC 2015), fictitious civil transactions are explicitly regulated in two forms:

(1) civil transactions falsely entered into to conceal another civil transaction; and (2) civil transactions falsely entered into to evade obligations to a third party.

3.1 Fake Civil Transactions Established to Conceal Other Civil Transactions

Clause 1, Article 124 of the VCC 2015 provides that: "Where the parties falsely enter into a civil transaction for the purpose of concealing another transaction, such false transaction shall be invalid". The use of the term "the parties" indicates that the legislator primarily envisages fake civil transactions in the form of contracts involving at least two parties. However, this wording is problematic when applied to fictitious unilateral legal acts, which by their nature involve only one subject. From this perspective, Clause 1, Article 124 has been criticized as conceptually incomplete (Ngo, H. C. (2013), p. 357).

A typical example of a fake civil transaction established to conceal another transaction can be found in Judgment No. 90/2019/DS-PT dated 2 April 2019 of the People's Court of Tien Giang Province. In this case, Mr. Luong Thien Th and Ms. Pham Thi T borrowed VND 2 billion from Ms. Phan Thi Kim H, with monthly interest of VND 80 million. To secure the loan, the parties executed a contract purporting to transfer land use rights over twelve land plots, accompanied by a handwritten commitment allowing redemption within twelve months and prohibiting further disposition of the land. The land use right certificates were handed over merely for safekeeping, and no actual transfer of possession occurred. The court determined that the land use right transfer contract was fictitious and served solely to conceal a loan agreement.

Comparable approaches can be found in foreign legal systems. For example, Article 6:103 of the Principles of European Contract Law (PECL) refers to contracts that "ostensibly conceal" the parties' substantive agreement; Article 1201 of the French Civil Code recognizes a "counter-instrument" (contre-lettre) concealing the true agreement; Article 117 of the German Civil Code (BGB) invalidates a simulated declaration of intent while giving effect to the concealed transaction if it is lawful. Similarly, Japanese Civil Code Article 94 and Cambodian Civil Code Article 353 regulate fictitious expressions of intent based on collusion. These provisions share a common approach with Vietnamese law in recognizing the invalidity of the apparent transaction while acknowledging the concealed transaction where appropriate.

3.2 Fake Civil Transactions Established to Evade Obligations to Third Parties

Clause 2, Article 124 of the VCC 2015 stipulates that: "Where a civil transaction is falsely entered into for the purpose of evading responsibilities to a third person, such transaction shall be invalid."

Although the Code does not define the concept of a "third person," it is generally understood as a person who is not a party to the civil transaction but whose lawful rights and interests are adversely affected by its establishment or performance (Nguyen, T. Y. L. & Ngo, Q. C. (2017)). Such third persons may include individuals, organizations, or state authorities.

For a fake civil transaction to be regarded as intended to evade obligations to a third party, two conditions are typically required: (i) the obligation must have become due; and (ii) the obligor disposes of assets in a manner that leaves insufficient property to fulfill the obligation (Nguyen, M. T. (2016), p. 195).

This situation is commonly encountered in the enforcement of court judgments. Judgment No. 05/2019/DS-PT dated 15 January 2019 of the People's Court of Tay Ninh Province provides an illustrative example. In that case, Mr. G and Ms. H were obligated under court judgments to repay debts totaling more than VND 900 million to two creditors. While enforcement proceedings were pending, they transferred their house and land to Ms. H's brother under a contract stating a transfer value significantly lower than the actual value. The court concluded that this transfer was fictitious and aimed at evading debt repayment obligations to third parties.

Unlike Vietnamese law, the civil codes of France, Germany, Japan, the Philippines, and Cambodia generally do not separately classify fake civil transactions established to evade obligations to third parties. Nevertheless, such transactions may also appear in practice in the form of under-declared transfer prices in notarized contracts, particularly to evade tax obligations owed to the State.

3.3 Assessment

From the above analysis, it can be seen that Vietnamese law currently recognizes only two types of fake civil transactions: those intended to conceal other civil transactions and those intended to evade obligations to third parties. However, the absence of a statutory definition of fictitious civil transactions and the limitation to only these two categories do not fully reflect the diversity of fictitious transactions in practice. As noted by some scholars, the legislator has focused excessively on the purposes of concealment and evasion, without anticipating all possible manifestations of fictitious transactions, thereby creating difficulties in legal application (Ngo, H. C. (2013), p. 357).

4. INADEQUACIES AND RECOMMENDATIONS FOR IMPROVING VIETNAMESE LAW ON FAKE CIVIL TRANSACTIONS

Based on the foregoing analysis, it can be observed that the Vietnam Civil Code 2015 (VCC 2015) still contains several limitations and inadequacies in its regulation of fake civil transactions.

4.1 Inadequacies in the Current Legal Framework

First, there is an inadequacy in the use of the term "civil transaction" in the phrase "a civil transaction is invalid due to falsification". Under Vietnamese civil law, a civil transaction encompasses both contracts and unilateral legal acts. A contract reflects the convergence of the wills of two or more parties, whereas a unilateral legal act is merely the expression of the will of a single subject. However, from a semantic perspective, the Vietnamese term "transaction" generally denotes interaction, exchange, or agreement between multiple parties, implying a meeting and unification of wills. In both legal doctrine and everyday language, the term "transaction" is commonly associated with contracts rather than unilateral acts.

Although the Civil Code clearly defines civil transactions as including both contracts and unilateral legal acts, the linguistic use of the term "transaction" to cover unilateral legal acts creates conceptual and terminological inconsistency.

While this inconsistency may not necessarily lead to misapplication of the law in practice, it nevertheless undermines linguistic precision and systematic coherence in a fundamental legal code governing private law relations.

Second, the VCC 2015 does not provide a statutory definition of fake civil transactions. Instead, it merely enumerates two specific cases of fictitious transactions. The absence of a general concept makes it difficult to comprehensively understand the nature of fake legal acts and to anticipate all possible manifestations of fictitious transactions in practice. This approach limits the flexibility and completeness of legal interpretation and application.

Third, the use of the phrase "the parties" in Clause 1, Article 124 of the VCC 2015, which governs fake civil transactions established to conceal other transactions, is insufficiently inclusive. This wording implicitly presupposes the existence of at least two parties and therefore fails to adequately encompass fake unilateral legal acts, which are created solely through the will of a single subject and do not involve any agreement between multiple parties.

Fourth, the VCC 2015 recognizes only two types of fake civil transactions—those established to conceal other civil transactions and those established to evade obligations to third parties. This limited classification does not fully reflect the diversity of fictitious legal acts that occur in social and economic life, thereby leaving certain practical situations outside the explicit scope of statutory regulation.

4.2 Recommendations for Legislative Improvement

In light of the above inadequacies, this article proposes the following recommendations:

First, the term "fake civil transaction" should be replaced with "fake legal act." To fully resolve the conceptual inconsistency, all provisions in the VCC 2015 that currently use the term "civil transaction" should be revised to adopt the term "legal act." This change would better reflect the inclusion of both contracts and unilateral legal acts and enhance terminological coherence.

Second, the VCC 2015 should introduce an explicit definition of a fake legal act. This article proposes the following definition:

A fake legal act is an act expressed in the form of a contract or a unilateral legal act, established not from the true will of the subject, not intended to give rise to rights and obligations, but created to conceal another legal act or other intent, to evade obligations to a third party, or to achieve other purposes.

Third, the phrase "the parties" in Clause 1, Article 124 of the VCC 2015 should be amended to "the subject" in order to encompass fake unilateral legal acts. Once a general concept of fake legal acts is introduced, the limitation arising from the current two-type classification would also be fundamentally addressed.

CONCLUSION

Fake civil transactions constitute a legal phenomenon that occurs frequently and in diverse forms in legal practice. Although Vietnamese civil law, particularly the Vietnam Civil Code 2015, provides mechanisms for identifying fake civil transactions, its current regulatory framework remains limited in scope and conceptual clarity. The law does not offer a statutory definition of fake civil transactions and instead confines regulation to two specific purposes concealing another civil transaction or evading obligations to a third party thereby failing to fully capture the variety of fictitious legal acts that arise in reality.

By analyzing the theoretical foundations of fake civil transactions, examining judicial practice in Vietnam, and comparing relevant provisions of foreign legal systems, this chapter clarifies the essential characteristics, forms, and purposes of fake civil transactions. The analysis demonstrates that fake civil transactions may exist not only in contractual form but also as unilateral legal acts, and may be established for purposes beyond those expressly recognized by current Vietnamese law. On that basis, the chapter identifies several shortcomings in the existing legal framework, particularly in terms of terminology, conceptual definition, and classification. To address these inadequacies, the chapter proposes legislative recommendations, including the replacement of the term "fake civil transaction" with "fake legal act," the introduction of a clear statutory definition, and the revision of Article 124 of the Vietnam Civil Code 2015 to ensure comprehensive coverage of both contractual and unilateral fictitious legal acts.

These recommendations aim to enhance the coherence, completeness, and practical effectiveness of Vietnamese civil law in regulating fake legal acts.

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CHAPTER 2
ISLAMIC LAW IN A CONTEMPORARY GLOBAL ISSUES

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INTRODUCTION

The existence of Islamic law in the stage of world civilisation has always been based on the axiom that Islamic sharia has a nature that transcends the boundaries of time and space, or what is popularly known as the term "salihun li kulli zaman wa makan." This principle affirms that Islam is not just a static theological system. Still, a legal entity that is dynamic, organic, and responsive to every pulse of the changing times. However, the claim of universality now faces a complex challenge, along with the emergence of various contemporary issues that were never anticipated during the codification of classical Islamic law. The era of technological disruption, the global ecological crisis, the complexity of the digital economy, and the shift in the paradigm of human rights and gender require Islamic Law to reorient its methodology to remain relevant without losing its fundamental identity. This phenomenon is interesting to study in depth because there is a creative tension between the limited text of revelation and the infinite social reality, which then gives rise to the urgent need for a comprehensive contemporary ijtihad (Yongbao, 2024).

The urgency of studying Islamic Law's response to contemporary global issues lies in the crucial position of law as an instrument for regulating social and moral order within the international Muslim community. The importance of this topic is also related to efforts to avoid the occurrence of legal vacuums (khala' qanuni) in the face of medical innovations, such as genetic engineering, the use of artificial intelligence in legal decision-making, and decentralised financial transaction mechanisms, including cryptocurrencies. If Islamic law fails to provide intellectually convincing and practically applicable answers, there will be a disconnect between the religious beliefs of the ummah and the reality of their daily lives. Therefore, this study makes a significant contribution to the scientific literature by mapping the strategy of adaptation of Islamic law methodology, expanding the horizon of implementing maqasid al-shari'ah, and strengthening the position of Islamic Law as an alternative solution to increasingly complex global humanitarian problems (Kholiq et al., 2025).

This study departs from a critical evaluation of the discourse that has developed in previous literature. Various previous studies have tended to focus on the partial response of Islamic Law, such as reviewing only aspects of Sharia economics or specific medical issues separately.

Several studies in international journals have explored how contemporary fatwas address the problem of climate change. Still, these studies often stop at the normative level without examining the mechanisms by which the law is integrated into broader public policy. On the other hand, there is research that examines the harmonisation between Islamic Law and universal human rights (Manea, 2020). Still, it is often caught in a dichotomy that negates rigid traditionalism and extreme liberalism. A shortcoming of previous similar studies is the lack of multidisciplinary approaches that can unite various contemporary issues into a coherent and holistic theoretical framework (Ibrahim et al., 2024).

The fundamental difference and novelty of this study compared to previous works lies in the use of an interdisciplinary legal synthesis approach. This study not only captures the legal response of one school or one geographical area, but also synthesises the tendency of Islamic legal thought from various fatwa authorities worldwide, including those in the Middle East, Southeast Asia, and Muslim communities in the West. The novelty offered includes the formulation of an ijtihad methodology based on integrated maqasid that combines aspects of religious protection with protection of environmental sustainability and digital sovereignty, which have not been explicitly accommodated in the traditional maqasid al-khamsah structure. Through this study, it is hoped that a new paradigm will emerge in viewing Islamic law, which is no longer positioned as an obstacle to progress, but as an ethical compass and a proactive regulatory framework in overseeing the transformation of human civilisation in the 21st century (Karimullah, 2023a).

The primary focus of this study is on how the methodology of Islamic law has evolved in response to contemporary issues that are complex and have cross-country implications. The researcher formulated a fundamental question about the extent to which classical ijtihad instruments, such as qiyas, istihsan, and maslahah mursalah, are still able to address the challenges of the era of artificial intelligence and modern bioethics. In addition, this study examines whether the shift in fatwas that has occurred in various parts of the world indicates a trend of legal convergence or, conversely, widens the fragmentation of religious authority.

The initial hypothesis put forward is that Islamic Law possesses tremendous internal flexibility through the activation of maqasid al-shari'ah; however, the effectiveness of its response depends heavily on the ability of scholars to integrate modern science into their legal reasoning structures. Without the integration of knowledge (transdisciplinarity), the resulting legal response risks becoming uncontextual and losing its social bonding (Laabdi & Elbittioui, 2024).

The potential outcomes expected to be revealed by this chapter include the discovery of a framework for ijtihad that is more inclusive and adaptable to the development of science and technology. This study aims to demonstrate that Islamic Law possesses an inherent capacity to serve as a dialogue partner for international law in addressing humanitarian issues, including cross-border refugees, personal data protection, and global disaster mitigation. The study has the potential to provide practical recommendations for fatwa institutions and legal policymakers in Muslim countries to adopt legislation procedures that are more responsive to changing times. The significance of the results of this study also includes educational aspects, enabling the wider community to develop a moderate and progressive understanding of the dynamics of Islamic law amidst unstoppable globalisation (Muhammad Mujtaba Abdulkadir & Halima Ibrahim Bature, 2025).

Systematically, the organisation of the writing in this chapter is structured to provide a comprehensive and logical picture for the reader. Following this introductory section, the discussion commences with the presentation of the theoretical foundations underlying the evolution of Islamic legal methodology from the classical to the contemporary period. The following section provides an in-depth analysis of Islamic Law's response to the digital economy and Islamic social finance issue clusters. The discussion then continued to a critical review of science, bioethics, and information technology issues from the perspective of Sharia (Alfian et al., 2024). The author examines socio-political global problems, including human rights and environmental concerns, before delving into the analysis of the proposed methodological synthesis. This chapter concludes with a summary that highlights key findings and provides strategic suggestions for future research development.

This study limits its scope to contemporary issues that have had a broad impact internationally in the last two decades. Focus is given to phenomena that demand a paradigm shift in thinking, not just technical changes in legal administration. The global context considered includes the dynamics of legal thought in the Islamic world, represented by authoritative institutions such as Majma' al-Fiqh al-Islami under the Organisation of Islamic Cooperation (OIC) and fatwa institutions in various Muslim countries with diverse sects. With a broad yet focused scope, this research aims to provide in-depth theoretical contributions as well as practical guidance that is useful for legal practitioners, academics, and stakeholders in the Islamic world worldwide. Through this comprehensive exploration, the position of Islamic Law as a living law will be strengthened, and its role in arranging a dignified human life amidst the world's changes will be more evident (Toriquddin et al., 2024).

The author's interest in exploring this theme is also driven by the fact that the world is currently at a crossroads of civilisation. Islamic law can no longer stand on an ivory tower that merely repeats the narrative of the yellow book without engaging in a dialectic with contemporary reality. Therefore, this study seeks to bridge the gap between tradition (turast) and modernity. Through an objective and critical approach, it is hoped that this research will help reduce the tension between the demands of Sharia and the needs of the times, thereby creating harmony that benefits all of nature. Thus, the ultimate goal of this study is not merely to describe the legal response, but to provide a new direction for a more enlightened, just, and sustainable future of Islamic jurisprudence for human civilisation as a whole.

1. TRANSFORMING CONTEMPORARY IJTIHAD: REORIENTING MAQASID AL-SHARI'AH FOR GLOBAL CHALLENGES

The world in the post-modernity era is currently experiencing an unprecedented acceleration of change in the history of human civilisation. The phenomenon of globalisation is closely tied to advances in information technology. These ecological crises threaten the planet's existence, and fundamental shifts in the digital economy's structure have created a complex social landscape.

In this context, Islamic Law, as a universal and enduring value system, faces significant challenges in remaining relevant and functional as both an ethical guide and an instrument of regulation. The global dynamics of 2025 indicate that humanitarian problems are no longer linear and local, but rather systemic, cross-border, and multidimensional. This requires a legal response that is not only fast but also has philosophical depth and high methodological accuracy (Karimullah, 2023c).

Problems arise when the classical ijtihad device inherited by the previous fuqaha is often considered inadequate if it is only applied textually and rigidly to answer new issues that do not yet have a precedent in the text of revelation. Topics such as the sovereignty of personal data in artificial intelligence algorithms, carbon trading for climate change mitigation, and the complexity of decentralised financial transactions require a more progressive ijtihad. This research is motivated by the urgent need to reorient the construction of Islamic legal methodology to bridge the distance between the limited sacred texts and the ever-evolving social reality. The researcher observed that there is intellectual anxiety among academics and practitioners of Islamic law regarding the risk of religious alienation from the reality of life if ijtihad remains trapped in the traditional paradigm of atomism (Nur et al., 2025).

The urgency of this sub-chapter is also triggered by the emergence of various contemporary fatwas that sometimes seem contradictory between one institution and another, reflecting the diversity in the use of methodologies. Therefore, this study aims to map the ongoing methodological transformation, characterised by a strong tendency to shift from mere linguistic analysis to meaningful analysis grounded in legal objectives. This research is crucial because it attempts to formulate an ijtihad framework that not only provides legal certainty for Muslims but also contributes to the development of just global policies. By focusing on the transformation of ijtihad and the reorientation of maqasid, this study positions itself as a bridge between the rich Islamic intellectual tradition and the demands of modernity, which are pragmatic yet full of ethical challenges (Maripatul Uula & Darwis Harahap, 2023). Currently, there has been a significant functional shift in the classical ijtihad apparatus, especially in the instruments of maslahah mursalah and istihsan.

In the discourse of classical fiqh, the two instruments are often positioned as secondary postulates or supporting tools that are used only in emergencies when no textual evidence is found. However, in contemporary ijtihad practice, both have evolved into the main pillars. Research findings indicate that contemporary mujtahids primarily use maslahah mursalah as the basis for argumentation in formulating laws in the dynamic areas of mu'amalah and siyasah. This is done because the complexity of global issues requires consideration of the broad public interest, which often goes beyond the scope of simple analogies or qiyas that are limited to partial similarity of 'illat (Rahmawati & Satrio, 2024).

This sub-chapter also reveals a transformation from a juz'i or textual-partial approach to a holistic kulli approach. The findings indicate that modern jurists no longer tend to evaluate a legal case as a standalone entity, but rather as part of a larger, interconnected system. In responding to the issue of data sovereignty, for example, ijtihad is carried out not only to look at the privacy aspect individually, but also to consider the systemic impact on national security and global economic justice. This holistic approach automatically encourages the reorientation of maqasid al-shari'ah from a defensive and conservative to a proactive and adaptive perspective. Researchers found that traditional maqasid structures are now conceptually expanded to include new dimensions relevant to the needs of 21st-century humans (Rashed et al., 2025).

Another important finding in this sub-chapter is the integration of the dimensions of global environmental protection, data sovereignty, and economic sustainability into the new Islamic legal goal structure. Researchers have found that the principle of hifz al-bi'ah, or protecting the environment, is now seen as equivalent to other basic purposes because ecological damage directly threatens the safety of lives and the sustainability of the religion. Likewise, hifz al-data is considered an extension of the protection of honour and property in the digital era. These findings confirm that the methodological transformation that has occurred is not an attempt to alter the sharia, but rather a rediscovery of the essence of Islamic law, enabling the realisation of justice in a social structure that has undergone radical changes due to technological advances and economic globalisation (Degirmenci et al., 2024).

The methodological transformations found in this research can be explained through systems theory in Islamic law, popularised by contemporary thinkers such as Jasser Auda. In this view, Islamic law should be understood as a living system, in which each of its methodological elements works synergistically to achieve the ultimate goal: the benefit of its adherents. The shift in the function of maslahah mursalah and istihsan to become the main instrument reflects the need for legal flexibility in dealing with issues that do not have a textual precedent. The use of istihsan in contemporary issues allows the fuqaha to abandon rigid analogy in favour of more substantive justice. This aligns with previous studies that emphasise that, in a world of uncertainty, the public interest should be the primary guiding principle in making legal decisions, as long as it does not conflict with the fundamental principles of Sharia (Khoirul Umam Addzaky et al., 2025).

The discussion of the transition from the juz'i to the kulli approach shows that contemporary ijtihad has reached a higher level of intellectual maturity. This holistic approach allows Islamic law to engage in a cross-disciplinary dialogue with modern science. For example, in response to the issue of economic sustainability, Islamic law not only talks about the haram of riba normatively, but also offers the concept of wealth distribution based on maqasid to reduce global social disparities. This elaboration is supported by the thoughts of figures such as Thaha Jabir al-Alwani, who encourage the integration of revelation and reality through a double reading of text and context. Thus, the reorientation of maqasid is not merely an addition to a list of legal goals, but a paradigm shift in the way we view the relationship between humans, God, and the universe (Mukhlis Lubis, 2025).

The emphasis that this methodological transformation is very different from the legal liberalisation movement, which tends to strip away the authority of the text for purely pragmatic interests. On the contrary, what happens in contemporary ijtihad is an attempt to "revitalise tradition" or tajdid. Through the use of measurable and controlled maslahah, the mujtahids are actually attempting to preserve the essence of Islamic justice, ensuring it is not eroded by the currents of modernity, which are often exploitative.

Previous studies by Islamic legal scholars in the Middle East and Southeast Asia have also shown a similar trend, where the strengthening of the maqasid aspect has become a bulwark of defence for Islamic humanitarian values in the midst of the onslaught of global materialism. The reorientation towards environmental protection and data sovereignty is clear evidence that Islamic law is very responsive to even the most fundamental issues of generational justice and human rights (Karimullah, 2024b).

Islamic law provides a robust ethical framework for safeguarding human digital identities. When personal data becomes a very valuable economic commodity and is prone to misuse by large corporations, maqasid-based ijtihad is here to protect human dignity (hifz al-karamah). Likewise, in environmental issues, this research emphasises that natural damage caused by uncontrolled economic activities is a form of violation of the divine mandate. By linking the theory of istikhlaf (man as caliph) with global ecological policy, this research demonstrates that Islamic Law makes a significant theoretical contribution to the formulation of solutions to the climate crisis. The integration of this renewed classical methodology with contemporary issues ultimately results in a more inclusive, effective, and dignified jurisprudence (Karimullah, 2023b).

The effectiveness of Islamic Law in the international world depends heavily on the ability of the fuqaha to synthesise various scientific knowledge into their legal reasoning. The study highlights that ijtihad today must be collective (ijtihad jama'i) and transdisciplinary, involving technologists, economists, and environmental scientists to ensure that the maslahah formulated is genuine, not merely an imaginative one. Thus, this methodological transformation is a historical necessity that strengthens the position of Islam as rahmatan lil 'alamin. The researcher believes that with this systematic framework, Islamic Law will be able to become an equal dialogue partner with other world legal systems in an effort to create a more harmonious and just global order for all creatures (Karimullah, 2023b).

This sub-chapter finds that there has been a fundamental transformation in contemporary ijtihad methodology in response to complex global dynamics. Classical ijtihad tools, such as maslahah mursalah and istihsan, have evolved from supporting instruments into key methodological pillars that enable Islamic Law to address new areas where there is no explicit nash proactively.

The shift from a textual-partial approach to a holistic approach based on legal objectives (kulli) is the primary key to the relevance of Islamic Law in the 21st century. This transformation is not a form of superficiality or legal liberalisation, but a serious methodological effort to maintain the substance of Islamic justice, ensuring it can still be implemented amid massive changes in the world's social, technological, and economic structures. The reorientation of maqasid al-shari'ah, which encompasses new dimensions such as environmental protection, data sovereignty, and financial sustainability, underscores the organic and adaptive nature of Islamic Law. The success of contemporary ijtihad in responding to these issues is primarily determined by the scholars' ability to integrate modern science into the structure of Islamic legal thought without sacrificing the fixed principles of the faith.

2. REFRAMING ISLAMIC LAW AMID DIGITAL, BIOTECHNOLOGICAL, AND ECOLOGICAL CHANGE

Human civilisation is at a pivotal point in its technological transformation and facing unprecedented existential challenges. The acceleration of the digital economy has given rise to a fully decentralised financial ecosystem, while biotechnological innovations are beginning to alter the fundamental code of human life through exact genetic engineering. At the same time, the world is facing an integrated ecological crisis that threatens the stability of the Earth's life support systems. This phenomenon creates tremendous pressure on the world's legal system, including Islamic Law, which is required to provide juridical-ethical answers that are not only reactive but also visionary and solution-oriented. This dialectic between static sacred texts and super-dynamic social realities has become the most challenging field of ijtihad in the history of Islamic modernity (Mokrani, 2022).

The global Muslim community is now actively engaged in the maze of the digital economy involving crypto assets and smart contracts that work autonomously without the intervention of central authorities. Without a clear Islamic legal framework, there is an excellent risk of ethical disorientation and massive financial losses among the ummah.

In addition, advances in biotechnology have gone beyond the boundaries of traditional discussions about health, entering highly sensitive domains such as editing the human genome, which has the potential to alter ancestry permanently. This requires Islamic Law to redefine the limits of human intervention in relation to God's creation. At the same time, the increasingly severe environmental degradation forces the fukaha to shift the paradigm from anthropocentric law to more ecocentric law for the survival of future generations (Ali et al., 2024).

This sub-chapter is designed to examine how Islamic legal authorities make methodological adaptations in addressing these three major issue clusters. The researcher observed a paradigm shift in fatwa-making, where a multidisciplinary approach became a necessity. Religious authorities no longer stand alone in interpreting God's will, but rather work closely with technocrats, scientists, and economists to ensure that every legal product produced has a high level of factual accuracy. The urgency of this study lies in its efforts to formulate a model of "Juridical Dialectic" that can harmonise the progress of civilisation with transcendental values, so that Islam is still able to carry out its function as a blessing for the whole world in the midst of the hustle and bustle of the changing times (Young, 2022).

The response of Islamic law to the acceleration of the digital economy reveals a tendency to be increasingly open, yet still cautious. Regarding the validity of smart contracts in blockchain networks, research findings indicate that this instrument is, in principle, considered Shariah-compliant because it meets the elements of contract principles, namely agreement and certainty of conditions, which are executed automatically by computer code. The existence of smart contracts is considered to minimise the element of gharar or uncertainty in transactions, as the system is transparent and cannot be changed unilaterally. However, in the issue of crypto assets, researchers found a sharp differentiation of views. Although the volatility of crypto assets remains a concern for some Islamic legal authorities, there is a trend of recognising cryptos that have a clear underlying asset or serve a functional purpose within specific digital ecosystems.

The response to decentralised finance also shows interesting findings, where the system is seen as an excellent opportunity to implement the principle of wealth distribution without the intermediaries of conventional banking, as long as the liquidity mining and yield farming mechanisms within it are free from elements of usury and pure speculation (Asyiqin, 2025).

In the biotechnology innovation cluster, this research found that Islamic Law positions itself as the guardian of human dignity amidst scientific ambitions. Regarding gene editing technology, the study's findings indicate that the majority of fatwa authorities permit its use for the treatment (tahsiniyyah) of severe genetic diseases, but strictly prohibit its use for aesthetic or eugenic human enhancement purposes. Islamic law, in this case, sets a strict limit: medical intervention is permissible as long as it aims to preserve life (hifz al-nafs). Still, it becomes forbidden if the goal is to alter the nature of human creation arbitrarily. On the issue of IVF, research found that this practice has been widely accepted as a legal medical solution under Sharia, as long as sperm and eggs from legal married couples are used, which reflects Islamic Law's efforts to preserve the lineage (hifz al-nasl) (Hamdan et al., 2018).

The findings of the sub-chapter on the ecological crisis cluster show a significant transformation in the discourse of environmental fiqh or fiqh al-bi'ah. Islamic law no longer views the environment solely as an object to be exploited, but as a subject of law with the right to be preserved. The researcher found a pattern of fatwa adaptation that integrates the obligation to protect the environment with the harmony of faith and worship. One of the essential findings is the emergence of the concept of "Green Zakat" and "Ecological Waqf" as Islamic social financial instruments to fund climate change mitigation projects. Islamic legal authorities began to apply moral and legal sanctions against the perpetrators of the destruction of nature, stating that acts that damage the balance of the ecosystem are categorised as fasad fi al-ard (damage to the earth), which is a great sin. These findings confirm that Islamic Law is now moving towards a more integrative approach by incorporating scientific data on the Earth's ecological threshold into every formulation of its environmental fatwas (Latif et al., 2023). The study of this juridical dialectic should be seen through the lens of the theoretical Maqasid al-shari'ah, which has undergone a contemporary expansion of meaning.

In response to the digital economy, the theory of hifz al-mal (protection of property) is no longer understood solely as a prohibition on physical theft, but also encompasses the protection of digital assets and data sovereignty from cyberattacks. The researcher elaborated on this finding by citing the views of previous Islamic law experts, who stated that sharia law can adapt to changes in time and place. The validity of smart contracts and DeFi is clear evidence of the application of the fiqh rule that "origin in all forms of mu'amalah is permissible unless there is evidence that prohibits it". The support of previous studies indicates that blockchain technology shares a philosophical affinity with the principle of Islamic transparency, which can theoretically be utilised to eradicate corrupt practices and market manipulation that often occur in centralised financial systems.

In biotechnology studies, the discussion of this research relates the findings of gene editing to the theory of Sadd al-Dhara'i or closing the path to damage. Although medically gene editing offers a cure, Islamic Law is very wary of its potential abuse that can undermine the social order and the concept of human moral responsibility. This discussion is reinforced by the innovative theory of ijtihad insyā'ī, in which the fukaha are required to formulate laws on medical procedures that do not exist before taking into account the long-term benefits for humanity. The researcher referred to several international studies that stated that Islamic ethics makes a unique contribution to global bioethics due to its balancing nature between individual autonomy and collective responsibility before God, in contrast to Western bioethics approaches that often focus too heavily on individual rights alone (Jecker & Chung, 2025).

The study of ecological crises highlights the theory of Istikhlaf, or the concept that humans are God's representatives on earth, charged with maintaining the balance of nature. The researcher elaborates that contemporary environmental jurisprudence is not just an addition to the chapter of purification (thaharah), but an autonomous legal framework that demands radical lifestyle changes. Elaboration supported by previous studies shows that the current climate damage is caused by economic greed that ignores the limits of sharia in consumption. Therefore, the response of Islamic Law involving cross-disciplinary experts is very crucial.

The integration of climatology with fiqh reasoning gave birth to the so-called "Science-Based Ecological Jurisprudence", in which fatwas regarding the prohibition of forest burning or the use of single-use plastics are based on irrefutable scientific arguments regarding the latent danger to human life as a whole (Karimullah, 2024a).

The pattern of fatwa adaptation found in this research shows a shift from a single authority to a collegial and collaborative authority. This discussion highlights that ijtihad in this accelerated era is no longer possible for scholars to undertake in isolation. The existence of technologists in formulating the laws of the digital economy, scientists in biotechnology, and environmental activists in ecological jurisprudence is a manifestation of the broader and professional application of the concept of shura. This aligns with the theory of legal development, which posits that an effective law is one that accurately responds to empirical reality. The researcher emphasises that this juridical dialectic reflects the extraordinary elasticity of Islamic Law, where eternal principles (dhawabith) are maintained while the applicative details (mutaghayyirat) continue to change dynamically in response to the direction of human civilisation's increasingly sophisticated development (Permatasari, 2022).

Islamic law has undergone a significant transformation of juridical dialectics in response to the acceleration of the digital economy, biotechnological innovation, and ecological crises. The legal response to the digital economy demonstrates openness to smart contract innovations and decentralised financial systems as a means to achieve economic transparency and fairness, while maintaining vigilance against volatility. In the realm of biotechnology, Islamic Law serves effectively as an ethical brake, separating life-saving medical advances from scientific ambitions that have the potential to undermine human dignity. Meanwhile, in the field of ecology, there has been a fundamental shift towards a greener and more integrative jurisprudence, which positions the preservation of nature as an integral part of the pillars of obedience to God. The novelty and position of Islamic Law in this era of advanced modernity are highly determined by its ability to carry out collective ijtihad across disciplines. The use of scientific data, technological analysis, and economic projections in the formulation of fatwas has led to more accurate, relevant, and applicable legal products in the global community.

3. RECONSTRUCTING THE ISLAMIC LAW PARADIGM FOR GLOBAL LEGAL HARMONISATION

The global legal order is experiencing a crisis of legitimacy and effectiveness in the face of escalating humanitarian conflicts, extreme economic inequality, and sharp social fragmentation. The secular legal system that has dominated international discourse is often confined to a formal, procedural framework that lacks transcendent values, thereby failing to address the root of modern human moral problems. In the context of an increasingly connected yet divided world in 2025, there is an urgent need to present an alternative legal system that can synthesise between juridical certainty and substantive justice. Islamic law, with its rich intellectual tradition, is no longer viewed as a mere personal law for its adherents, but rather as a source of universal values that can make a significant contribution to the governance of global civilisation (Kader, 2021).

The urgency of this sub-chapter stems from the fact that today's global challenges necessitate an approach that transcends the boundaries of nation-state sovereignty. Issues such as mass displacement due to war, the systemic poverty crisis, and systematic human rights violations demand more humane resolution instruments. This study highlights that there have been methodological misunderstandings that position Islamic Law diametrically contrary to international legal standards. In fact, through the process of paradigm reconstruction, Islamic Law has tremendous potential to offer a concept of justice that transcends materialistic boundaries. The primary focus of this research is to examine how Islamic Law can transition from a defensive to a proactive stance, providing concrete solutions to the world's humanitarian challenges, particularly through the enhancement of humanitarian diplomacy and peace mechanisms grounded in religious values (Huda, 2019).

The importance of reconstructing this paradigm is also driven by the awareness that living law must be able to carry out internal criticism without losing its fundamental identity. The world of academia and legal practitioners today requires a new framework that enables Islamic Law to engage in dialogue on an equal footing with global civil law and international human rights standards. The researcher believes that future legal harmonisation efforts will not be successful if each legal system remains exclusive.

Therefore, this sub-chapter seeks to fill this knowledge gap by building an argument that Islamic Law is an open, adaptive, and highly bargaining power system that can serve as an ethical compass for global civilisation, which is seeking a new direction towards more dignified justice.

The reconstruction of the Islamic Law paradigm is now moving towards a more contributive direction to world civilisation through three main pillars. First, in dialogue with international human rights standards, researchers found that Islamic Law can offer a transcendent and holistic concept of justice. These findings demonstrate that the protection of individual rights in Islam does not stem solely from social consensus but is rooted in divine obligations that provide stronger protection of human dignity. The researcher presented evidence that the principles of daruriyyat al-khamsah share a firm common ground with the declaration of universal human rights, with the added advantage of a moral responsibility that extends beyond the demands of formal legality (Rohmah & Alfatdi, 2022).

The great potential of Islamic Law as an instrument for global conflict resolution through the strengthening of the concept of sulh or peace. The researchers found that the sulh mechanism offers a more effective, non-adversarial approach to mitigating cross-border conflicts compared to conventional justice systems, which tend to be win-lose. In the practice of international diplomacy, the concept of peace in Islam, which prioritises reconciliation and forgiveness, has proven to be an ethical foundation for a more lasting mediation process. These findings confirm that Islamic Law has procedural instruments capable of accommodating a plurality of interests without compromising the principle of justice for victims, making it a highly relevant alternative solution in addressing contemporary geopolitical crises (Damanik & Junaidi, 2024).

The effectiveness of humanitarian diplomacy based on Islamic social financial instruments, namely, zakat and international waqf. The researcher explained that the management of zakat and waqf, integrated into the global economic system, can be a concrete solution for poverty alleviation and sustainable development financing in conflict areas.

The findings of this research indicate a positive trend, where international institutions are beginning to recognise the potential of waqf as a perpetual source of capital for the provision of public facilities on a global scale. The results of the analysis indicate that when this instrument is managed in accordance with modern accounting and transparency standards, it becomes a highly transformative economic force. The researcher emphasised that this success is the fruit of the courage of Islamic legal authorities in conducting internal criticism of classical fiqh thought, which is still territorial, towards a more global and inclusive approach (Adinugraha et al., 2024).

The use of contemporary Maqasid al-shari'ah theory as an analytical basis to explain how the reconstruction of the legal paradigm is carried out. The application of this theory is particularly relevant because it enables Islamic Law to transition from a rules-oriented to a goal-oriented framework. In line with the views of thinkers such as Jasser Auda, this discussion emphasises that every legal product must be evaluated based on its ability to realise justice and public benefits at large. Elaboration of the findings on human rights shows that Islam does not recognise the dichotomy between God's rights and human rights. Instead, it integrates the two in a single frame of ethical obligations. This is supported by previous studies that have stated that the failure of international human rights standards is often due to the absence of a spiritual basis, where Islamic Law is present to fill this void by offering a transcendent concept of justice (Adinugraha et al., 2025).

The sulh instrument, as a solution to global conflicts, is associated with conflict resolution theory that emphasises the importance of a culturally based approach and local values. The researcher argues that sulh is not just a mediation technique, but a legal philosophy that prioritises the restoration of social relations over juridical victories. In this context, the support of previous studies on the practice of living law in various Muslim countries indicates that success in achieving peace is often achieved when state law can accommodate local wisdom derived from Islamic values. Strengthening the concept of sulh in a global framework requires the fukaha to formulate international mediation protocols that are compatible with global civil law standards, so that the resulting peace decisions have executory force in various world law jurisdictions (Kurniawan et al., 2025).

Zakat and international waqf are linked to a proactive theory of distributive justice. The researcher elaborated that zakat and waqf are no longer just individual philanthropic instruments, but have transformed into pillars of economic diplomacy. In this discussion, the researcher refers to the success of several waqf integration models in developed countries that can fund medical research and education without relying on state budgets. This demonstrates that Islamic Law can provide an alternative economic system that is more stable and resilient to crises compared to debt-based systems. The researcher emphasises that the primary key to this transformation is the courage to abandon narrow and outdated interpretations of fiqh and to reactualize the universal values of Islam to respond to the increasingly complex challenges of the digital economy and global humanity (Abu Bakar, 2018).

Projections of future harmonised laws that are convergent. The researcher predicts that Islamic jurisprudence in the future will be increasingly integrated in terms of methodology while respecting the local plurality or urf of each region. This harmonisation does not mean total uniformity, but rather the creation of a mutually enriching dialogue between Islamic Law and other world legal systems. This discussion emphasises that the success of this convergence process depends heavily on the quality of ijtihad carried out by Islamic legal scholars, who must possess a deep understanding of global reality. Internal criticism of ideas that are no longer relevant, such as the division of the world into dar al-Islam and dar al-harb, must be radically carried out to strengthen the image of Islam as a religion that brings grace to all nature and becomes a strategic partner in building a more peaceful world order.

The reconstruction of the Islamic Law paradigm is necessary to make it a proactive alternative solution within a global framework. Islamic law has demonstrated its capacity to offer a more humanistic and transcendent concept of justice through constructive dialogue with international human rights standards and global civil law. The discovery that Sulh instruments and humanitarian diplomacy based on zakat-waqf have high effectiveness in conflict resolution and global poverty alleviation confirms that Islam has a substantial practical contribution to world civilisation.

Islamic law is no longer a closed legal system, but a dynamic one that can provide an ethical framework for the harmonisation of international law in the future (Saifnazarov et al., 2025).

Future projections suggest that Islamic jurisprudence will continue to move towards a strong methodological convergence without losing the richness of its local identity. The success of this transformation ultimately depends heavily on the collective courage to engage in honest internal criticism as well as a commitment to strengthening Islam's enduring universal values, such as justice, equality, and humanitarian fraternity. This sub-chapter provides strong recommendations for Islamic legal institutions and international legal experts to intensify their efforts in building a dialogue platform to formulate fairer global regulations. With this new paradigm, Islamic Law is projected not only to survive but to become one of the main pillars in creating a more harmonious, civilised, and equitable global civilisation order for all mankind.

CONCLUSION

This chapter concludes that Islamic Law has succeeded in transforming juridical dialectics that are very significant in responding to various contemporary global dynamics. The most fundamental finding in this chapter is the functional shift of classical ijtihad instruments, such as maslahah mursalah and istihsan, which have now evolved from mere secondary postulates to the principal methodological pillars for filling the legal void in new areas that lack explicit texts. The holistic kulli approach is now beginning to replace the textual-partial juz'i approach, thereby allowing for the integration of environmental protection, data sovereignty, and economic sustainability into a more adaptive maqasid al-shari'ah structure.

The primary scholarly contribution of this chapter lies in the formulation of the "Juridical Dialectic" model, which harmonises the progress of civilisation with transcendental values, while positioning Islamic Law as an equal dialogue partner for international law and as an instrument for global conflict resolution. This chapter proposes a new direction for Islamic jurisprudence that is more enlightening, just, and sustainable for human civilisation universally.

However, it has limitations in scope, focusing on phenomena with international impact over the last two decades and concentrating on the digital economy, biotechnology, and ecology clusters. As a recommendation, future research should expand its scope to include other specific socio-political issues and strengthen collective ijtihad involving cross-disciplinary experts more extensively. As a next step, Islamic legal institutions should establish a more intensive dialogue platform with international legal experts to formulate global regulations that are fairer and more responsive to changing times.

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CHAPTER 3
INTELLECTUAL PROPERTY AND DIGITAL TRANSFORMATION OF BUSINESSES IN MOROCCO

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INTRODUCTION

Digital technology appears to be a key driver of business competitiveness due to the cost savings it can generate, but above all because it is revolutionizing innovation. This innovation is directly related to a company's intellectual property . Indeed, in this digital economy , intellectual property has never been more important. Intellectual property rights constitute genuine economic rights. However, their exclusive nature and the contracts to which they are subject raise questions about the relationship between digital technology and intellectual property law (EL HAJOUI, 2007, p. 79).

Intellectual property can be a powerful tool for the digital transition of businesses, but the links between digital transformation and intellectual property cannot be reduced to the question of whether intellectual property is a hindrance or a lever for the digital transformation of businesses. Intellectual property is one of the components of a company's digital transformation, serving as both an intangible asset and a means of protection (BAUJARD, 2013, p. 162). Furthermore, intellectual property is a complex lever. The concept of intellectual property is based on the granting of exclusive rights to intellectual creations (GIRARDET, 2011, p. 116). Indeed, during the digital transformation of a company, many digital intellectual creations must be given sufficient legal protection. This is the case, for example, with the creation of a website, which is not limited to the design and production of HTML pages (II). It must also be given a name that will designate its address and thus enable users to identify it on the internet in order to access it. This is known as the domain name (I).

1. THE DOMAIN NAME

Domain names are a type of sign specific to the digital environment, which emerged within intangible assets. The domain name system serves to help users navigate the internet (AZEMA and GALLOUX, 2017, p. 314). The origin of domain names is primarily technical. The internet connects various resources, both physical (servers) and intellectual (documents). Each of these resources is uniquely identified by an IP (Internet Protocol) address consisting of a series of numbers separated by dots.

For example, the IP address of the World Intellectual Property Organization (WIPO) is 195.92.249.55, but since this address is difficult for Internet users to remember and use, it has been translated into logical language, which is www.wipo.int, by servers that make up the DNS, which ensure the correspondence between these domain names and numerical addresses (GRYNBAUM et al., 2014, p. 632).

A domain name can therefore be defined as a unique, universal name that allows a resource or document to be located on the internet and indicates the method of accessing it, the name of the server, and the path within the server. In other words, the domain name is the electronic name of the company and its address on the web. It fulfills the dual function of trade name and brand name (LE TOURNEAU, 2018, p. 579). Indeed, the explosion of the internet for the general public and e-commerce has propelled the domain name to the forefront of the digital scene. It is now a valuable and coveted corporate asset, prompting us to study how it is allocated. But beyond allocation, there is the issue of domain name regulation.

1.1 Domain Name Allocation

The domain name system, known as the naming system, comprises *generic top-level domains (gTLDs)* and *country code top-level* domains (ccTLDs) . gTLDs have a generic suffix corresponding to the nature of the registering organization and its activity. The best known are ".com" for commercial sites, ".org" for non-profit organizations, and ".edu" for educational institutions. *ccTLDs* have a geographical suffix indicating the country of origin of the site, such as ".ma" for Morocco, ".fr" for France, ".de" for Germany, etc. Each extension has a managing body that establishes a naming charter and registers the domain names it lists in a database. In some cases, a geographical area covers several countries, known as regional extensions, such as ".eu" for European countries or ".asia" for Asian countries. Due to the congestion of domain names, the creation of new generic domains has become necessary. This led to the relocation of the *gTLD* domain names ".edu," *".gov*," and "*.int*" to make them country names and, on the other hand, to the creation of seven new generic top-level domains (gTLDs) to better identify the nature of the site and reduce registrations under ".com."

As an alternative to ".com," it proposed ".store" for activities related to the sale of goods, ".web" for entities whose main activity is on the internet . In parallel with these developments, the World Intellectual Property Organization (WIPO) published a report dated April 30, 1999 containing a series of recommendations for ICANN . WIPO was very cautious about the creation of new generic domain names , believing that such an introduction would risk amplifying the phenomenon of cybersquatting. It therefore only recommended it on the dual condition that all the recommendations set out in its report be adopted and that the introduction of new gTLDs be carried out in a gradual and considered manner, allowing the consequences to be monitored and assessed (FERAL-SCHUHL, 2020, p. 975).

In 2008, at its international meeting, ICANN announced a new stage in the process of liberalizing domain name choices so that Internet users could create the internet address extension of their choice, in Latin or non-Latin characters. In May 2010, it finally authorized the use of non-Latin alphabets in URL addresses for the first time. Four geographical extensions have already been accepted with the ability to write in their own alphabets. These are Egypt, Russia, Saudi Arabia, and the United Arab Emirates . We will therefore examine the organizations that assign domain names on the internet and their allocation procedures.

1.1.1 Organizations that Assign Domain Names on the Internet

At the international level, the organization responsible for administering the internet network is a private American non-profit company called *the Internet Corporation for Assigned Names and Numbers (ICANN),* which has sole authority to administer the system worldwide. At the national level, the ANRT is the administrator of the ".ma" domain with ICANN. It is a public institution with legal personality and financial autonomy whose mission is to represent the holders of internet addresses corresponding to the national territory before international governmental and non-governmental bodies responsible for the international management of internet domain names. The ANRT is responsible for the administrative, technical, and commercial management of ".ma" domain names.

Its mission is formally established by Law 24-96 on postal services and telecommunications of August 7, 1997, as amended and supplemented by Law 29-06 of April 17, 2007.

The ANRT has several missions, namely: defining the regulations governing the management of the national ".ma" domain and monitoring their implementation, establishing administrative and technical management rules under transparent and non-discriminatory conditions, establishing the technical specifications necessary for the technical management of the ".ma" domain to meet the needs of all users and service providers and facilitate the registration of new domain names, the protection of end users against the misuse of ".ma" domain names, the establishment of rules governing the management of disputes over the use of ".ma" domain names, and finally the guarantee of the continuity of ".ma" domain name registration services.

1.1.2 The Terms and Conditions for Assigning Domain Names

ICANN's first action since its creation was to privatize the gTLDs ".com", ".org" and ".net" in April 1999, thereby opening up the market for the registration of these gTLDs to competition . To this end, nearly a thousand registrars have been accredited by ICANN and are authorized to assign domain names. The registration of a domain name, subject to compliance with substantive conditions, takes place at the end of a specific procedure.

In addition to these technical requirements, there are a number of legal requirements relating to the registration of domain names. These requirements are essentially derived from the rules applicable to ccTLDs, as ICANN imposes few restrictions on the freedom of registration for gTLDs. They can be classified into two categories: domain names must not infringe the rights of third parties, and they must be lawful.

ICANN entrusts the management of TLDs to organizations called registries, chosen on the basis of their reliability, through contracts of varying nature, referred to as Memoranda of Understanding or Sponsorship Agreements. In most cases, the operation of ccTLDs is entrusted to public bodies in the countries concerned. For example, the registry chosen by ICANN to manage the ".ma" domain is the ANRT. In turn, registries enter into contracts with registrars, which they accredit.

These offices, which act as intermediaries between the registration authority and domain name holders, are responsible for processing applications for the registration, renewal, transfer, or deletion of domain names. They often offer other services as well, such as hosting internet resources or creating websites (Grynbaum Et al, 2014, p. 637).

As each domain name is unique, a prior art search must be carried out to check its availability. To this end, the applicant can use the WHOIS database. Once availability has been checked, the domain name can be registered in accordance with the contractual terms and conditions imposed on the applicant. For the main gTLDs, particularly ".com," the rule is first come, first served. This means that each applicant can choose the name they want, provided it has not already been registered. In other words, the first person to choose a particular domain name will be the only one who can use it in the future.

In fact, no formalities are required of the applicant prior to registering a generic domain name. The applicant therefore does not have to provide any justification for the domain name they have chosen, which will be assigned to them if no one else has requested it before them. The registration form that they must complete only requires the applicant to declare that, to their knowledge, they are not infringing on the rights of a third party (Feral-Schuhl, 2020, p. 982). Finally, the registration of a second-level domain name is carried out through a contract between the applicant and one of the registrars designated by the registry. Under this contract, the registry undertakes, in return for payment of a fee, to register the domain name in the requested extension with the competent registry, without however being able to guarantee its allocation, as the decision rests with the registry.

The rules for choosing a domain name in the ".ma" zone are defined by Decision No. 12-14 of November 21, 2014, issued by the ANRT, relating to the administrative, technical, and commercial management of ".ma" Internet domain names. According to Article 5 of this decision, the allocation and registration of a domain name is subject to syntactic constraints. As domain names can only exist once worldwide, they are allocated on a first-come, first-served basis. However, there are some exceptions, such as certain terms whose registration as domain names is subject to specific conditions relating to the identity and rights of the applicant.

The list of reserved terms is available on the registry's website and is regularly updated by the ANRT. Article 6 of the ANRT decision also stipulates that the registration of a domain name may be refused if it undermines national security or public order or, conversely, morality or public decency. Similarly, it must not undermine religion, language, culture, political opinions, or th , nor use terms with racist connotations.

An agreement called a service provider agreement is concluded between the ANRT and any registered service provider. This agreement defines the rights and obligations of both parties and the administrative and technical conditions for service providers to access the registry . The marketing of ".ma" domain names is carried out exclusively by service providers. In this case, anyone wishing to register a ".ma" domain name must contact a service provider. The domain name holder registers on an annual basis for a period of 1 to 5 years, renewable. The service provider is required to register the domain name with the registry for the same period requested by the holder . This is how the chain of contracts that governs the domain name system is composed. The multiplicity of actors involved in this contractual chain is a source of complexity. In particular, it raises questions about the legal status of domain names.

1.2 Domain Name Regulations

Much more than just an address, the domain name has become a virtual brand name with significant economic value, as well as a natural extension of the trademark. In just a few years, it has acquired the status of a distinctive sign, making it impossible, and even dangerous, to devise a trademark protection strategy without implementing an equivalent strategy for domain names. Protecting a domain name is therefore essential for any company with a website, and to do so, domain name regulation is indispensable. It therefore seems appropriate to consider the legal status of domain names before examining the legal tools put in place to protect them.

1.2.1 The Legal Status of Domain Names

The question of the legal status of domain names has still not been resolved and remains a sensitive and debated issue.

The primary reason for this lack of status that can be cited is the absence of legal and regulatory provisions. Law 24-96 on postal services and telecommunications of August 7, 1997, as amended and supplemented by Law 29-06 of April 17, 2007, as well as Decision No. 12-14 of November 21, 2014, issued by the ANRT, were certainly adopted with a view to regulating the allocation and administrative and commercial management of domain names. However, this body of law only concerns domain names that fall under the ".ma" extension.

The second reason for this ambiguity can be explained by the multiple functions that domain names fulfill. While domain names were initially created to serve as digital addresses, this role evolved as the web opened up to the public. Internet users, particularly commercial companies, quickly realized that domain names were more than just addresses for accessing a remote server. They saw them as a great way to assert their identity, or even their company name, and to distinguish their platform from competing websites. As a result, domain names quickly came to serve as distinctive signs (Hass And Bamde, 2016, p. 63). This is how uncertainty about their status arose. Due to the distinctive nature of most domain names, the analogy with trademarks easily comes to mind (Le Tourneau, 2018, p. 579). Like trademarks, domain names appear, at first glance, to be distinctive signs whose function is to indirectly designate the products or services offered on the websites of the corresponding companies. Domain names have thus been successively described as a rallying point for customers to the site they identify, a virtual store, or even an electronic equivalent of a brand name.

However, these comparisons must be qualified for several reasons. On the one hand, not all domain names are similar to distinctive signs, in the sense that some of them, due to their descriptive or generic nature, do not allow the origin of the products or services with which they are associated to be identified, for example "hotel.com". In other words, while trademarks designate the products or services of a specific company, non-distinctive domain names function, for the public, as a tool for searching for products or services without reference to a particular company. On the other hand, even if they are distinctive, domain names cannot be equated with trademarks.

Indeed, beyond their similarity, which is particularly due to the monopoly conferred on the owner of the sign, there are fundamental differences between these two types of signs that prevent the rules specific to trademarks from being applied to domain names (HONORAT, 2010, p. 92). While a trademark is a title of ownership, with territorial scope, issued by a public authority, ownership of a domain name, which is essentially an international sign, results from a contractual registration.

Furthermore, some legal scholars advocate for the classification of domain names as objects of property. Their arguments are based primarily on the exclusive nature of the right conferred on the owner by the registration of a domain name. However, while exclusivity is indeed the essence of property, the exclusive nature of the domain name is not sufficient to qualify it as property. Indeed, the qualification of property is subject to several conditions, including the requirement of a risk of confusion. Therefore, in support of the refutation of the classification as property, now shared by a large part of legal doctrine, it should be noted that the temporary exclusivity of use of a domain name, due to its registration, does not imply the existence of a property right over the domain name because there is no property without legal authorization. For all these reasons, the classification of domain names as property is inappropriate.

This reveals the complex legal nature of domain names, which are not subject to intellectual property rights but which confer a monopoly on their beneficiaries. We can therefore conclude that the registration of a domain name confers on its holder an exclusive right of use over a sign that neither they nor the agency owns. In the absence of a classification as part of the public domain, domain names tend to fall into the category of common property, defined as property that belongs to no one but is subject to regulated use (Grynbaum et al, 2014, p. 643). The ambiguous status of domain names, illustrated by their difficult legal classification, raises the question of their protection.

1.2.2 Protection of Domain Names

As noted above, neither the distinctive character of a domain name nor its registration is sufficient to confer legal protection.

Therefore, in the absence of private rights and specific provisions governing the status of domain names (Azema And Galloux, 2017, p. 1167), their protection can only be ensured on the basis of civil liability, the implementation of which requires the characterization of a harmful fault. To do so, judges will first examine whether the domain name in question is being exploited. Registration alone is not sufficient. It must be demonstrated that the distinctive sign in dispute is likely to cause confusion. The protection of the domain name is therefore dependent on the use made of it. In other words, the mere registration of a domain name does not confer any protection f its owner. The sign only becomes protectable if it is actually exploited. Furthermore, in order to be effectively exploited, a domain name must lead to an active website presenting products or services, and not simply to a page under construction.

Once the effective use of the domain name has been demonstrated, its owner will be entitled to bring an action for unfair competition. For their action to be successful, however, they will have to prove fault, damage, and a causal link. The difficulty will then lie in characterizing the first element of this triptych: fault. This consists of the contested distinctive sign creating a likelihood of confusion in the mind of the public. To demonstrate the existence of this likelihood of confusion, the claimant must prove that two conditions are met: prior use and imitation of the domain name for which protection is sought.

Firstly, the condition of prior use is self-evident. A person claiming ownership of a domain name can only accuse their opponent of unfair competition if they can establish that their use of the domain name predates that of the distinctive sign whose use they are contesting. The existence of prior use will be assessed in light of the principle of specialty. The reason for this is that the protection of distinctive signs, regardless of their nature, is always relative, except in the case of a well-known trademark. In other words, they only enjoy protection for the class of products or services with which they are associated. Thus, the French Court of Cassation had the opportunity to affirm in a ruling of December 13, 2005, that "*a domain name can only infringe on a prior trademark if the products and services offered on that site are either identical or similar to those covered by the trademark registration and are likely to cause confusion in the minds of the public*".

The same reasoning can be applied in cases where the prior right consists of a distinctive sign other than a trademark (Le Tourneau, 2018, p. 585).

Proof of prior use is not sufficient to characterize the likelihood of confusion; it must be accompanied by evidence of a limitation on the domain name. More specifically, this second condition requires the complainant to establish that the imitation of a domain name of which they are the owner is such, either because the signs are identical or because they are similar, as to mislead the customer as to the origin of the goods or services designated, to the extent that it results in a diversion of customers (Hass And Bamde, 2016, p. 66).

2. THE COMPANY'S DIGITAL CREATIONS

In the digital world, to exist means to be visible. Visibility is a major issue for companies, and their digital creations are at the heart of this problem. The challenge is to harmoniously combine the real world and the digital world while keeping companies' creations at the heart of the protection system. In this context, blockchain technology is experiencing a boom, particularly in the field of intellectual property , in this case digital creations, as this technology could facilitate proof of prior rights, enable rights to creations to be proven, and ensure the traceability of transactions. A debate on the challenges and benefits of blockchain is needed.

2.1 Protection of A Company's Digital Works

The current form of copyright law stems from Law 2-00 on copyright and related rights. According to Article 2 of this law: "All authors shall enjoy the rights provided for in this law in respect of their literary and artistic works. The protection resulting from the rights provided for in the previous paragraph shall apply from the moment the work is created, even if it is not fixed on a physical medium." The concept of digital works does not exist as such in positive law. In practice, however, it covers an omnipresent reality. The majority of works produced today within companies include a digital dimension; even the most traditional creations are now exposed to the world of interactivity. For example, a text may be enriched with links to other digital content (Gelles And Poıdevın, 2015, p. 114).

The concept of digital works lies at the intersection of software works, audiovisual works, and databases, and is similar to what is also known as multimedia works. Digital works cannot be confused with software works as such, even if, for example, a website can only be created and viewed using software tools, insofar as such software remains a means to an end and not the creator's ultimate goal.

The concept is also similar to that of a database, defined in Article 1 of Law 2-00 as: "Any collection of works, data, or other independent elements, arranged in a systematic or methodical manner and individually accessible by electronic means or any other means." Insofar as the website internet provides content presented as a set of elements that the internet user can access according to the navigation principles chosen by the creator of the website concerned, it constitutes a database within the meaning of the aforementioned article of Law 2-00 on copyright and related rights. Digital works also borrow certain characteristics from audiovisual works, as they also present textual elements associated with sound and visual aspects.

Ultimately, a digital work can be defined as any creative work incorporating one or more of the following elements on the same medium: text, sound, still images, moving images, computer programs, whose structure and access are governed by software enabling interactivity. The problem is that, to date, there is no legal regime specific to digital works, and that the latter borrows its principles of protection from different types of works to which we have referred, namely software works and databases, in particular the website . However, these works are often created by employees in the course of their employment contract. In this context, one of the priority issues of concern to companies is the legal uncertainty affecting the creation of digital works by their employees.

2.1.1 Software Protection

The question of how to protect software has always caused this unique object to oscillate between industrial property and literary and artistic property. On the one hand, there is the industrial logic of its mode of creation, but on the other hand, there is also the creation of form through its writing.

The oscillation is also conceptual, since the copyright in question is a very specific right (Macrez, 2011, p. 47). Applied to software, it can be described without exaggeration as a right similar to patent law (Schmıdt-Szalewskı And Pıerre, 2007, p. 132). In this sense, software lies between patents and copyright. But in truth, software can be described as both a work of the mind protected by copyright and a patentable invention.

In Morocco, Law 2-00, as amended and supplemented by Law No. 34-05 and Law No. 72-12, settles the issue by adding computer programs to the list of works protected by copyright . The law on literary and artistic property does not specify that, in order to benefit from copyright protection, software must be original in an manner. Nevertheless, this condition stems from the very principles of literary and artistic property. Therefore, only software that is original in nature is protected by copyright. The criterion of originality is the only substantive condition necessary for software to be protected by copyright (Pıgnataro And Cousın, 2016, p. 248). However, in the absence of a legal definition, it can be considered that a work is only protectable if it bears the imprint of its author's personality. This condition, which is not particularly suited to software, has nevertheless evolved. Software is protectable if its source code bears the mark of its author's intellectual contribution. "Originality must therefore be understood as a personalized effort that goes beyond the simple implementation of automatic and restrictive logic, and the materialization of this effort lies in an individualized structure ." Originality is assessed based on one of the author's specific design choices.

Software protection does not extend to ideas, only to the literal and mathematical expression of the programs that form the basis of the software. Only the form in which these ideas are expressed can be protected by copyright, i.e., the materialization of the author's work. Sometimes they are integrated into household appliances or cars, but in general they are inserted into physical media such as a CD or USB key. In this respect, it should be noted that it is the software itself that is protected (Fauchoux Et Al, 2013, p. 270).

As for copyright ownership, moral rights over software belong to the author. The author of the software may require that the work bear their name. In practice, the author's name appears on the software medium or in the technical documentation accompanying it.

Similarly, in order to respect the work, the author may oppose any modification that is prejudicial to their honor or reputation. In the United States, the word "Copyright" is affixed to works, giving them international protection. The author of a software program then has the choice of releasing their software to the public. However, in the case of creations by employees within a company, the economic rights relating to the software are automatically transferred to the employer.

In addition to moral rights, the author enjoys economic rights over his or her program. The right of exploitation belonging to the author of a software program includes the right to make and authorize, namely, the permanent or temporary reproduction of a software program in whole or in part, by any means and in any form. Insofar as the change, display, execution, transmission, and storage of this software require reproduction, these acts are only possible with the author's authorization. Representation is also subject to the prior authorization of the software author and consists of communicating the software to the public by any possible means, translating or adapting the software, or selling, distributing free of charge, or renting this software.

We cannot talk about software without referring to algorithms. These constitute an essential asset for certain companies involved in the exploitation of digital data and, as such, deserve protection. However, as intangible creations, they enjoy only limited, even uncertain, protection. An algorithm is a mathematical principle. It falls within the realm of ideas, which are not protectable. In practice, algorithms are creations integrated into the source code of software (Boizard, 2018, p. 100). However, as mentioned above, software is protectable by copyright as long as it is original. When it comes to algorithms, the condition of originality will be difficult to prove, as illustrated by a ruling of the French Court of Cassation on November 14, 2013.

A publisher brought an infringement action against Microsoft Corporation for reproducing accounting software that it had designed. The Court dismissed the infringement claim due to the lack of evidence to prove the originality of the software, such as programming lines, codes, flowcharts, or preparatory design material. This decision highlights the limitations of copyright protection, which does not protect software as a whole: the functionalities of software are not protected in themselves.

With regard to software, the situation is, ultimately and schematically, as follows. On the one hand, there is copyright, with very specific qualification criteria and legal regime, but which has been codified within the general provisions of copyright law. On the other hand, there is a patent that was granted illegally, or at least according to an interpretation of the law that can be seriously challenged, particularly before a court of law. In other words, sui generis copyright and a patent that is contra legem, but presumed valid (MACREZ, 2011, p. 48). It should be noted that, in addition to legal protection, there is also protection based on technical measures (Mattatıa, 2021, p. 117).

On the one hand, the promotion of unsealing tools is prohibited. Thus, any advertising or instructions for use relating to means of removing or neutralizing any technical device ( ) protecting software must mention that the illegal use of such means is punishable by penalties for counterfeiting . On the other hand, it is prohibited to use "unsealing" tools. It is prohibited to possess for personal use or to use tools that circumvent measures protecting works. This was the case for a computer science student who developed software that allowed unauthorized copying of works on Deezer.com by circumventing protection measures, and who created a website to distribute this software . The student was found guilty of fraudulent access to the Deezer system, circumvention of an effective protection measure, and making circumvention tools available to the public, thereby incurring fines and damages.

Nevertheless, software users are granted a certain right to decompile, in particular to ensure the interoperability of the software, even if it is protected by a technical device. Article 21 of Law 2-00 grants the right to freely reproduce and adapt computer programs: "The legitimate owner of a copy of a computer program may, without the author's authorization and without payment of separate remuneration, make a copy or adaptation of that program, provided that such copy or adaptation is necessary for the use of the computer program for the purposes for which the program was obtained, or necessary for archiving purposes and to replace the lawfully held copy in the event that it is lost, destroyed, or rendered unusable."

The text adds that "no copy or adaptation may be made for purposes other than those provided for in the two preceding paragraphs of this article, and any copy or adaptation shall be destroyed in the event that the continued possession of the copy of the computer program ceases to be lawful."

2.1.2 Protection of Databases: Example of A Website

The internet presents many difficulties for lawyers specializing in copyright law. Indeed, the internet feeds on many intellectual creations and also encourages the creation of new works: online games, websites, etc. (Azzı, 2011, p. 32). This raises the question of how to protect these new assets. We will therefore focus on how to protect databases, using websites as an example. Article 3 of Law 2-00 on copyright and related rights lists a number of creations considered to be intellectual works protected by copyright. Although not expressly referred to in this text, the website is likely to be protected by copyright under certain conditions.

The website may be protected by copyright in various ways. First of all, its title may be protected under the same conditions as the titles of other works, in addition to domain names. In terms of content, the site is powered by software that deserves legal protection. The creation also contains text, images, and sounds, all of which are protectable elements. The same applies to the database(s) contained on the site, when the site as a whole is not considered to be a database. Finally, the site contains hypertext links that not only may infringe copyright by allowing unauthorized downloads, but may also be considered as objects of rights. It is therefore not surprising that these sites have been described as "crossroads of rights" (Vıvant, 2012, p. 115).

The content and architecture of the website may be protected by copyright in terms of its presentation and various elements, i.e. a screen page, graphics, or animation that is sufficiently original to qualify for this protection of intellectual works. It should be noted that while the reproduction of certain elements of a website constitutes an act of infringement , the copying of certain other elements is lawful insofar as, taken separately, they do not meet the conditions set by copyright law. Indeed, technical elements are excluded from the scope of copyright protection. Furthermore, the simple concept of a website is not protected by copyright.

Ideas are free to circulate and cannot in any way be appropriated (Mattatia, 2021, p. 43). Intellectual works are protected, as we know, provided they are original. This originality is defined as the expression of the creative capacity of the author making free and creative choices. Therefore, if a site is limited to filling in sections (e.g., a Facebook profile), the lack of originality prevents it from being granted this protection.

Copyright consists, as we know, of two sets of prerogatives: moral rights, first, and economic rights, second. Our discussion will focus primarily on moral rights. It should be noted, however, that moral rights, and more specifically the right to respect for the work, can be abused on social media. There are many techniques that can alter a work on the internet. These include morphing (which allows certain distortions), framing (i.e., superimposing an image collected from another site), and certain methods of streaming films on video-sharing platforms. Copyright includes, alongside moral rights, as specified in Article 10 of Law 2-00, attributes of a patrimonial nature. These economic rights allow the author to control the circulation of their website , to transfer it, rent it, pledge it, divide it, etc., all of which are legal operations intended to profit from the creation and which can be challenged on the internet (Fauchoux Et al, 2013, p. 272).

2.1.3 The Legal Regime Governing Digital Works Created By Employees

Persons protected by law may be independent creators. In this case, the independent designer will be the owner of the literary and artistic property. It should be noted that this is not always the case in the field of information technology. Most often, programs or software are the work of multiple authors. In this case, the program is a collaborative work, a collective work, or a composite work, depending on whether or not the participation of each author can be determined. Each author will have a separate right to the whole work. In most cases, the rights to the whole work are exercised by a legal entity (usually a service company) that is the assignee of these rights. This is the case with websites, which can be classified as composite works. A website may potentially consist of pre-existing protected works such as photographs, music, texts, software, etc.

The use of the site must therefore seek the authorization of the rights holders of the original works in order to be able to legally reuse them. This is often the case for graphic designers who design and create the graphics for a website such as . Any reproduction of a pre-existing work without authorization could be considered infringement .

Furthermore, the website may well be created under the conditions of a collective work. The latter allows, on an exceptional basis, a legal entity to be vested with copyright, given the predominant role it plays in the creation of the work. A collective work is created on the initiative of a natural or legal person, who edits, publishes, or discloses it under their direction and name (BOUHENIC, 2015, p. 48). In the case of a collective work, the contributions of each participant merge into the whole. Unless proven otherwise, the collective work is the property of the natural or legal person under whose name it is disclosed . Finally, a website can also be described as a collaborative work depending on the conditions of its creation . These are works created by several natural persons, with the personality of each author being discernible.

But the question arises when there is a situation of dependency. The author whose website is going to be exploited may find themselves in a situation of legal dependency. This is the case for creations by employees , a point on which we will focus exclusively, and this raises the question: Who should own the work, the website, created within the framework of the employment contract? This is a particularly sensitive issue in terms of creation or development that can be protected by copyright in general and the internet in particular.

According to Article 35 of Law 2-00 on copyright and related rights, when a work is created by an author on behalf of a natural or legal person, in other words the employer within the framework of an employment contract and their employment, unless otherwise specified in the contract, the first holder of moral and economic rights is the author, but the economic rights to this work are considered to be transferred to the employer to the extent justified by the employer's usual activities at the time of the creation of the work. As a result, contractual management upstream of the issue is essential.

Unless otherwise agreed, works created by interns or temporary workers do not belong to the host organization or internship supervisor, but generally to the original training institution or the intern themselves. The same applies to temporary workers, whose protectable works generally belong, contractually, to the temporary employment agency. It is therefore important to consider, before taking on an intern, the formalization of a binding agreement for the transfer of rights, covering all interested parties for greater security (Gourıon and Ruano-Phılıppeau, 2003, p. 268).

Several proposals are being considered to ensure legal certainty for operators of digital works. First, one possible solution to secure the legal regime applicable to digital works could be distributive application. In other words, the application of the legal regimes specific to each of its components. A company developing a digital work would apply the software regime to those of its employees who are programmers and who created the software components of the digital work produced. It would, as a corollary, apply the common law regimes applicable to these matters to its employees who created the graphics, text, or music. The employer must therefore identify each of the authors who participated in the creation of the digital work in question and classify the creations of the various authors in order to apply the corresponding legal regime (Gelles And Poıdevın, 2015, P. 117).

However, legislative intervention to enshrine the proposed relaxations would be one of the avenues to consider in order to facilitate the implementation by employers of an accessible policy for managing their employees' intellectual property rights . In practice, it is common to find that many companies do not do so and expose themselves to undeniable legal uncertainty that not only puts them at risk of litigation but also weakens them in an international context.

In addition, some voices are calling for the definition and creation of an ad hoc legal status for digital works. However, there are already a number of obstacles to such a specific creation. Among them is, primarily, the difficulty of developing a clear definition of a digital work that would benefit from the specific regime thus created. Few countries have opted for such a choice. For example, the countries most active in the field of video games (such as the United States and Japan) have mostly chosen to link this type of digital work to the legal regime in force for existing categories of works.

Nevertheless, at the European Commission level, a directive on copyright in the digital single market was adopted in 2019. This new directive is based on previous texts relating to literary and artistic property or e-commerce . The European authorities considered that the rapid evolution of technologies had to be taken into account in order to maintain the high level of protection in place while seeking to secure cross-border uses without hindering the evolution of technologies (Sırınellı, 2019, p. 279).

2.2 The Issues And Challenges of Blockchain In Intellectual Property

Blockchain can change the world. This decentralized technology, which operates outside any general framework or public institution, is therefore of interest to legal . We will limit ourselves to the question of whether blockchain can change the world of intellectual property . To answer this question, we need to understand what we are talking about. The process is complex and involves technical, non-legal vocabulary. This process is proving very popular in the field of intellectual property, as this technology could facilitate the proof of prior rights, enable the rights to creations to be proven, and ensure traceability. Nevertheless, risks and uncertainties remain.

2.2.1 The Steps Involved In Recording A Transaction In the Blockchain

The blockchain used in intellectual property can be explained concisely and concretely in the following steps. First, a digital document in the form of a design or model is transformed into a digital fingerprint called a hash, which is an alphanumeric sequence. Next, a person (the author of the digital document, a third-party company, etc.) records the fingerprint number in a transaction on the blockchain; This is known as anchoring the fingerprint. To register a transaction, the user needs a public key and a private key (associated with the public key, personal and secret), which is used to authenticate the transaction. What is recorded on the blockchain is neither data nor an original document, but a "hashed" digital fingerprint that describes the work. This fingerprint includes part of the digital fingerprint of the previous block.

This is why we talk about a "blockchain," because all of the hashed transactions are recorded in blocks that are linked to each other. It is important to bear in mind the main characteristics of this digital fingerprint. On the one hand, it is unique, meaning that no two documents can have the same cryptographic fingerprint (if you change a comma, the fingerprint will be different). On the other hand, hashing only works in one direction: we go from the digital document to the hash, which is a function that cannot be reversed. In practical terms, this means that even though anyone can access a public blockchain, it is virtually impossible to reconstruct the document that has been hashed and placed on the blockchain, which guarantees the confidentiality of the information recorded on the blockchain. Finally, the transaction is then shared among the nodes in the network to be validated by miners. To validate, miners must solve mathematical operations using algorithms on computers. This resolution work is referred to as proof of work. The first miner to successfully solve the mathematical problem is rewarded with cryptocurrency and proposes the validation to the others. To be recorded on the blockchain, the transaction must be validated by 51% of the miners (Legrand, 2019, p. 86).

The main characteristics of blockchain can be summarized as follows. It is decentralized, meaning that there is no need for a central authority to validate and store information. It is duplicated; there are many synchronized copies of the information, ensuring its resilience. Blockchain is irreversible—no entry can be modified or deleted—and authenticated, since each piece of information is unique and genuine to a single user who may choose to remain anonymous.

Blockchain has three main functions. It ensures the transfer of assets, constitutes a digital register, and facilitates the automatic execution of contracts (smart contracts). Only the last two aspects are of primary interest to intellectual property . To date, we are seeing several use cases developing in intellectual property . Indeed, there are systems for dating creations related to copyright, systems for managing the remuneration of rights holders with smart contracts. There are also intellectual property title registers and private internal company registers (laboratory notebooks or digital creation logs). In addition, there are projects to improve the fight against counterfeiting by using blockchain to improve product proof and traceability.

2.2.2 The Acceptance Of Blockchain As A Means of Proof In Intellectual Property Matters

Evidence is central to civil infringement proceedings . Indeed, anyone bringing an infringement action must successively demonstrate the existence of intellectual property rights , the ownership of those rights, and that those rights have been infringed. In order to determine how blockchain evidence could be received by the judge and to what extent it could compete with or even supplant the means of evidence used to date, a distinction must be made according to the rights in question.

Patents, trademarks, and designs are industrial property rights, granted following an administrative procedure, which confer on their owner a monopoly on their use. To prove the existence of the rights they claim, applicants must produce a title and, where applicable, prove that it is still valid. In reality, there is nothing to prevent the holder of this industrial property title from converting it into a digital fingerprint and then anchoring this fingerprint in a blockchain. However, in court, only the title is valid, and this can only be obtained after the formalities required by law have been completed with the competent office responsible for issuing it. It follows that, at this stage, the use of blockchain is of little or no interest.

The situation is different when it comes to copyright. According to Law 2-00 on copyright and related rights, the author of an intellectual work enjoys, by the mere fact of its creation, an exclusive intangible property right that is enforceable against all. Thus, copyright protection is not subject to any formalities. In the absence of a title, anyone claiming rights to a work must provide proof of both the date of creation and the content of their creation.

However, blockchain technology makes it possible to prove that a document was anchored on the date the miners validated the transaction. Blockchain will play a role in time-stamping the creation. The plaintiff in an infringement action will be able to produce a digital certificate in court, attesting to the date on which the work's fingerprint was anchored. Furthermore, the entry on the blockchain proves the content of the creation, thanks to the link between the document describing it and its fingerprint.

For example, the author will be able to produce the original of their creation and the hash entered on the blockchain in court and compare it with the hashed fingerprint on the blockchain.

Since evidence is free, the judge has no reason to dismiss such a certificate a priori; on the contrary, he must examine it. However, under current law, this means of evidence has no greater probative value than the other elements submitted to him; contrary evidence may therefore be produced by the opposing party and will be given equal consideration by the judge. Above all, the question arises as to under what conditions the correspondence between the claimed work and the digital fingerprint recorded on the blockchain will be established. This operation requires the translation of an intelligible language into an encrypted language. The courts may require the claimant to use an expert or a bailiff to carry out this translation or to verify the material conditions in order to ensure its complete reliability (Legrand, 2019, p. 85).

It should also be noted that it is not enough to establish the date and content of a creation in order to benefit from copyright protection; the creation must also be original. However, the blockchain obviously does not allow for proof of the originality of the work to be provided. The plaintiff in an infringement action must also demonstrate and prove ownership. In the case of patents, trademarks, and registered designs, proof of ownership results from the application of the legal and regulatory provisions in force, the information contained in the industrial property title, and any entries in the registers of acts affecting the ownership or enjoyment of the deposit concerned. It is therefore these elements, and these alone, that the judge will examine. Here again, there is nothing to prevent, for example, a deed of assignment from being anchored in the blockchain, but its enforceability against third parties is conditional upon its registration in the register.

In terms of copyright, and despite the absence of a title, the use of blockchain does not seem to facilitate proof of ownership either. The document describing the allegedly infringed work is anchored using two keys, one public and one private; the identity of the person who performs this anchoring who, incidentally, is not necessarily the author of the work is therefore not mentioned. The author's name may be indicated in the initial document, but only their cryptographic fingerprint is anchored on the blockchain.

However, as mentioned above, this fingerprint does not constitute disclosure of the work; the mention of the author's name is therefore purely declarative and has no legal effect (Canas, 2019, P. 82).

The contribution of blockchain at the stage of proving ownership of rights therefore seems to be extremely limited. However, it could prove useful in two specific scenarios. On the one hand, in the case of a plural work, and more specifically a collaborative or collective work, blockchain technology makes it possible to protect all stages of creation as they occur, which, in the event of a dispute, will make it easier to determine each party's contribution. On the other hand, the defendant could use blockchain technology to justify their own rights and thus attempt to overturn the presumption of ownership, which is a simple presumption that can be rebutted by evidence to the contrary.

Furthermore, blockchain technology makes it possible to ensure the traceability of a product and thus verify its authenticity. It could therefore be an extremely useful tool for demonstrating that a product placed on the market by a third party is a counterfeit , regardless of the intellectual property right in question. Such evidence appears to be perfectly admissible, provided that the counterfeiting can be proven by any means. To justify the infringement of their intellectual property rights , and subject to the technical constraints already mentioned, the plaintiff in the infringement action may therefore submit evidence to the court by recording each stage in the life of the product covered by these rights on the blockchain: design, manufacture, transport, distribution, and marketing.

However, this is not perfect proof for several reasons. First, it is not sufficient to prove that the product alleged to be counterfeit cannot be linked to the blockchain created by the rights holder in order for the infringement to be established with certainty. The judge will likely rely on other evidence to determine whether a trademark, design, or work has been unlawfully reproduced or restricted. Above all, the judge will be required to examine the other elements necessary to characterize the infringement. Furthermore, blockchain evidence does not have greater probative value than other evidence, and the judge will therefore have sole discretion to assess its value and scope. Finally, blockchain must comply with the principle of fairness in the administration of evidence.

This raises questions about the conditions under which information stored on the blockchain must be collected and analyzed in order to be considered admissible evidence.

2.2.3 Risks and Uncertainties Hindering Blockchain Evidence

The risks and uncertainties surrounding the technology are still very significant at present. Some technological risks may even call into question the use of blockchain as a means of providing proof (Joly, 2018, P. 537). As mentioned above, blockchain is a kind of digital passport that guarantees the authenticity and traceability of goods. However, there is always the risk that a transaction may not be recorded in the blockchain for one reason or another. For blockchain to be effective, therefore, the entire marketing chain must be controlled. However, a specialist in distribution law knows how difficult it is to ensure the integrity of a distribution network in order to combat off-network resales. This difficulty will also be encountered with blockchain. The network leader will have to control its entire network so that the blockchain can trace all transactions and guarantee the authenticity of the product until it is purchased by the customer.

Furthermore, blockchain is presented as a tool that would democratize intellectual property law , as the cost of registering on the blockchain would be low. This is true, as the amount of remuneration for miners is low at present. However, this remuneration is based on supply and demand, and the price of cryptocurrencies is extremely variable. It is also conceivable that in the short, medium, or long term, miners will only agree to mine well-paid transactions quickly and will mine poorly paid transactions with a long delay. It is therefore not certain that the cost will always remain low.

Furthermore, everyone knows that no technology is 100% reliable. There are two risks: the risk of hacking and the risk of data tampering. The public blockchain is considered tamper-proof because, as mentioned above, transactions must be validated by 51% of miners in order to be recorded on it. As a result, it is virtually impossible to modify the content of a public blockchain, as this would require 51% of the mining computing power. However, the miners who validate and store transactions are supposed to be motivated by good intentions.

The question that arises, therefore, is the risk of collusion between miners to modify the content of the blockchain. Of course, to delete or modify part of the data, it is necessary to go back to the other previous data, since the blocks are linked together. Such an operation is very cumbersome, and becomes even more so as the blockchain grows longer.

In addition, blockchain is a technology. However, everything changes and everything passes. It is therefore legitimate to wonder whether blockchain will be sustainable, as this technology relies on the trust that operators have in the system. Trust is fragile, especially if computer vulnerabilities arise. Blockchain is also very energy-intensive, as mining requires very powerful computers. Scientists are considering new mechanisms, and lawyers are wondering whether blockchain is already outdated. However, intellectual property rights , for example, copyright, are valid for 70 years for copyright . Even if there is no absolute certainty, we can therefore assume that blockchain will be sustainable (Maraurıe-Vıgnal, 2018, p. 533).

Finally, the characteristic of any innovation is that it is constantly evolving. There is no doubt that, over time, blockchain technology will evolve to meet the challenges mentioned above, particularly the legal challenge. This raises the question of compliance with regulations on the protection of personal data. Blockchain is often presented as perfect proof, because thousands of miners are, in fact, competing to validate transactions. In addition, blockchain is not based on trusted individuals (who are not always recognized by all states), but on a technology subject to cryptography, hashing, which is universal. However, it will be necessary to debate and determine whether this proof is superior to other methods of proof used to date.

CONCLUSION

As outlined above, the measures taken undoubtedly contribute to the establishment of a secure digital environment in Morocco, thereby promoting interest in and use of digital technology within businesses. Nevertheless, it appears that Moroccan lawmakers are lagging behind in terms of digital regulation and should therefore follow the example of their European counterparts in order to lay the foundations for a new economic and legal phase focused on the digitization of businesses.

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CHAPTER 4
EXPLORING CONSUMER JOURNEYS IN DIGITAL FINANCE: THE ROLE OF MOBILE MONEY IN TRANSFORMING FINANCIAL INCLUSION

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INTRODUCTION

In the fast-changing world of finance, digital financial services are now a backbone of contemporary economies. Among such services, mobile money is one of the revolutionary instruments for financial inclusion. Mobile money enables one to send, receive, and hold money using mobile phones, providing financial services without a bank account. With more than 1.7 billion adults in the world being unbanked (World Bank, 2022) mobile money has filled the gap, opening access to essential financial services like remittances, savings, and micro-loans. The growth of mobile money is closely related to the expanding penetration of mobile phones in developing markets. In areas such as Sub-Saharan Africa and South Asia, where conventional banking infrastructure is weak, mobile money has transformed financial systems by offering a viable alternative. The best-known is M-Pesa, introduced by Safaricom in Kenya in 2007. This service has enabled millions of unbanked people to transfer and receive money, settle bills, and even borrow money, all from their mobile phones.

The importance of mobile money is that it can increase financial inclusion by providing services that were not available to significant portions of the population before. In a report by the Bill & Melinda Gates Foundation (2020) , more than 50% of the world's population now has access to some kind of mobile financial service, a clear demonstration of how revolutionary mobile money has been. Mobile money is not only a convenience tool but an entry point to economic inclusion for marginalized groups. The "consumer journey" can be defined as the progression by which consumers engage with financial services, ranging from awareness to adoption and continuous use. With mobile money, the consumer journey is different as it involves a broad scope of activities from remitting money to relatives, to making online payments through digital wallets. Mobile money provides a singular journey, particularly for those consumers who previously had no access to banks.

Despite its quick uptick, mobile money still faces challenges that hamper the customer experience. Preeminent among these are trust issues with online platforms, risks to security, data privacy concerns, and online literacy. The regulatory and infrastructural challenges faced by some geographic areas can further slowdown mobile money's ubiquity, much as its superiority is evident.

This paper will try to examine the various phases of the consumer's journey in the context of mobile money, highlighting the ways in which digital financial services are changing consumers' lives in different regions. We will examine the key benefits, challenges, and regulatory concerns affecting consumers' journeys, via actual case studies demonstrating the practical application of these services.

1. LITERATURE REVIEW

The literature on mobile money and its effect on consumer journeys to digital finance is large, covering different facets ranging from adoption, behaviour, and economic effects to policy issues. With time, researchers and academics have investigated the depth of how mobile money services, such as M-Pesa, are changing consumer financial habits, providing new channels to inclusion, and redefining conventional financial systems. This part explores key pieces of work and their contribution to comprehension regarding the position of mobile money within consumer financial behaviour.

A key piece of literature on mobile money is by William Jack and Tara Suri in their paper "Mobile Money: The Economics of M-Pesa" (2011), wherein they evaluate the sweeping economic relevance of mobile money, especially in Kenya. The authors contend that M-Pesa has transformed financial inclusion by granting unbanked groups access to financial services without physical infrastructure. Jack and Suri (2011) examine how the mass use of M-Pesa resulted in significant improvement in household well-being, with the users gaining from the convenience of making and receiving payments instantly, which was previously associated with long delays and high costs within the formal banking channels . This paper is seminal in terms of comprehending the socioeconomic effects of mobile money and presents a tangible illustration of how technology can fill the gap in financial inclusion. Concurrently, Mbiti and Weil (2013) offer additional examination of the role of mobile money in lowering the cost of transferring money, especially in Sub-Saharan Africa. Their work not only reproduces the insights of Jack and Suri but also extends the discussion by venturing into neighbouring countries' cross-border impacts of mobile money.

Through an exploration of the technical workings of M-Pesa and its rivals, they expose the ways in which mobile money networks help lower transaction costs while facilitating access to savings and credit among the unbanked .

Consumer adoption is another key theme in mobile money literature. Diniz et al. (2011) in their research "The Impact of Mobile Money on the Financial Inclusion of the Unbanked in Brazil" examine the psychological and sociocultural determinants of the adoption of mobile money services. They highlight perceived ease of use and perceived usefulness as key concepts in the Technology Acceptance Model (TAM). Diniz et al. (2011) contend that adoption is largely driven by the extent to which consumers have faith in the services , a view shared by Alvarez et al. (2017) , who assert that social influence and peer network play a vital role in decision-making processes. The adoption patterns described by Gurung and Bhatnagar (2017) are a similar argument but focus on the contribution of financial literacy in mobile money adoption. Their work is pointing out that adoption of mobile money is not only a function of trust in technology but also of cultural influences . They contend that people in more rural and traditional societies tend to meet with more resistance when taking up mobile money services from not knowing technology or financial systems. They therefore emphasize the requirement for financial education campaigns to enhance the use of mobile money in such areas.

Mobile money has not only remodelled the field of financial inclusion but also hugely transformed consumer monetary conduct. According to Suri and Jack (2016) in "The Long-Term Impact of Mobile Money on Poverty Reduction," services of mobile money such as M-Pesa improve the management of money so that consumers can save, invest, and take access to credit opportunities which were once unattainable. Based on their data, mobile money users report improved financial discipline since the convenience of moving funds electronically promotes frequent saving tendencies. The study provides a longitudinal perspective on how mobile money can enhance poverty reduction and financial resilience in the economies of developing countries.

Riley (2016) also adds to this debate in exploring how mobile money facilitates consumers to establish emergency savings and alternative credit networks, particularly in rural areas where traditional banking facilities are not readily available. Riley argues that while mobile money has certainly enhanced consumer access to financial services, it also presents challenges. He observes that users typically lack the necessary intelligence to properly deploy mobile money platforms for investment or wealth creation, as mobile money services tend to be increasingly applied towards transactions and remittances instead of long-term savings or financial planning .

Despite its evident advantages, the security threats posed by mobile money platforms have been a major source of concern. Obara and Juma (2019) believe that the exponential growth of mobile money services, though in line with efforts at improving inclusion, has seen increased levels of cybercrime and fraudulent transactions . They go on to elucidate that most mobile money systems have poor security infrastructure, which does little to guard the consumers from scams, hacking, and identity theft. This is particularly problematic in regions with low levels of digital literacy, where consumers may be more susceptible to fraudulent schemes. These anxieties are echoed by Cheston et al. (2020), who suggest that low levels of financial literacy worsen the risks involved in mobile money use . Through their study, they pin-point that while mobile money systems are intended to simplify financial processes, most users do not comprehend the security measures or even the financial instruments offered to them. Consequently, consumer trust in mobile money systems is an important consideration for its long-term growth and adoption.

The regulatory framework is another essential element discussed in the literature. Munyegera and Matsumoto (2016) analyze how different regulatory frameworks in Sub-Saharan Africa influence the success of mobile money services . They point out that though nations such as Kenya have established strong regulatory frameworks to promote mobile money adoption, others have not been able to cope with challenges concerning fraud prevention and consumer protection. Their research highlights the need for government action to create a secure and welcoming environment for financial services that can support the growth of mobile money services.

Blockchain technology will be critical in the new landscape of mobile finance to improve the security and openness of mobile money transactions. Echouafni (2019) writes about the possibility of blockchain to offer decentralized solutions to fraud and cybercrimes that haunt mobile money systems . His paper indicates that blockchain can be a disruptive technology in the digital finance industry, providing more transparency and traceability in financial transactions. With mobile money platforms increasingly embedding artificial intelligence (AI) and machine learning (ML) into their platforms, as noted by Gartner (2021), there is a thrilling possibility of personalized services and improved fraud detection features .

2. CONSUMER JOURNEY IN MOBILE MONEY

The fast-paced digital evolution of financial services has brought about a tremendous change in consumer behaviour, especially in developing markets where mobile money services have filled the gap between formal banking systems and unbanked communities. The consumer journey in mobile money is not a one-way process but a dynamic, intricate interaction influenced by various economic, social, and technological forces. This process evolves through discrete but concurrent stages, such as awareness and onboarding, adoption and integration, daily usage, trust-building mechanisms, and finally, long-term retention and advocacy. The process is highly dependent on financial literacy, digital access, socio-economic limitations, and regulatory environments, which enable or disable the smooth transition of users into the mobile money space. In most instances, the success of mobile money platforms is not just gauged by adoption levels but also by the sustainability of consumer participation. Kenya, Bangladesh, and India provide interesting case studies that demonstrate how mobile money can mature from a simple transactional vehicle to a core element of economic inclusion. However potential challenges linger, and especially around fraud mitigation, regulation compliance, and financial inclusivity. As each stage of the journey is reviewed, it becomes apparent that the take-up of mobile money is more about providing a sustainable ecosystem that has continued relevance, safety, and trust with the service.

The First Point of Contact, the consumer's exposure to mobile money services is highly entangled with digital awareness and financial literacy. For most first-time users, especially in sub-Saharan Africa, South Asia, and some areas of Latin America, mobile money is their first experience with formal financial systems. Such an initial exposure is usually triggered by government programs, financial inclusion initiatives, and marketing efforts by telecom operators and fintech firms. Nevertheless, exposure to mobile money services is not always translated into adoption, for digital illiteracy, cultural attitudes, and distrust typically serve as obstacles.

In Kenya, where M-Pesa, a classic mobile money system, was virtually universally acclaimed for its pioneering breakthrough, success resulted primarily from sustained grassroots-level economic education campaigns highlighting the security and efficiency of transactions in the electronic age. These campaigns permeated both city and rural segments of society and assured that individuals who had little or no earlier banking experience had no hesitation to use the facility. A study done by Mbiti and Weil shows that consciousness-raising campaigns enhance adoption levels substantially, especially among rural users where conventional banking infrastructure is scarce.

Although the effect of financial literacy programs is positive, there are still barriers, particularly in areas where women and low-income groups have limited access to mobile phones and digital training materials. In a 2021 report, GSMA pointed out that sub-Saharan African women are 33% less likely to have a mobile money account compared to men, mainly because their digital literacy is limited and their mobile ownership is low. To reverse this trend, mobile operators and financial institutions have sought to use community-based digital education initiatives more and more, using interactive tutorials and SMS learning modules to give potential users increased financial confidence.

The Process of Adoption: Overcoming Barriers to Entry, after people are introduced to mobile money, the second phase of their life cycle is adoption, which is influenced by economic, technology, and psychological factors. Adoption levels are also spurred by cost efficiency, availability, simplicity of use, as well as perceived trust of the platform.

High mobile penetration countries and large agent networks have shown quicker take-up of mobile money services than countries that lack strong digital infrastructure.

A case study of India's Airtel Payments Bank shows how the agent banking network has sped up mobile money penetration. Airtel, in rolling out local banking correspondents to rural and semi-urban locations, made available basic financial services, digital payments, and government subsidy disbursement even to such populations that had limited financial literacies. The same patterns have been seen in Nigeria, where Paga, the nation's top mobile money service, used thousands of physical agents to build trust and convenience among first-time customers.

Trust is still one of the biggest obstacles to adoption, especially in areas where digital fraud and data security issues keep consumers away from mobile money platforms. In Nigeria, SIM swap and unauthorized transactions have prompted regulatory responses requiring more rigorous Know Your Customer (KYC) regulations and two-factor authentication (2FA) procedures. Although these controls are essential to protect consumers, they also bring challenges to take up, with the added document requirements that will be difficult for many low-income earners to complete.

Usage and Integration: How Mobile Money Becomes a Daily Financial Tool, the move from adoption to regular use is contingent on the capacity of mobile money services to become an integral part of consumers' daily financial routines. For most developing economies, mobile money is not so much an alternative to cash but an integral aspect of financial subsistence. Mobile money usage among consumers differs with income levels, economic systems, and technology familiarity. A large share of mobile money transactions are person-to-person (P2P) transfers, especially in economies that are remittance-dependent. In Bangladesh, bKash has transformed the domestic remittance market, enabling millions of migrant workers to send money to their families without depending on physical banking institutions. Similarly, the adoption of mobile money in African nations during the COVID-19 pandemic accelerated the shift toward digital payments for everyday transactions, with many small retailers adopting QR code-based mobile payment solutions.

The capabilities of mobile money go beyond basic transfers, as most platforms now provide micro-loans and digital savings accounts. Research by Dupas and Robinson shows that having access to mobile savings accounts greatly improves household financial stability, enabling low-income consumers to save and invest in small businesses without the limitations of conventional banking.

3. LEGAL FRAMEWORK AND CONSUMER PROTECTION IN DIGITAL FINANCE

The fast expansion of digital finance, particularly mobile money, has brought profound shifts in consumer engagement with financial services. Whereas mobile money systems, like M-Pesa in Kenya and G-Cash in the Philippines, have transformed financial services access, particularly in areas lacking adequate banking infrastructure, the growth of the services brings significant legal and consumer protection concerns. The legal framework regulating mobile money is still in the process of evolution and is challenged by regulatory gaps, data protection, cybersecurity, and maintaining consumer trust. Thus, it becomes important to analyse the prevailing legal frameworks, the position of consumer protection, and the regulatory models that protect the interests of consumers in this fast-evolving segment. Mobile money systems exist in an international context where regulatory systems differ dramatically from one country to another. Yet, there are some global institutions, like the International Telecommunication Union (ITU), the World Bank, and the International Monetary Fund (IMF), that influence these systems by making guidelines and assisting in the regulation development of mobile finance. The ITU Global Cybersecurity Agenda and the financial inclusion strategies of the World Bank offer a framework for cross-border collaboration in fostering digital financial security and confidence.

A significant advance in this connection is the Financial Action Task Force (FATF), which establishes international standards for combating money laundering (AML) and combating the financing of terrorism (CFT). These standards are critical in mobile money transactions that involve cross-border payments, where the risk of illicit financial activities is higher.

For instance, FATF's guidelines have pushed countries to adopt Know Your Customer (KYC) regulations to curb the anonymity of digital transactions, thereby increasing consumer protection in mobile money platforms. At the regional level, organizations such as the European Central Bank (ECB) and Reserve Bank of India (RBI) have moved forward to control mobile payments. These institutions ensure that local rules are followed while, at the same time, meeting international regulatory standards. One such example is the EU's General Data Protection Regulation (GDPR), which has shaped mobile financial services across the world by requiring safeguarding of personal data within mobile payments, which is a vital feature for consumers in an electronic ecosystem.

One of the main challenges facing consumers in mobile finance is trust, and this applies especially to security of personal information and transaction authenticity. Online finance platforms are appealing to customers because they are convenient and offer cheap financial services, but these advantages come at the expense of privacy violations, cyberattacks, and fraud. In nations such as Kenya and India, where mobile money has been a major way of financial inclusion, the rising instances of fraud and hacking attacks pose serious concerns.

Scholars like Fordham Law School's Professor Nestor M. Davidson contend that "legal protections with respect to data privacy and anti-fraud are critical to create a secure atmosphere for mobile money transactions." What Davidson's piece points to is the fact that a sound regulatory framework where rigorous security protocols are made mandatory can ensure that fraudulent schemes like phishing attacks and account takeovers do not develop in mobile money services.

Access to technology and digital literacy are also key impediments to the complete embrace of mobile money. In most developing nations, consumers tend to be uninformed about the working of mobile money systems, as well as the risks involved in using these services. A World Bank report stresses that financial literacy programs should accompany the deployment of mobile money to ensure that customers understand their rights, fees, and security mechanisms . In the absence of education, customers are left open to exploitation by hidden fees or abusive terms and conditions.

For instance, in India, where the adoption of mobile money has picked up in the last few years, the Reserve Bank of India (RBI) launched a consumer education program to make customers aware of the cost structures and regulatory rights of mobile financial services. Yet the success of these programs is yet to be seen, as rates of financial literacy are still low in rural communities, leading to consumer mistrust. Privacy issues in mobile banking are not merely issues of securing personal information but also of the use of such information for commercial ends. In countries such as the European Union, the GDPR has established a strong framework of consumer privacy that guarantees consumers the right to control their data and have their personal information erased or not passed on to third parties. But in some areas, consumer data protection is underdeveloped, and the consumers themselves do not know how their information is used.

Professor Shoshana Zuboff, author of "The Age of Surveillance Capitalism", cautions that mobile financial services, especially those that gather vast amounts of personal data, have the potential to build a "surveillance economy", where consumers are treated as commodities instead of being the centre of privacy laws. Zuboff believes that data gathering practices must be subject to tighter legal regulation to avoid businesses profiting from consumer data without permission.

One of the most urgent issues is the absence of global regulatory norms for mobile money. Although regional regulators have taken efforts to safeguard consumers, such regulations often are fragmented, and consumer protection practices are inconsistent across borders. A single regulatory framework would consolidate the regulations into one, so the consumer rights, security measures, and dispute mechanisms are consistent. In Africa, the East African Community (EAC) and the African Development Bank (ADB) have progressed considerably in harmonizing the regulations for mobile payments. The Kenya-Uganda Mobile Payment Agreement, for example, allows for cross-border transfer of mobile money between two nations with harmonized legal systems, offering consumers a convenient and secure way to transfer money across borders.

Likewise, the European Union has embraced the Payment Services Directive (PSD2), which requires financial service providers, including mobile payment systems, to offer open banking services, with consumers being able to use their data securely across different service providers without infringing on their privacy.

Another important aspect in the protection of consumer rights in mobile money is instituting dispute resolution processes. Academicians such as Dr. Rajesh Babu, an Indian mobile finance legal expert, argue that effective dispute resolution mechanisms are crucial to establishing consumer confidence in mobile money services. According to Babu, the establishment of dedicated consumer protection agencies and independent arbitration platforms would be able to address issues pertaining to fraud, unauthorized transactions, and service quality, thereby providing consumers with timely redress. In Tanzania, the Bank of Tanzania established a special department for the processing of consumer complaints on mobile money services. This department is pivotal in resolving consumer complaints on issues of service delivery, fraud, and refusal to pay digital transactions.

As mobile money charts the course for future digital finance, the part played by legal systems and consumer protection cannot be underestimated. That such platforms have to operate within a safe, open, and consumer-friendly ecosystem will promote deeper uptake, especially in developing nations where mobile money is fast becoming the main platform of financial transactions. But to ensure this, regulators need to keep innovating, keep abreast with evolving technology, and cooperate across national boundaries. Future regulatory actions need to emphasize building consumer trust, bolstering privacy protection, and bridging the digital divide by making mobile finance services more widely accessible. International cooperation on establishing uniform standards for mobile money systems will be critical in making digital finance serve all consumers across the world.

4. CASE STUDY: EFFECTIVE MOBILE MONEY MODELS

The worldwide success of mobile money platforms has largely transformed the landscape of financial services, especially in countries where conventional banking networks are underdeveloped.

While mobile technology widens its reach quickly around the globe, products such as M-Pesa, Paytm, and Venmo have proved to be instrumental in promoting financial inclusion, enhancing economic engagement, and transforming consumer experiences in their respective nations. These systems provide more than mere financial transactions; they are a change in the way that consumers engage with money and finance. As one evaluates the global role of mobile money, it is important to probe the unique situations of M-Pesa in Kenya, Paytm in India, and Venmo in the US, to find out how these succeeded, struggled, and present lessons for designs of the future.

4.1 M-Pesa: An Pioneer of African Financial Inclusion

Introduced in Kenya in 2007 by the mobile network operator Safaricom, M-Pesa is the most successful mobile money platform in the world, according to most experts. M-Pesa was originally introduced as a means of transferring money but has since developed into a diverse financial service that not only provides peer-to-peer payments but also savings, loans, and insurance. By doing so, M-Pesa has embedded financial services into the daily experiences of millions of unbanked and underbanked people in Kenya and throughout East Africa. The revolutionary impact of M-Pesa on Kenyan consumers is clear. Prior to its arrival, most Kenyans enjoyed limited access to conventional financial services, especially in rural communities where the banks were scarce. M-Pesa filled this gap by enabling users to send money, pay bills, and access microfinance services directly through their mobile phones. Jack and Suri (2014) study underscored that the introduction of M-Pesa resulted in increased household savings as well as improved access to financial services, particularly among women, who had greater difficulty accessing formal banking.

By linking consumers to a vast array of financial services, M-Pesa revolutionized Kenya's economy. As of 2013, more than 70% of Kenyan adults used M-Pesa to make a variety of financial transactions, including payment of school fees, business payments, and remittances (Jenkins, 2017) . This widespread use of M-Pesa speaks volumes about how it managed to create a reliable and inclusive financial system.

In addition, the alliance between Safaricom and Commercial Bank of Africa to develop the M-Shwari mobile savings and loan facility was a major milestone in mobile banking, providing consumers with a means to save and borrow without holding a physical bank account. M-Pesa's impact on Kenya's economic landscape is further highlighted by the World Bank's Financial Inclusion Index, which notes the country's significant improvement in financial inclusion rankings after M-Pesa's rollout. The system has provided users with more financial autonomy, especially in the face of financial crises, and has bolstered economic activity in rural areas.

M-Pesa's model underscores the importance of trust, accessibility, and local partnerships in driving mobile money adoption. Scholars such as Suri and Jack have underlined the necessity of mobile money platforms to create partnerships with local agents and merchants, which M-Pesa has achieved by capitalizing on pre-existing retail infrastructure. This strategy of creating last-mile access to financial services has been one of the success drivers for M-Pesa and is a vital learning point for regions interested in deploying similar platforms.

4.2 Paytm: The Indian Digital Wallet Revolution

In India, Paytm has become the market leader in mobile payments. Founded in 2010 by One97 Communications, Paytm started as a player in mobile recharges and utility bill payments. But over the next few years, it has grown to be a full-fledged financial services platform providing digital wallets, insurance, lending, and e-commerce. Paytm's metamorphosis was precipitated by India's demonetization drive in 2016, when an estimated millions of consumers and merchants turned to digital payments as a way of avoiding the unannounced withdrawal of high-value currency notes. The success of the platform has been partly an extension of its synergy with India's financial inclusion efforts, especially by way of government programs such as Pradhan Mantri Jan Dhan Yojana (PMJDY), whose objective was to introduce banking services among the unbanked population. Since as Kshetri (2018) states, Paytm benefitted from all these efforts by facilitating ease in the consumption of digital wallets with linking of a digital wallet with the users' existing bank account.

There ensued an exponential boost in digital payment transactions, which mostly favoured semi-urban and rural segments wherein cash transactions always remained predominant.

Paytm's growth narrative is greatly fuelled by its emphasis on offering a broad array of services that meet the requirements of common consumers. Through bill payments, mobile recharges, and money transfers, Paytm has become a part of the everyday lives of millions of Indians. Additionally, the platform's launch of Paytm Payments Bank in 2015 enabled consumers to open a virtual bank account, allowing them to enjoy savings, mobile banking, and micro-loans. This was an important step towards taking financial inclusion beyond banking products. Paytm's flexibility towards the Indian market has also played an important role in its success. By geographically situating its services to accommodate the Indian consumer, Paytm was able to become more competitive compared to other platforms. As an example, Paytm's app interface was made easy to understand so even those less technology inclined could use it for normal transactions. In a nation where internet penetration and smartphone use were still in their infancy, Paytm's user-friendliness and simplicity allowed it to achieve mass adoption, especially among the lower-income strata of the nation. As Choudhury (2017) points out, Paytm's success also lies in the public-private partnerships that have strengthened its role in India's digital payment ecosystem. Paytm collaborated closely with the Reserve Bank of India (RBI) and the Government of India, resulting in a positive regulatory framework that encourages the use of digital payments. The government-private sector cooperation can be replicated by other countries aiming to expand mobile money operations.

4.3 Venmo: Changing Peer-To-Peer Payments In The U.S.

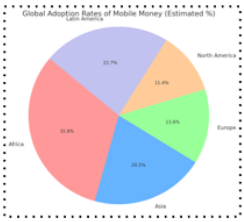
Though M-Pesa and Paytm revolutionized mobile money systems in emerging economies, Venmo is now a successful platform in the US, particularly popular among younger generations. Established in 2009 and acquired by PayPal in 2012, Venmo facilitates users to make and accept money from their phones, with emphasis on peer-to-peer (P2P) transactions.

The key to Venmo's success was its capacity to integrate financial payments with social networking aspects, which made it something more than a payment service it became a phenomenon. In the United States, Venmo's history can be understood as a mirror image of the transition from conventional banking to online-first finance. In contrast to M-Pesa or Paytm, Venmo is mostly concerned with social, small-time transactions, such as paying back friends for dinner bills or splitting restaurant bills. The ease of Venmo, combined with its social networking aspects (where people can comment on or "like" payments), has made it especially popular among the young population. One of the most prominent features of Venmo is the integration with PayPal, which enables users to transfer money conveniently between their Venmo and PayPal accounts. This integration has further extended Venmo's reach, enabling users to make payments and manage their finances with ease without having to juggle different platforms. The firm's business model, which involves charges for some transactions (like immediate transfers), has been profitable, and Venmo is now among the leading mobile money platforms in the U.S. by transaction volume.

Based on Venmo's yearly report (2020), the platform handled more than $159 billion worth of transactions during that year, with a considerable increase in the volume of users and transactions. The growth has been fuelled by the emphasis Venmo has placed on user experience, ease, and the provision of real-time payments.

From the success of M-Pesa, Paytm, and Venmo, several key lessons can be learned for other parts of the world that want to adopt similar mobile money models. To begin with, the importance of government support in establishing an enabling regulatory environment cannot be emphasized enough. In Kenya and India, government efforts to promote financial inclusion have provided a fertile soil for the development of mobile money platforms. Public-private partnerships are also important in ensuring that mobile money platforms are brought into national financial systems and made available to as many consumers as possible. Second, local adaptation and trust-building cannot be underestimated. M-Pesa's success in rural Kenya was a result of its capacity to leverage existing retail networks and establish relationships with local agents.

In the same vein, Paytm's emphasis on educating users and easy-to-use interfaces enabled it to catch on with users who were new to digital finance. Venmo's social payment model demonstrated that even in advanced economies, there is a need for mobile money services that are both functional and social. Lastly, one must realize that consumer-driven innovation is the determining factor of adoption. All of these platforms have succeeded because they cantered on satisfying the particular wants of their respective target markets either through the provision of affordable payment methods, inclusion of banking functions, or provision of social sharing functions.



The use of mobile money has registered phenomenal growth in the last two decades, with Africa at 70% penetration followed by Latin America (50%), Asia (45%), Europe (30%), and North America (25%).[32] High penetration in Africa is mainly driven by the success of M-Pesa in Kenya, which has set a global standard for mobile-based financial inclusion.[33] The growth in the Asian market has been rapidly accelerated by India's Unified Payments Interface (UPI) and WeChat Pay and Alipay in China, making mobile payments an integral part of everyday business.[3]

Although Europe and North America have comparatively lower adoption levels, digital wallet usage like PayPal, Venmo, and Apple Pay is on the rise.[34] These markets are more dependent on conventional banking systems, but the growth of FinTech firms and rising smartphone penetration are speeding up the transition to mobile finance. In Latin America, services like Pix in Brazil and Daviplata in Colombia have fuelled mobile money adoption, greatly enhancing financial access for the unbanked.[35] This disparity in mobile money adoption globally reflects the influence that regional policies, economic frameworks, and access to technology have upon consumer financial habits. The pie chart (Fig. 1) pictures this disparity in a visualized form, with it clearly highlighting how mobile finance is no longer a regional success but a movement towards a global cashless culture. [36]

5. FUTURE OF MOBILE MONEY: BRIDGING THE DIGITAL DIVIDE AND IMPROVING CONSUMER PROTECTIO

While mobile money is transforming financial transactions globally, the future of mobile money depends on a fine balance between innovation, regulation, and inclusion. The future of digital finance will be defined by advances in technology, regulatory measures, and policy-driven measures for inclusion. Yet, the digital divide, security threats, and issues of ethics continue to be major hurdles for full-scale democratization of finance.

One of the most significant factors defining the future of mobile finance is the convergence of new technologies. Artificial intelligence (AI) is becoming ever more essential to financial services, being used for credit scoring, fraud prevention, and automated customer service. Platforms such as WeChat Pay and Alipay utilize machine learning algorithms to determine creditworthiness, enabling financial institutions to provide tailored financial products to consumers. Blockchain technology, with its vision of decentralization and transparency, is slowly making inroads, especially in cross-border payments and anti-money laundering systems. The smart contract potential in mobile finance is vast, as they have the ability to automate and secure transactions without intermediaries, lowering costs and improving efficiency. Meanwhile, biometric authentication is revolutionizing how consumers engage with digital finance. Where literacy rates are low, as in some areas of Africa and South Asia, biometric authentication techniques like fingerprint and facial recognition bypass the reliance on complicated passwords and PINs. India's Aadhaar-linked payment systems are a model of how government-supported biometric identification can secure and make money more accessible. Even with these developments, formidable challenges remain. Bias in AI-based credit scoring, privacy issues related to biometric data collection, and the unpredictability of blockchain-supported financial instruments are among the ethical and regulatory issues raised.

The absence of legal certainty around digital assets complicates even further the mass adoption of such technologies. Government actions and policy structures are equally decisive in shaping the future of mobile money. Numerous nations have encouraged financial inclusion actively by fostering digital infrastructure growth, public-private partnerships, and consumer protection legislation. India's Digital India program has been instrumental in increasing mobile banking, with the Unified Payments Interface (UPI) enabling real-time digital payments for millions. Likewise, Ghana's Mobile Money Interoperability (MMI) program has increased access to finance by enabling easy transfers of funds across service providers, thus breaking financial barriers. Kenya's regulatory backing for M-Pesa has been a global benchmark, showcasing how mobile money can improve unbanked communities and economic development.

Although these policy measures are praiseworthy, they also reveal some limitations. Rural connectivity challenges persist in limiting access to digital financial services, especially in rural areas where there is limited infrastructure. Financial literacy deficits further constrain the proper use of mobile money, with most consumers unaware of security procedures or digital fraud threats. Regulatory differences between jurisdictions pose further challenges, rendering cross-border transactions difficult and impeding the international scalability of mobile money. These challenges need to be tackled through a multi-stakeholder intervention ensuring that mobile money services are not only easily accessible but also secure, transparent, and customer friendly. A key element in this changing context is consumer protection. With growing digitization in financial services, threats of fraud, data leakage, and fraudulent financial activities mount. Regulators across the globe are taking steps to protect consumers' interests with regulations like the European Union's Revised Payment Services Directive (PSD2) and the U.S. Consumer Financial Protection Bureau (CFPB) standards as a benchmark. Yet, most developing economies continue to lack strong legal frameworks to protect consumers from unauthorized transactions, hidden fees, and identity theft.

Supporting consumer protection in mobile financial services calls for robust legal protection, such as strict Know Your Customer (KYC) and Anti-Money Laundering (AML) measures. Data protection legislation must further be incorporated into mobile money products to ensure that consumer data is not abused by financial institutions and third parties. Efficient grievance redressal also needs to be put in place to ensure that consumer grievances are resolved satisfactorily and in a timely manner. Without such regulatory frameworks, consumer confidence in mobile financial services is still tenuous, and progress in digital financial inclusion could be slowed. The future of mobile money is promising but complicated. While technological advancements are ushering in unprecedented access, their success will depend on how well they are regulated and embedded in current financial systems. The digital divide must be bridged not only on the technological front but also on the policy front by ensuring accessibility, security, and consumer confidence.

Regulatory cooperation across borders will become ever more important to counter cross-border financial crimes, harmonize consumer protection mechanisms, and ensure hassle-free financial transactions across regions. If properly implemented, mobile money can redefine the world's financial system, making digital finance a pillar of economic empowerment for future generations.

CONCLUSION

The growth of mobile money has revolutionized financial ecosystems across the globe, closing banking accessibility gaps, driving economic inclusion, and transforming the way consumers live and shop. From the popular success of M-Pesa in Kenya to the digital innovation structures of UPI in India, mobile money has become a powerful driver of financial modernization. Yet, its future will depend on an equilibrium between innovation, regulation, and consumer protection. While digital finance provides unparalleled convenience and efficiency, issues like data security, financial fraud, regulatory fragmentation, and digital literacy remain major challenges.

One of the most important lessons from this research is that mobile money cannot exist in a regulatory vacuum. Legal frameworks need to keep pace with technological development to guarantee sound consumer protection, anti-money laundering (AML), and cross-border financial compliance. The European Union's PSD2 and the Financial Action Task Force (FATF) guidelines are significant regulatory standards, but most developing economies continue to grapple with legal enforcement in digital finance. Intensified worldwide regulatory collaboration is crucial to guaranteeing financial safety while maintaining access for low-income groups. Additionally, innovations such as blockchain, AI-based credit scoring, and biometric authentication can improve the efficiency and security of mobile finance. Nevertheless, their use must be legal and ethical to avoid problems of algorithmic bias, invasion of data privacy, and systematically excluding financially excluded groups. Rollout of consumer grievance redressal systems and financial education programs will be key to establishing consumer confidence and promoting responsible digital finance use.

Even with the challenges that exist, mobile money has already shown its potential to transform poverty reduction, economic inclusion, and financial empowerment. By building on policy-led financial inclusion programs, investing in digital literacy, and providing a properly regulated financial space, mobile money can go on to reshape the world's financial landscape. If governments, financial institutions, and technology companies cooperate well, mobile finance can go beyond transactional convenience to become a pillar of economic resilience and inclusive financial access in the 21st century.

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