

MODERNIZING JORDANIAN CIVIL LAW IN LIGHT OF DIGITAL TRANSFORMATION WHILE PRESERVING ARAB CULTURAL IDENTITY

Dr. Mohammad Ali Khaled Al-Shurman

Assistant Professor of Civil Law, Amman Arab University – Jordan

m.alshorman@aau.edu.jo

Dr. Abdallah Majed Al-Akayleh

Associate Professor of Criminal Law, College of Law, American University in the Emirates, abdallah.alakayleh@aue.ae, <https://orcid.org/0009-0007-2823-4801>.

Abstract

The purpose of this research was to assess how well the provisions of the Jordanian Civil Code could be updated to match the changing conditions resulting from digital development and to identify their impact on the structure of civil law as it relates to contract law, evidence, and civil liability. Additionally, this research examined evolving legal challenges related to private information, digital identity, digital assets, and artificial intelligence. In addition, this research highlighted the need to create a fair balance between updating legislation and preserving Jordan's Arab cultural identity. This research used descriptive, analytical, and comparative methodologies. Findings suggest that the majority of the underlying principles of the Jordanian Civil Code are still capable of being applied to a large number of new digital technologies. Nevertheless, there are several recent technological advances that require more explicit legislative changes, specifically regarding the regulation of digital assets, the definition of civil liability resulting from the use of artificial intelligence, and increased legal protections afforded to individuals' privacy and digital identities. Furthermore, the research stresses the necessity of finding a suitable balance between meeting the requirements of legislative updates and protecting Jordanian cultural identity and the social norms upon which Jordanian legislation is based. Therefore, this research suggests that there should be a comprehensive legislative review of the Jordanian Civil Code to guarantee its compatibility with digital technology and its ability to accommodate current technological advancements in a manner that preserves the distinctive nature of Jordanian law and culture.

Keywords: Jordanian Civil Code; digital transformation; Arab cultural identity; civil liability; digital assets.

1. Introduction

The digital transformation of the contemporary world has had a profound impact on the economic, social, and legal sectors, which have led to significant changes in traditional interaction between individuals and institutions. Recent advances in technology, specifically artificial intelligence, big data, cloud computing, and electronic commerce, have given rise

to new legal relationships that require a reconsideration of many traditional concepts and rules developed in an environment totally different from today's digital environment.

Given this context, civil law has been one of the most affected branches of law due to its direct role in regulating private transactions and legal relationships between individuals, as it relates to issues generated by the digital environment such as e-contracts, digital evidence, digital identity, digital assets, and civil liability arising from AI applications. None of these issues were contemplated at the time of enactment of the Jordanian Civil Code No. (43) of 1976.

Although the Jordanian Civil Code has considerable flexibility due to the broad principles of justice, good faith, and party autonomy, nonetheless, the fast pace of technological advancements creates a necessity for reviewing and updating many provisions to ensure they remain compatible with developing digital technologies and to provide legal clarity for all parties participating in the digital environment.

However, civil law reform should not be limited to just being able to keep up with changing technology. Instead, it should occur as part of a system or structure designed to preserve Arab culture and those legal and societal values that form the base of Jordanian society. Therefore, there is an obvious need to determine how a suitable compromise may be developed between the necessities of the modernization of laws and the obligation to protect the cultural and civilizational distinctions of a society.

2. Research Problems and Questions

The problem addressed in this study is that the Jordanian Civil Code was enacted before the emergence of digital transformation (DT) in its current form. As such, many new legal concerns regarding electronic transactions, digital information/data, artificial intelligence (AI), and digital assets have arisen for which there are no specific regulations within the current Civil Code.

The principal research question is as follows:

To what extent can the Jordanian Civil Code be modernized to accommodate the requirements of digital transformation while preserving Arab cultural identity?

This main question is addressed through the following sub-questions:

1. What is meant by digital transformation, and what are its principal legal characteristics?
2. What is the impact of digital transformation on the general principles of the Jordanian Civil Code?
3. How has digital transformation affected contracts and the means of civil evidence?
4. What is its impact on civil liability and rights of a digital nature?
5. What are the principal legal issues relating to personal data, digital assets, and artificial intelligence?
6. What mechanisms are appropriate for modernizing the Jordanian Civil Code while preserving Arab cultural identity?

3. Research Objectives

This study aims to examine the extent to which the Jordanian Civil Code can be modernized to keep pace with digital transformation while preserving Arab cultural identity.

This overarching objective is pursued through the following specific objectives:

1. To define the concept of digital transformation and identify its legal characteristics.
2. To analyze the impact of digital transformation on the structure of the Jordanian Civil Code.
3. To examine the implications of digital transformation for contracts and civil evidentiary mechanisms.
4. To clarify its impact on civil liability and rights of a digital nature.
5. To analyze the legal issues arising from personal data, digital assets, and artificial intelligence.
6. To propose a developmental vision for the modernization of the Jordanian Civil Code that achieves a balance between digital transformation and Arab cultural identity.

4. Significance of Study

The significance of the present research may be viewed from two perspectives: theoretical and practical. On the one hand, the theoretical significance of the present research is based on its contribution to the scientific literature with respect to digital transformation and the Jordanian Civil Code through an overall assessment of the legal effects of new digital technologies. On the other hand, it identifies the new legal issues that have arisen as a result of the digital environment and examines whether the traditional principles of civil law continue to be sufficient for the current digital era.

From a practical perspective, the goal of this study is to assist in the legislative modernization of Jordan in response to its evolution into a digitally advanced society. In addition, it provides a legal structure that could help lawmakers as well as public officials involved in shaping the Jordanian Civil Code and better protect the rights and interests of individuals within the digital environment. Lastly, this study stresses the necessity to strike an acceptable equilibrium between technological progress and the conservation of Arab culture and therefore to promote legislative modernization that is compatible with the legal, societal, and cultural values of Jordanian society.

5. Previous Studies (Related work)

5.1 Study by Lee (2024): Examining the Legal Status of Digital Assets as Property: A Comparative Analysis of Jurisdictional Approaches

This research had two main objectives: to determine whether digital assets are considered legally as property (and therefore capable of being owned and transferred), and to compare how this concept is viewed across different legal systems. In order to achieve these goals, the research employed a comparative methodology to review the laws of multiple countries and assess court decisions made with respect to digital assets.

Lee (2024) has also explored the legal status of digital assets and highlighted the ways in which technological advancements have impacted long-established legal conceptions of property. However, unlike Lee's research, the current study examines the legal status of digital assets through a comparative legal framework but incorporates findings into an examination of the Jordanian Civil Code. Additionally, the current study addresses both the cultural and civilizational aspects of legislative modernization and examines the interrelationship of digital assets with other areas of civil law, e.g., civil liability and the law of evidence.

5.2 Study by Mohamed (2023): The Extent to Which the Provisions of Civil Law Accommodate Artificial Intelligence-Related Legal Issues: A Comparative Jurisprudential Study

The purpose of this study was to evaluate whether traditional civil law can be adapted to accommodate artificial intelligence technology, specifically in relation to the area of civil responsibility. An analytical comparison approach was used by evaluating related legal texts and juridical studies in the course of conducting this study.

This current research is similar to Mohamed (2023), who evaluated artificial intelligence and its impact on civil liability; however, the current research focuses on how traditional civil law will provide direction and guidance to artificial intelligence technology.

However, there are differences between the prior research conducted and the research being conducted presently. For instance, this current research evaluates digital transformation as an all-encompassing concept, whereas prior research did not evaluate or discuss legislative development in accordance with the Jordanian Civil Code. Finally, this current research examines preserving Arab cultural identity.

5.3 Study by Al-Mahdi (2023): The Right to Digital Identity in Light of Personal Data Protection and Informational Privacy

The purpose of this research was to determine the extent of legal protection for digital identities and personal data within the digital world. The researcher used a descriptive-analytical methodology to analyze the laws protecting personal data.

This current research is similar to Al-Mahdi's (2023) in examining both digital identity and personal data and in identifying the legal obstacles resulting from the digital world. However, Al-Mahdi's previous research differs from this current research. For example, Al-Mahdi did not include an examination of the Jordanian Civil Code as the primary legislative source; Al-

Mahdi did not link digital identity to the modernization of civil legislation; and Al-Mahdi did not discuss preserving Arab cultural identity through law.

5.4 Study by Al-Nsour (2016): Conclusion of Electronic Contracts in Accordance with the Provisions of Jordanian Law: A Comparative Study

This study aims to investigate and compare the way e-contracts are regulated by Jordanian law, and how this comparison may be made with other legal frameworks. The present study employs both comparative and analytical methodologies for analyzing the subject matter of e-contracts.

The current study follows the lines of Al-Nsour (2016), since it deals with the e-contract within the Jordanian legal system and emphasizes the development of contemporary contractual techniques.

Nonetheless, unlike the former study, it did not consider digital transformation as an all-encompassing phenomenon, did not link e-contracts with the wider modernization of the Jordanian Civil Code, and did not take into account issues related to artificial intelligence or digital assets.

5.5 Commentary on Previous Studies

There is clear evidence that many past studies have covered numerous key elements of digital transformation in the legal domain, such as electronic contracts, artificial intelligence, digital identity, and digital assets.

However, these studies focused mainly on one element of digital transformation at a time (i.e., they studied one issue in isolation), so none of them provided an overall view of how digital transformation will affect the Jordanian Civil Code as a whole legal structure.

Additionally, it appears that most of the prior studies were interested primarily in either the technical or comparative legal aspects of digital transformation, which limits their usefulness in developing legislation that takes into account cultural and civilizational factors relevant to modernizing the laws of Jordan.

Therefore, there is a missing link in the literature about what types of digital legal reforms could be developed to address technological advances while preserving both the legal and cultural roots of Jordanian society.

In light of this context, the purpose of this study is to contribute to the body of knowledge through an integrative examination of the impact of digital transformation on the Jordanian Civil Code; an examination of the major legislative hurdles created by new emerging technologies; and recommendations for a digital transformation-based legislative modernization framework, specifically designed for use with Jordanian civil law.

Moreover, because this study incorporates legislative modernization and preservation of Arab culture together in one single frame of reference regarding legal reform, it offers a more inclusive model compared to other available models.

6. Methodology

This research used a multi-method strategy to accomplish its goals. It combined descriptive, analytical, comparative, and foresight methodologies. A descriptive methodology was utilized to define, explain, and illustrate key terms associated with digital transformation (DT) and the Jordanian Civil Code, as well as identify key features and legal aspects of each. An analytical methodology was applied to analyze the applicable provisions of the law, evaluate how DT has affected the basic rules and application of civil law, and identify deficiencies in the current legislation and new legal issues being generated. A comparative methodology was used to review comparative legislative practices and current legal trends for regulating digital transactions, AI, digital assets, etc., and assess their applicability to the current Jordanian regulatory framework. Finally, a foresight methodology was used to predict future directions for reforming the Jordanian Civil Code in light of ongoing DT while at all times ensuring that any future legislation is consistent with preserving Jordanian Arab culture.

7. Results and Discussion

7.1 The Nature of Digital Transformation and Its Legal Implications within the Framework of the Jordanian Civil Code

Digital transformation is a phenomenon of great scale and influence in modern times and has led to significant transformations on all fronts, legally, economically, and socially. It has had an effect well beyond simply upgrading technology that is being employed to facilitate business dealings and extends into the core of legal relationships and the basic concepts and principles that have served as a basis for civil law for many years.

Therefore, as we move forward to understand what is happening to the civil law rules of the State of Jordan, based on the Civil Code of 1976, No. 43, it will be important to discuss the nature of digital transformation as a starting premise for determining how civil law rules are changing due to the new legal environment created by digital transformation. The reason is that when laws were written prior to digital transformation, they were written at a time when the digital environment did not exist. Therefore, it will be important to develop the analysis of digital transformation in terms of its key features and characteristics as well as determine the immediate legal implications of digital transformation for the overall legal environment.

In addition to being a purely technical subject area, the study of digital transformation also has significant legal ramifications as it affects some of the same legal concepts, including intention, contract, ownership of property, rights, and liabilities, that are central to the nature of civil law. As such, it will be necessary to understand the broad parameters of digital

transformation so that a solid background can be provided against which the specific implications of digital transformation for each of the branches of civil law may begin to be explored.

7.1.1 The Concept of Digital Transformation and Its Characteristics

Digital transformation represents one of the most influential transformations influencing virtually every area of our lives today. Technology usage is no longer limited to improvements to communication and/or institutional management but now includes virtually all areas of the economy, law, and administration. As such, this has created an entirely new "digital" environment, which has resulted in modern forms of legal relations and civil transactions that have the need for legislative regulation based upon their unique characteristics (Zintl & Houdret, 2025).

Digital transformation is defined as the integration of modern digital technologies into a wide variety of business and service processes in order to achieve improved productivity, enhanced operational efficiency, and enhanced methods of communication and collaboration among both individuals and organizations. Examples of these digital technologies include artificial intelligence, cloud computing, big data analytics, and blockchain technology. Other examples of current digital technologies that can be used to support digital transformation include social media and mobile payment systems (Lee, 2024).

Legal aspects of digital transformation relate primarily to the fact that there has been a significant transfer of a large portion of civil transactions from a traditional environment (i.e., a physical location where parties interacted directly with each other using paper documentation) to a completely digital environment. This transfer has impacted contracts, obligations, methods of proof, and civil liability. Many previous transactions were conducted through paper documentation and required the physical presence of the contracting parties, whereas increasing numbers of transactions are currently being completed through electronic platforms and smart applications without the contracting parties having to physically meet (Najjar, 2024).

There are several key legal elements that define digital transformation. A few of the most important legal elements associated with digital transformation include the speed at which transactions occur, the removal of geographic limitations, and the use of data as an economic and legal resource. Digital transformation has also given rise to the creation of digital assets and intelligent systems that can complete multiple tasks autonomously with very little direct human involvement (Mohamed, 2023).

Reviewing some of the key provisions contained within the Jordanian Civil Code (No. 43/1976) indicates that the Jordanian legislature developed many of the basic principles applicable to the code prior to the advent of the internet, e-commerce, and artificial intelligence. Therefore, many provisions will require additional judicial interpretations or revisions to ensure that they remain viable for modern-day digital advancements.

7.1.2 The General Impact of Digital Transformation on the Structure of Civil Law

The way that civil legal relationships have been structured due to digital transformation is profoundly different. Jordanian civil law is no longer governed solely by traditional transactional processes where the parties interact physically. Rather, it exists today in a digitally enabled world and therefore governs electronically and digitally enabled data processing. Therefore, this new digital world has impacted how the rules of law are applied, interpreted, and ultimately evidenced.

Historically, the Jordanian Civil Code was able to provide private legal relationships with stability and certainty through long-standing legal principles developed around tangible concepts, including paper-based agreements, signed documents with written signatures, and the actual physical meeting of all parties involved. Although technology has changed these concepts, expressions of intentionality for entering into contractual obligations or purchasing products/services are now made using digital media. Transactions are being completed remotely and do not require physical interactions among the parties involved. As such, civil law principles need to be adapted to accommodate changes in order to continue to remain effective (Al-Nsour, 2016).

One of the most important impacts of digital transformation on the structure of civil law is the transition of legal transactions from a tangible world of things to an intangible world based on data/information. This shift has caused a review of many traditional legal concepts surrounding property/rights/ownership. Similarly, digital data are acquiring increased economic/legal importance as a critical component in contemporary business transactions (Lee, 2024).

Another positive impact of digital transformation on the structure of civil law is its reinforcement of the principle of flexibility when applying legal rules. Today's civil courts must interpret traditional legal provisions in light of current technological developments, particularly when there is a lack of legislative regulation of new areas such as electronic contracts/digital evidence/liability resulting from intelligent systems. As a result, civil law continues to evolve from being relatively rigid to becoming more dynamic/adaptable to meet changing realities.

In addition, digital transformation has altered the functions of legal subjects. The parties to legal interactions have been expanded to include other types of legal subjects beyond individuals. In fact, intelligent programs and computerized systems now play an increasingly significant role as legal actors in executing legal obligations. These developments raise fundamental concerns regarding whether the actions taken by humans in entering into contracts are sufficiently autonomous and what limitations there may be on the extent of legal liability for actions taken by artificial intelligence when such technology assists in forming or implementing legal conclusions (Mohamed, 2023).

Digital transformation has had a similar effect on the idea of legal certainty. As a result of the need to protect electronic transactions from cyber threats, fraud, and identity theft, a

number of modern juridical systems have enacted special laws regulating cybersecurity and data protection in an effort to enhance the confidence of users in their ability to conduct commercial transactions electronically and to provide a stable environment for the performance of commercial transactions.

Therefore, it can be inferred that digital transformation has not only modified how civil legal transactions are processed but also transformed the underlying concepts of civil law. Therefore, it will be necessary for both the legislative authority and judicial authority within the civil system in Jordan to develop flexible approaches to applying civil law that balance the principles of stability inherent in civil law with the requirements of technological advancements so as to ensure that civil law remains effective and able to govern civil legal relations in the digital economy.

7.2 The Impact of Digital Transformation on the Applications of the Jordanian Civil Code

Digital transformation has created a completely new legal framework compared with previous legal frameworks for digital transactions. The use of digital technology in commercial dealings will create an entirely new landscape as well as new types of property and new rights and obligations. In addition to these changes, it creates both legal and legislative issues. Even though the Jordanian Civil Code provides flexibility to accommodate many of today's developments based on its broad general principles, the rate at which technology evolves is so fast that some of the provisions of the Civil Code need to be updated to provide legal certainty and meet the needs of this digital era.

7.2.1 Digital Transformation in Contracts and Methods of Proof

Contracts constitute one of the legal areas most affected by the digitalization of all aspects of life. The majority of contracts in recent years have been concluded online without the physical presence of both contracting parties. Consequently, so-called "electronic contracts" have emerged, in which the expressions of will of both parties to the contract are communicated through digital media to establish mutual intent (i.e., offer and acceptance).

Electronic contracting is based upon an assumption contained in the Jordanian Civil Code; namely, that contracts should be based on the principle of consent. A contract is valid if both parties agree to the terms of the contract (offer & acceptance), absent any specific formalities required by statute. Therefore, an expression of will utilizing digital methods may create legally binding obligations if the authenticity of the expression of will can be proven and if the party expressing that will can be identified (Al-Nsour, 2016).

Electronic contracts have created many new legal issues that did not exist when contracts were formed traditionally. Some examples include identifying at what point in time and/or location the contract was formed, how to verify the authenticity of an electronic declaration of intent made by either or both parties to the contract, identifying each of the contracting parties, and how to protect consumers who engage in commercial activity electronically. The Jordanian legislature has addressed some of these concerns by enacting the Electronic

Transaction Act. The Act acknowledges that electronic records and electronic signatures may be used as acceptable forms of legal evidence (Hashemite Kingdom of Jordan, 2015).

As well, the digital environment has greatly impacted the laws governing civil evidence. Documents prepared on paper can no longer be relied upon as the sole means of establishing whether a legal act has occurred. Messages sent electronically, data stored electronically, emails, and other types of digital communication are all accepted as forms of legal evidence so long as they meet the technical and legal requirements established pursuant to law. In doing so, the civil law governing evidence has been updated and modernized to align with the needs of today's commerce (Najjar, 2024).

A significant number of technologically based innovations continue to challenge the application of the laws of evidence. Such innovations include artificial intelligence, digital signatures, and blockchain technology. As such, it is critical for legislation related to electronic commerce to be continually reviewed to ensure that such regulations remain current and responsive to changing technologies.

7.2.2 Digital Transformation in Civil Liability and Rights of a Digital Nature

The reach of digital transformation is much broader than solely relating to contracting and evidence and includes the regulation of rights of obligation in private law that relate to civil liability, as well as those related to property and personal rights governed under the Jordanian Civil Code. In the area of civil liability, artificial intelligence (AI) technologies and intelligent systems can make decisions and perform many functions autonomously. The emergence of AI systems has created a great deal of uncertainty regarding who will bear responsibility if damage results from actions taken by an autonomous system. The issue of who is responsible for damage resulting from someone acting negligently traditionally involves proving that there was a direct cause-and-effect relationship between the act of negligence and the injury/damage. However, determining such causation when it comes to artificial intelligence (AI) represents very serious issues, both technically and legally (Mohamed, 2023).

In addition, because of the digital revolution, people's digital identities have become important and valuable rights associated with individual personalities in the digital world. In fact, illegal use of or access to individuals' personal data is now one of the most serious legal issues facing society today; therefore, this problem must receive a great deal of legislative protection (Al-Mahdi, 2023).

Also, because of the digital revolution, new types of property/assets with economic value are emerging, such as virtual currencies, virtual assets, and digital tokens. The creation of these types of assets raises foundational legal questions about whether they can be characterized as "property" under the terms of Article 2 of the Jordanian Civil Code and, if so, which traditional laws concerning ownership/possession/transfers of ownership would apply to them (Lee, 2024; Al-Qaddal, 2025).

Cross-border digital transactions also raise issues in determining the applicable substantive law and jurisdiction when the parties to a dispute are located in different countries. These issues highlight the need for national legislators to update their existing domestic legislation and for international legal cooperation to address emerging legal issues arising out of digital transformation (Zintl & Houdret, 2025).

7.3 Emerging Legal Issues in the Digital Environment

Digital transformation has created an entirely new form of legal relationship and transaction. This new form of legal relationship and transaction creates new legal challenges for the Jordanian Civil Code. The increasing use of digital technology, electronic services, artificial intelligence, and many other digital tools is raising important legal issues that were not considered at the time of the enactment of the Jordanian Civil Code No. 43 of 1976. In addition to creating legal challenges, the growing field of digital technology raises questions about whether current laws will provide adequate governance of this developing field and sufficient protection for individuals concerning their rights and legal status.

The Jordanian Civil Code is very flexible due to the general principles of Shari'a law (Islamic jurisprudence) and modern legal theory upon which it is based; however, the rapid progression of technological advancement requires the review and modernization of some of its provisions to achieve a balanced relationship between accommodating digital developments while maintaining the stability of all legal transactions (Mohamed, 2023).

7.3.1 Protection of Personal Data and Digital Identity

The growing reliance by governments and private entities on collecting, processing, and electronically exchanging personal data has given rise to numerous legal challenges related to violations of privacy, misuse of personal data, and the unauthorized release or disclosure of such data (Al-Mahdi, 2023).

Historically, the Jordanian government has protected privacy as part of the overall protections provided to persons' personal rights and their right to be free from unlawful interference. As a result of rapid advances in technology, there are now additional types of invasion of privacy that did not exist in traditional society. These include digital identity theft and theft of electronic data, as well as tracking individuals via digital systems without consent.

A digital identity refers to all of the collected electronic data and information that would allow an entity to identify an individual and facilitate interaction among individuals using digital platforms. This could include, but would not be limited to, digital identifiers, electronic accounts, digital signatures, and/or other information used to identify an individual. Due to its increasing use for obtaining access to governmental, financial, and business services, the need to protect this form of identification is becoming increasingly critical (Al-Mahdi, 2023).

The reason why the protection of a digital identity is so important is due to the fact that if someone can compromise your digital identity, they will likely be able to cause you significant financial harm. An example of this type of harm would be when someone uses your account to make unauthorized purchases. Another example would be when someone misuses your personal data. Therefore, it is necessary to create a set of civil law rules regarding the payment of damages and civil liability with regard to modern digital injuries.

7.3.2 Digital Assets and Their Impact on Traditional Civil Law Concepts

A new era in digital technology has introduced new types of "digital" assets—nonphysical, intangible assets, often generated electronically, that can be produced, stored, and transferred using electronic systems. These digital assets include cryptocurrencies, cryptographic tokens, digital collectibles, and many other blockchain-based assets. As a result, digital assets have now been shown to possess considerable financial value in modern-day transactions, thus creating a number of important legal questions regarding the characteristics of these digital assets from a legal perspective (i.e., how do we determine if they are property, and are they part of our traditional civil law?) (Lee, 2024).

Property and proprietary rights in Jordan are defined by the Jordanian Civil Code No. (43) of 1976 as those related to well-defined physical or nonphysical assets. Typically, property refers to physical items or intangible assets that can be owned, transferred, sold, etc. Digital assets challenge this established definition of property since they are intangibly existent (e.g., data) but still allow for ownership to be assigned and for them to be transferred for financial gain. Given the nature of digital assets, there is the possibility that they could be considered a type of property under the provisions of the Jordanian Civil Code.

In relation to challenging what has been traditionally understood as property within civil law, there may be no clearer example than digital assets. Prior to the emergence of these digital assets, legal rights were granted only in reference to physical property or traditional customary proprietary rights. Therefore, the expansion of the objects of legal rights to include digital assets (which are defined solely by their creation via lines of computer code and/or cryptographic algorithms) raises significant concerns regarding the application of long-standing concepts of ownership, possession, and transferability within civil law.

Digital assets also present challenges with regard to documentation and seeking legal remedies. Although it is sometimes possible for the evidentiary principles of civil law to be applied to provide evidence of an entirely electronic transaction that was processed using a distributed ledger system such as a blockchain, providing this type of proof will likely necessitate the use of both technological and legal methods to demonstrate that the referenced electronic transaction occurred and to protect the legitimate interests of each party participating in the transaction.

Finally, the development of digital assets creates challenges for civil liability, particularly in cases involving cyberattacks, loss of access to digital wallets, and digital scams. Establishing who is ultimately liable for damages in each case may become increasingly difficult due to

the multiplicity of the technological parties involved, i.e., creators/developers, platform operators, and end users.

Due to the global nature of digital assets, these legal challenges become even greater. A user of a digital asset may easily send it anywhere in the world without geographical constraints. This results in a multitude of legal complexities as to what laws apply and which courts would have jurisdiction over such matters. Thus, this poses another major challenge for national legal systems, including the Jordanian Civil Code.

Therefore, digital assets constitute a profoundly transformative force in the areas of property, proprietary rights, and ownership in civil law (Al-Qaddal, 2025). As such, they require the creation of an adequate legislative framework that balances the incorporation of digital assets into the legal system while providing effective protections for individuals and supporting continued digital economic growth.

7.3.3 Artificial Intelligence Issues within the Scope of Civil Liability

The application of artificial intelligence is one of the most important results of digital transformation and, as such, is one of the technologies that has had the biggest impact on how laws are structured today. AI is no longer just an assistant technology used to help people make better-informed decisions. Today's AI systems are capable of "learning" and can generate conclusions and execute actions independently of humans. The emergence of autonomous systems has given rise to a number of complicated questions regarding the legal framework, especially concerning civil liability—one of the basic building blocks of the Jordanian Civil Code.

Civil liability law under the Jordanian Civil Code is grounded on three main components: fault, damage, and cause. Additionally, civil liability law presumes that whoever has committed a harmful action was either a natural or juridical person who could be held legally accountable. With increased use of artificial intelligence for performing multiple tasks, there are instances when it is difficult to ascertain directly who is responsible for the damages, specifically when decisions are produced using extensive algorithmic processes and large amounts of data and do not require human oversight throughout each stage of the decision-making process (Mohamed, 2023).

One of the primary legal challenges is determining who should bear the liability for damage caused by artificial intelligence. Can liability be assigned to the individual who created the programming design for the AI system, or can liability be assigned to the party that utilizes the AI system, or can liability be assigned to the party that owns/operates the AI system? Or does it seem plausible that some new form of liability will arise that is separate from those previously discussed? All of these possibilities represent why the current rules of law are unable to fully address this type of harm.

In addition to identifying who is liable for damage, artificial intelligence presents other complications in terms of demonstrating fault. Damage may occur due to a combination of interactions between algorithms and input data, thus creating uncertainty about the specific

point in time at which fault or negligence occurred. In consequence, this adds an additional burden on judges evaluating claims of liability in a way that traditionally would depend on direct evidence of human action.

In addition to the many ethical dilemmas that arise due to AI, the use of AI will also raise serious concerns regarding the adequacy of the current laws of civil liability in providing compensatory justice, especially when an AI system causes substantial damage without any apparent negligence attributable to the traditional actors who are normally responsible.

The reason there is such an urgency in defining civil liability doctrines is that they may provide presumptive liability or strict liability in specific areas, most notably with regard to high-risk technologies. With the increasing reliance on intelligent systems by businesses in financial, administrative, and service capacities, as well as the subsequent increase in potential liability exposure, creating a precise statutory framework that clearly defines each participant's role when utilizing artificial intelligence (AI) would protect those who have been injured and provide clear guidance regarding civil law transactions.

Thus, the legal ramifications arising from the utilization of AI within the realm of civil liability law present a significant obstacle to the Jordanian Civil Code and thus necessitate a review of some of its basic principles (i.e., updating them to account for the distinguishing characteristics of contemporary intelligent systems) while maintaining the underlying precepts of fairness and compensation.

7.4 Modernizing the Jordanian Civil Code in Light of Digital Transformation and Arab Cultural Identity

The need for updating the Jordanian Civil Code can be attributed to the necessary changes required due to the rapidly changing digital landscape of today's world. As such, the use of artificial intelligence, the growing prevalence of e-commerce, the increasing usage of big data, and the emergence of digital assets have necessitated legislative updates in response to these new technologies. In other words, while there may be value in adopting foreign legal solutions, as well as in adopting Western-style legislation, Jordanian modernization efforts must proceed with caution. It would be prudent to establish a model for updating the Code that balances the needs for digital modernization and preserving Arab culture, including the cultural/civilizational values of Jordanian society. Thus, modernization will ensure the continued relevance of the Code in addressing developing legal obligations/relationships arising from emerging technological advancements and preserve the core values/principles upon which Jordanian society was established (Al-Sanhouri, 1967).

7.4.1 Legal and Cultural Parameters for Legislative Modernization

The relationship between legislation and the social/cultural context within which it is produced has been consistently demonstrated throughout history by the fact that laws reflect the existing value systems of societies and thus serve as tools for society's control over individual relations. Therefore, there will always exist a set of legal and cultural criteria

for modernizing the Jordanian Civil Code that will allow for maintaining the country's national and Arab identities.

The most prominent of those criteria include preserving some basic principles of the Jordanian Civil Code, such as the principles of good faith, respect for party autonomy, and achieving justice among parties to juridical relationships, protecting acquired rights, and other similar principles. Those principles are not exclusive to one time frame; rather, they are enduring legal principles that have continued to apply equally well in both digital and analog contexts (Al-Sanhouri, 1967).

Modernizing the legislative framework for civil law in Jordan should take into consideration the unique cultural and social characteristics of Jordanian society. For example, while allowing new technology to be adopted in Jordan does not mean that this must occur at the expense of family and societal values, nor that rights regarding human dignity and privacy must be compromised. In light of the above-mentioned considerations, the regulation of personal data and artificial intelligence must be based on legal guarantees that protect human dignity and protect fundamental liberties (Al-Mahdi, 2023).

Legislative modernization—a further key consideration for the state—is the protection of its "digital sovereignty." This term defines the ability of the state to secure its own digital space and defend its nationally created data. It also refers to the state's right to define and enforce rules applicable to digital activity within its legal sphere. With increasing dependence on cross-border digital platforms and large multinational technology companies (Zintl & Houdret, 2025), digital sovereignty is becoming ever more significant.

As such, legislative modernization should therefore include clauses that will secure national data, regulate the flow of digital information, and provide the required legal protections against cybercrime and electronic attacks on citizens, entities, or national interests.

In modernizing the Civil Code, the Jordanian legislator will need to find an appropriate balance between stimulating innovation in the digital field and protecting the private-law rights of citizens. No individual or entity should suffer from any loss of an established legal position as a result of technological development, and all persons have a legitimate expectation that the law will remain certain and just.

7.4.2 A Future Vision for the Modernization of the Jordanian Civil Code

Digital transformation will require that the Jordanian legislature have an updated, futuristic view of what laws it intends to enact to meet the rapid development of technology as well as provide a flexible, effective legal structure to deal with new digital issues.

The first step toward modernizing legislation is to revise parts of the Jordanian Civil Code that have been affected by new legal developments, including digital assets, smart contracts, and digital identity. As Lee (2024) stated, by creating statutory definitions of those terms, there would be no ambiguity in either how judges interpret them or how they are applied in practice.

Moreover, it is very important to update civil liability rules so that they provide an appropriate level of protection against damage caused by AI and intelligent systems. This could be achieved by establishing legislative provisions that define the party responsible for paying damages for digital harms and provide a basis for determining the amount of compensation (Mohamed, 2023).

Furthermore, the Jordanian legislature needs to enhance the connection between the Jordanian Civil Code and the existing specialized digital laws, especially electronic commerce law, data protection law, and cybersecurity law. To this end, the Jordanian legislature must create an integrated legal framework that will enable it to regulate the digital environment effectively.

In addition, the Jordanian legislature can draw lessons from previous experiences in regulating digital transactions in a way that protects its national or cultural identity while applying those lessons within a legal structure that is consistent with the country's regulatory framework. It is the ability to apply international models in ways that preserve a nation's unique national and civilizational identity that determines whether a law succeeds.

Lastly, in order to amend the Jordanian Civil Code, all parties involved in the process (legislative bodies, courts, universities) need to work together much more closely than previously. All parties need to contribute their various disciplinary skills to formulate both practical and equitable regulations. It will be necessary to provide continuing education opportunities for judges, lawyers, and other legal professionals regarding the latest digital developments in order to implement new legislation effectively.

Therefore, the future of the Jordanian Civil Code is not based on replacing its existing traditions nor abandoning its established foundations; it is based on building upon and adapting those foundations to accommodate the needs of the digital world and to continue to serve the principles of legal justice as well as promote the ability of the law to regulate relationships in today's society.

8. Conclusion

Over the last decades, there have been rapid digital advances around the world that directly influenced both economic, social, and legal developments in society. As a result, new ways of transacting and creating new legal relations have emerged that extend beyond the limits of the existing legal framework established by most civil codes. Therefore, as a direct result of these changes in society, there are significant implications for the Jordanian Civil Code (the primary law establishing the framework for all civil law in Jordan) in establishing a suitable legal framework that reflects the changing nature of the digital world and creates new laws that address the changing needs of individuals and businesses.

The purpose of this research paper is to investigate how the developments of the digital age have impacted the provisions of the Jordanian Civil Code, to identify the major legal challenges raised by the development of the digital age, and to focus primarily on electronic contracting, digital evidence, privacy of personal data, digital identity, artificial intelligence,

and digital property. The research paper will further seek to explore possible means to modernize the Jordanian Civil Code so as to achieve a suitable balance between ensuring that it is modernized to meet current demands while preserving Arab culture, which is one of the founding blocks of Jordanian legislation.

8.1 Findings

The results of the current research show that digital transformation is now a complete legal, social, and economic fact that affects almost all aspects of today's life and can no longer be seen simply as a technical tool that supports other sectors. Furthermore, the present study shows that the Civil Code No. 43/76, which is still in force in Jordan, was established in a legal system that existed before most of the digital technologies known today emerged, so it cannot regulate some of the new legal problems created by the digital economy. However, the study confirms that there are enough flexible principles in the Civil Code to cover a large part of digital transactions through judicial application and adequate legislative development.

A second point made by this study is that e-contracts have become the main way of forming contracts today. The reason why an important link between Civil Code No. 43/76 and the laws regulating electronic transactions is considered fundamental is therefore evident.

Alongside this point, the importance of digital evidence in the context of civil transactions today is now evident as well. Hence, it is necessary to pursue further development of how digital evidence can be admitted into evidence, authenticated, and evaluated in terms of its probative value.

Another significant factor is that the increasing use of digital services implies a greater need for the protection of personal data and digital identities. Finally, because of the increased use of AI systems, several complex legal issues regarding the allocation of civil liability for damage caused by such systems will arise.

Furthermore, the creation of digital assets and virtual currencies represents another rapidly growing economic and legal phenomenon. This requires clear regulatory definitions of their legal status and the applicable rules governing their ownership, transfer, and protection.

Therefore, as stated above, the study found that the civil law system does not provide a single regulatory provision or a set of provisions that addresses all the legal questions raised by the digital economy. For this reason, the study advocates the need to modernize civil law entirely.

Lastly, this study concluded that when civil law is modernized in Jordan, it should take place under a balanced legislative approach that considers both Arab culture and identity and Jordanian social and cultural values. In addition, this study also demonstrated that comparative legislative experiences could represent valuable examples for national legal reform efforts, provided that such comparative approaches are adapted to local legal and cultural environments rather than copied without adaptation.

8.2 Recommendations

Several suggestions and recommendations were derived from the results of this study regarding how the Jordanian Civil Code could better handle digital development while maintaining both its legal and cultural aspects.

A first recommendation is that an exhaustive legislative analysis of the Civil Code should take place so as to verify whether it is compatible with current digital developments and whether it can sufficiently address emerging legal problems resulting from digital technology. This analysis should also be combined with a closer connection to relevant legislation (Electronic Transactions Law) that regulates personal data protection and cybersecurity so as to create a single, complete, and coherent legal framework for all types of digital exchanges.

This study has also recommended the inclusion of clearly defined provisions within legislation to regulate digital assets, smart contracts, and AI applications, providing specific definitions of the legal nature of these applications and explicitly defining the rules applicable to civil liability generated by them. At the same time, increased legal protections should be granted to individuals' digital identities and their personal data through the establishment of legislation that will allow a fair balance between the positive impacts of innovation brought about by technology and the safeguarding of individuals' rights, privacy, and fundamental liberties.

Additionally, the existing rules regarding evidence and civil liability should be updated to account for the special features of electronic exchange processes and the novel forms of damage produced by advanced digital technologies.

Moreover, comparative legislative studies in the area of digital transformation should be utilized by the Jordanian Parliament to formulate legislative responses to the challenges of digital transformation; however, they should be adapted to the cultural, social, and legal characteristics of Jordanian society and be in conformity with the preservation of Arab culture.

Finally, continuous financial assistance should be given to scientific research, academic education, and vocational training in the field of digital law to provide qualified legal professionals (scholars, judges, lawyers, etc.) who will have the capability to answer future legislative and judicial questions raised by the ongoing evolution of digital technologies.

References:

Al-Mahdi, I. A. M. (2023). Al-ḥaqq fī al-huwiyyah al-raqamiyyah fī ḍaw' ḥimāyat al-bayānāt al-shakhṣiyyah wa-al-khuṣūṣiyyah al-ma'lūmātiyyah: Dirāsah waṣfiyyah taḥlīliyyah muqāranah [The right to digital identity in light of personal data protection and informational privacy: A descriptive, analytical, and comparative study]. Majallat al-Buḥūth al-Qānūniyyah wa-al-Iqtisādiyyah (Al-Manṣūrah), 13(84), 491–718. <https://doi.org/10.21608/mjle.2023.309888>

- Al-Nsour, A. M. A. K. (2016). Ibrām al-‘aqd al-iliktrūnī wafqan li-aḥkām al-qānūn al-Urdunī: Dirāsah muqāranah [Conclusion of electronic contracts in accordance with the provisions of Jordanian law: A comparative study] (Master's thesis, Al-Ahliyya Amman University, Jordan). Mandumah Database. <https://search.mandumah.com/Record/994556>
- Al-Qaddal, Y. A. A. (2025). Athar al-taḥawwul al-raqamī ‘alā al-ḥuqūq al-‘ayniyyah fī al-qānūn al-madanī [The impact of digital transformation on real rights in civil law]. Majallat Ibn Khaldoun lil-Dirāsāt wa-al-Abḥāth, 5(8), 341–372. <https://doi.org/10.56989/benkj.v5i8.1561>
<https://www.scribd.com/document/926645652/Athr-Althwl-Alrqmy-Ly-Alhqwq-Alynyf-Fy-Alqanwn-Alm>
- Al-Sanhouri, A. A. (1967). Al-Wasīṭ fī sharḥ al-qānūn al-madanī al-jadīd [The intermediary treatise on the explanation of the new Civil Code] (2nd ed.). Dar Al-Nahda Al-Arabia. <https://library.ecssr.ae/cgi-bin/koha/opac-detail.pl?biblionumber=139481>
- Hashemite Kingdom of Jordan. (1976). Civil Code No. (43) of 1976. Official Gazette, No. 2645. <https://hamdykhalifa.com/wp-content/uploads/2021/04/%D8%A7%D9%84%D9%82%D8%A7%D9%86%D9%88%D9%86-%D8%A7%D9%84%D9%85%D8%AF%D9%86%D9%8A-%D8%A7%D9%84%D8%A3%D8%B1%D8%AF%D9%86%D9%8A-%D8%B1%D9%82%D9%85-43-%D9%84%D8%B3%D9%86%D8%A9-1976.pdf>
- Hashemite Kingdom of Jordan. (2015). Electronic Transactions Law No. (15) of 2015. Official Gazette, No. 5341. <https://www.pm.gov.jo/Ar/Pages/NewsPaperDetails/5341>
- Lee, L. (2024). Examining the legal status of digital assets as property: A comparative analysis of jurisdictional approaches (SSRN Scholarly Paper No. 4807135). SSRN. <https://doi.org/10.2139/ssrn.4807135>
- Mohamed, M. M. A. (2023). Madā isti‘āb nuṣuṣ al-qānūn al-madanī li-waqā’i‘ al-dhakā’ al-iṣṭinā’i: Dirāsah fiqhiyyah muqāranah [The extent to which the provisions of civil law accommodate artificial intelligence-related legal issues: A comparative jurisprudential study]. Majallat al-Sharī‘ah wa-al-Qānūn bi-al-Qāhirah, 42(42), 1305–1363. <https://doi.org/10.21608/mawq.2023.330848>
- Najjar, A. M. N. (2024). Āliyyāt idkhāl al-taḥawwul al-raqamī fī al-manzūmah al-qaḍā’iyyah [Mechanisms for introducing digital transformation into the judicial system]. Majallat al-Ḥuqūq lil-Buḥūth al-Qānūniyyah wa-al-Iqtisādiyyah, 1(3), 485–618. <https://doi.org/10.21608/lalexu.2024.349409>
- Zintl, T., & Houdret, A. (2025). Moving towards smarter social contracts? Digital transformation as a driver of change in state–society relations in the MENA region. Mediterranean Politics, 30(5), 946–969. <https://doi.org/10.1080/13629395.2024.2379737>

Abu Dalou, M. W. M., Al-qaisi, A. H., Al Maagbeh, M. M. F., Elfawair, O. T. A., Ramadin, M. A. M., Alqaisi, S. A. A., Altarawneh, S. M. D., E'layan, M. K., & Alayaydeh, H. A. S. (2026). The impact of constitutional amendments on entrenching the right to public health. *Natural Resources for Human Health*, 6(5s), 46–59. <https://nrfhh.com>

Al Maagbeh, M. M. F., Altarawneh, M. M., E'layan, M. K., Al Dalaien, A. A., Alayaydeh, H. A. S., Al-Tarawneh, D. I., Baniamer, A., Alhendi, N., Altarawneh, S. M. D., & Alhusban, O. A. K. K. (2026b). The role of artificial intelligence technologies in protecting the environment and enhancing its sustainability. *Research Journal in Advanced Humanities*, 7(3). <https://doi.org/10.58256/7dcy5w77>

Al Maagbeh, M. M. F., Altarawneh, S. M. D., Alhendi, N., Al-Tarawneh, D. I., Al Okour, O. S. A., Al-Thbeitat, A. S. A., Aloudat, B. A. A., & Alayaydeh, H. A. S. (2026). The right to withdraw the work from circulation in the interactive digital novel. *Journal of Intelligent Decision Making and Information Science*, 3(6s), 1301–1312. <https://doi.org/10.59543/jidmis.v3.1500>

Al Taani A. (2026). The Role of Political Parties in Promoting Political Participation in Jordan (1989-2024). *Jordanian Journal of Law and Political Science*, 18(1). <https://doi.org/10.35682/jjlps.v18i1.1427>

Alayaydeh, H. A. S., E'layan, M. K., Altarawneh, S. M. D., Al-Hobabseh, W. I., Alkhatatneh, A. A. S., & others. (2026b). Project management of major construction projects in Jordan between contractual standardization and dispute reality: An empirical assessment of FIDIC contracts. *Journal of Intelligent Decision Making and Information Science*, 3(4s), Article 1152. <https://doi.org/10.59543/jidmis.v3.1152>

Alayaydeh, H. A. S., E'layan, M. K., Zahedah, J. Y. S., Altarawneh, S. M. D., AL-Hobabseh, W. I., Aldaggag, A. A. E., & Al Hadad, L. M. Y. (2026). FIDIC contracts, risk allocation, and sustainability in international construction: Comparative lessons from mega projects. *Journal of Intelligent Decision Making and Information Science*, 3(4s) <https://doi.org/10.59543/jidmis.v3.1145>

Al-Hobabseh, W. I., Alayaydeh, H. A. S., Sweilmieen, B. M. R., Al-Dabbas, N. A., Alabdallat, F. M., & others. (2026). civil protection against misleading advertisements via influencers on social media platforms: A comparative study. *Journal of Intelligent Decision Making and Information Science*, 3(1), Article1151. <https://doi.org/10.59543/jidmis.v3.1151>

Al-Hussein, S. M. S., Hmaidan, R. M., Azzeh, S. B. N., Bashabsheh, Z. M. F., Alsubehat, E. A. S., Heif, M. K., Altarawneh, S. M. D., E'layan, M. K., Aladaseen, M. A., & Alayaydeh, H. A. S. (2026). Civil liability for environmental damages arising from the use of artificial intelligence technologies in fertilizers and pesticides: An analytical comparative study. *Natural Resources for Human Health*, 6(5s), 27–45. <https://nrfhh.com>

AL-MAAITEH B. (2026). The effects of mortgaging moral movables for the mortgagor in Jordanian law: a comparative study. *Jordanian Journal of Law and Political Science*, 18(1). <https://doi.org/10.35682/jjlps.v18i1.1456>

Altarawneh, D., Meeush, S., Alabdallat, F. M., Saleh, N. A. H., Maagbeh, M. M. F. A., E'layan, M. K., & Alayaydeh, H. A. S. (2026). Civil protection of intellectual property rights against infringements arising from the deployment of artificial intelligence systems: A comparative legal analysis. *Social Science Forum*, 10(8), 891–909. <https://doi.org/10.10118/SSFJ/2610849>

Altarawneh, D., Meeush, S., Tarawneh, S. Y. S., Saraireh, R. M. Y., Aljaafari, M., E'layan, M. K., Alabdallat, F. M., & Alayaydeh, H. A. S. (2026). The impact of engineering management on the establishment of strict product liability and the legal defenses available against AI-based smart products. *Social Science Forum*, 10(8), 1047–1070. <https://doi.org/10.10118/SSFJ/2610861>

Althnaibat, O. H. A., Alayaydeh, H. A. S., Abu Hazeem, M. S., Al Atiyat, M. M., Al Tarawneh, R. Y., & Abueid, A. Q. M. (2025a). The digital historian: Between civic responsibility and ethical obligation: A comparative study. *Journal of Human Security*, 21(2), 181–187. <https://doi.org/10.12924/johs2025.210227>

Althnaibat, O. H. A., Kasasbeh, H. A. M., Ghazleh, A. M. A., Abueid, A. Q. M., Roudan, S. M. K., & others. (2026b). Insurance against medical errors resulting from cosmetic laser procedures. *European Journal of Prosthodontics and Restorative Dentistry*, 34(4s), 1450. <https://doi.org/10.1922/ejprd.v34i4s.1450>

Hazeem, M. S. A., Altarawneh, S. M. D., Alayaydeh, H. A. S., Aldabouby, R. M. F., Al-Dabbas, N. A., & others. (2026). the legal framework of deferred payment contracts via electronic applications and the scope of central bank supervision: A comparative study between Jordanian and French legislation. *Journal of Intelligent Decision Making and Information Science*, 3(1), Article 1153. <https://doi.org/10.59543/jidmis.v3.1153>