

Artificial Intelligence in commercial contracting under Jordanian Law: Contract formation, attribution and civil liability

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Abstract

Artificial intelligence is increasingly involved in the initiation, negotiation, formation, and performance of commercial contracts, creating new questions concerning contractual consent, attribution, mistake, and civil liability. This study examines how Jordanian commercial and civil law can address AI-assisted, automated, and AI-generated contracting without recognising artificial intelligence as an independent legal person. Using a doctrinal legal methodology, the study systematically interprets Jordanian private-law and electronic-transaction principles and applies them to representative AI-enabled commercial scenarios. The analysis distinguishes technological generation from legal attribution and identifies prior authorisation as a central basis for connecting AI-generated acts to commercial actors. It develops a four-element attribution framework based on authorised deployment, scope of authority, effective control, and transactional connection. The findings further show that contractual consent may operate through layered intention, including the decision to deploy an AI system, the authority granted to it, the resulting transaction, and subsequent ratification or performance. AI-generated mistake should be assessed through material deviation, counterparty knowledge, and reasonable commercial reliance, while contractual responsibility should ordinarily remain with recognised legal persons. The study concludes that targeted doctrinal and legislative clarification can strengthen legal certainty while preserving the coherence of Jordanian commercial and civil law in increasingly autonomous digital commercial environments.

Keywords: Artificial intelligence, commercial contracting, civil liability, contract attribution, electronic transactions, Jordanian law

Introduction

Artificial intelligence is increasingly transforming the manner in which commercial transactions are initiated, negotiated, concluded, and performed (Lim & Morgan, 2024) ^[24]. Business enterprises now employ intelligent systems to analyse market information, communicate with customers and suppliers, determine prices, generate contractual language, assess transactional conditions, approve purchases, manage inventories, and execute automated responses. The legal significance of these developments extends beyond the traditional concept of electronic contracting. Earlier digital transactions generally involved electronic communication of decisions already determined by human actors, whereas contemporary artificial intelligence systems may participate directly in generating contractual outputs, selecting alternatives, adapting to changing information, and making decisions without contemporaneous human intervention. This development creates an important challenge for commercial and civil law because contractual doctrine has historically been structured around legally attributable human intention (Finocchiaro, 2024) ^[19].

The Jordanian legal system provides a substantial foundation for regulating electronic commercial transactions through general civil-law principles, commercial-law rules, and legislation governing electronic transactions (Al Masadeh *et al.*, 2024) ^[2]. These rules recognise electronic communications and permit automated mechanisms to

operate within contractual processes (UNCITRAL, 2024) ^[6]. Nevertheless, artificial intelligence introduces additional questions that are not fully resolved by the conventional distinction between human contracting and electronic communication. A system capable of generating an offer, accepting contractual conditions, recommending or determining prices, modifying contractual terms, or executing transactions within predefined or dynamically generated parameters may produce legally significant consequences that were not individually reviewed or specifically intended by the commercial actor deploying the system.

The principal legal difficulty is therefore not whether electronic transactions can generate binding obligations. Rather, it concerns the conditions under which an AI-generated contractual act should be attributed to a natural or legal person and the consequences that follow when the generated transaction differs from the outcome contemplated by that person (Mik, 2022) ^[27]. This question directly engages commercial-law requirements of transactional certainty and enforceability and civil-law doctrines concerning consent, contractual intention, mistake, performance, fault, causation, liability, and remedies.

This study examines the capacity of Jordanian law to address these emerging problems. It focuses on three interconnected dimensions: the formation of commercial contracts involving artificial intelligence, the attribution of AI-generated contractual acts, and civil liability resulting

from AI-mediated commercial activity. Particular attention is given to situations in which artificial intelligence operates within a commercially authorised environment but produces an unexpected, erroneous, or economically harmful result.

The study adopts a doctrinal legal methodology. Jordanian commercial, civil, and electronic-transaction principles are interpreted systematically and applied to representative categories of AI-enabled commercial conduct. The analysis distinguishes between the decision to deploy an AI system, the authority granted to that system, the particular output generated by it, and the legal consequences attributed to the commercial actor. This distinction enables the study to examine whether existing private-law doctrines can accommodate artificial intelligence without treating the technology as an independent legal person.

The study contributes by developing a Jordanian framework for AI contractual attribution based on authorised deployment, scope of authority, effective control, and transactional connection. It argues that the central task for Jordanian private law is not to create a separate contractual personality for artificial intelligence, but to clarify how existing principles of consent, attribution, commercial responsibility, and civil liability should operate where contractual decisions are generated through increasingly autonomous technological systems.

Literature Review and Doctrinal Context

1. Artificial Intelligence and the Transformation of Commercial Contracting

Commercial contracting has progressively moved from paper-based agreements to electronic communication, automated processing, and increasingly intelligent decision-making (Appelmans *et al.*, 2021) ^[5]. The legal significance of this progression lies in the changing relationship between human intention and the contractual act that ultimately reaches the counterparty. In a conventional contract, the legally relevant declaration is ordinarily made directly by a person or by another person acting with authority. In traditional electronic contracting, technology primarily communicates or records a decision that can still be traced relatively easily to a human actor. Artificial intelligence complicates this structure because the system may contribute substantively to the content, timing, or economic terms of the transaction.

AI-enabled commercial contracting encompasses a wide range of activities. Some systems merely assist human decision-making by presenting recommendations. Others automatically implement predefined rules. More advanced systems may generate contractual clauses, negotiate prices, prioritise suppliers, select contractual alternatives, communicate with counterparties, or execute transactions based on data inputs and programmed objectives (Momani *et al.*, 2025) ^[28]. The degree of human participation therefore varies substantially. This variation has direct legal consequences because not every automated process raises the same questions concerning consent and responsibility.

A useful legal distinction can be drawn among AI-assisted contracting, automated contracting, and AI-generated contracting. In AI-assisted contracting, the human actor retains the immediate decision-making role and uses artificial intelligence primarily for information, drafting, prediction, or recommendation. Traditional rules of consent remain comparatively straightforward because the person reviews or adopts the output before entering the transaction.

Automated contracting involves systems that execute decisions according to predetermined conditions or parameters (Casey & Niblett, 2024) ^[13]. Here, the legal focus shifts toward prior authorisation and attribution. AI-generated contracting represents the more complex category because the system may create or select transaction-specific outputs that were not individually predetermined by its user (Çağlayan Aksoy, 2024) ^[12].

This distinction is important for Jordanian commercial law because legal regulation should correspond to the functional role of the technology. Treating all AI-related transactions identically would overlook the differences between a software tool that merely drafts contractual language and an AI system authorised to determine whether a commercial transaction should be entered into. A doctrinally coherent framework must therefore examine the degree of autonomy exercised by the system and the relationship between that autonomy and the authority provided by the commercial actor (Surden, 2024) ^[37].

2. Commercial Law, Transactional Certainty, and AI

Commercial law places particular importance on certainty, predictability, speed, and reliability. Businesses frequently conduct large numbers of transactions under conditions in which counterparties must be able to rely on outwardly communicated acts. Artificial intelligence creates tension between this commercial need for reliance and the civil-law concern that contractual obligations should originate from valid consent (Arvind, 2024) ^[6].

If a commercial enterprise deploys an AI purchasing system and allows it to communicate directly with suppliers, the supplier may reasonably understand the resulting transaction as an act of the enterprise. Permitting the enterprise to avoid contractual responsibility merely because no employee reviewed the particular transaction could undermine commercial certainty. Conversely, automatically binding the enterprise to every output generated by an AI system may produce unfair consequences where the system clearly acts outside authorised parameters or where the counterparty knows that the output is anomalous.

The central commercial-law problem therefore concerns the appropriate distribution of transactional responsibility (Beckers & Teubner, 2022) ^[7]. A legal framework must protect legitimate commercial reliance while recognising that artificial intelligence may generate outputs that deviate from the user's commercial objectives. This problem resembles established questions involving employees, agents, electronic intermediaries, automated ordering systems, and erroneous communications, but AI adds greater complexity because the system may generate novel outputs rather than merely transmit predefined instructions. Commercial law can respond to this challenge through the concept of attribution. Attribution does not require the AI system itself to possess legal intention. Instead, it determines whether the system's act should legally be treated as the act of the person or enterprise that deployed it (Tjong Tjin Tai, 2022) ^[40]. This approach preserves the traditional structure of legal personality while adapting the mechanism through which legally relevant conduct is identified.

3. Contractual Consent in AI-Enabled Transactions

Consent remains a fundamental element of contractual obligation. The emergence of AI does not eliminate this

requirement, but it changes the stage at which legally relevant consent may be identified. In conventional contracting, consent is associated closely with the specific transaction. In AI-enabled contracting, the relevant intention may arise earlier, when the commercial actor configures, authorises, or deploys the system to undertake a category of transactions.

This creates an important doctrinal distinction between specific transactional intention and prior systemic intention. A business may not have consciously considered each individual transaction generated by an AI system, but it may have intentionally authorised the system to enter transactions within a defined commercial scope. The question then becomes whether prior authorisation can provide a sufficient legal foundation for attributing later AI-generated acts to the business.

A strong legal approach should not require contemporaneous human awareness of every automated commercial act. Such a requirement would be inconsistent with the practical operation of modern digital commerce. At the same time, prior authorisation should not be interpreted without limits. The scope of the system's authority, the nature of the transaction, the extent of human oversight, and the predictability of the generated output all become relevant in determining whether attribution is justified (Botero Arcila, 2024) ^[10].

This analysis suggests that consent in AI contracting should be understood as layered rather than singular. The first layer concerns the intention to deploy the AI system. The second concerns the authority given to the system to undertake specified commercial activities. The third concerns the transaction produced within that authority. The fourth concerns subsequent conduct by the user, including confirmation, performance, rejection, or ratification. These layers allow existing civil-law principles to remain relevant while recognising that human intention may operate indirectly through technological systems.

4. Attribution of AI-Generated Commercial Acts

Attribution is the most important bridge between artificial intelligence and conventional contract law. An AI system does not need to be treated as a contracting person in order for its output to produce legal consequences. The law can instead identify the person whose commercial activity, authorisation, and control gave rise to the transaction.

A deployment-based approach provides a useful starting point. Where a commercial enterprise intentionally introduces an AI system into its contracting process and permits that system to interact with counterparties, there is a strong basis for attributing outputs generated within the authorised commercial function to the enterprise. The enterprise benefits from the efficiency, scalability, and economic advantages of automation and should ordinarily bear the legal consequences of transactions generated within the system's permitted operational field.

However, deployment alone may be too broad. Attribution should also consider scope of authority. A system authorised to purchase routine supplies within defined quantity and price ranges should not necessarily bind the enterprise in the same manner if it generates a transaction entirely outside those limits. The legal treatment may depend on whether the deviation was internal and unknown to the counterparty or externally apparent and inconsistent with the commercial context.

Control is another relevant dimension. The party that selects the system, determines its objectives, establishes operational parameters, monitors its outputs, and possesses the ability to suspend or modify its operation has a stronger connection to the resulting transaction. Effective control does not require continuous human supervision. Rather, it reflects the capacity to determine the environment within which the AI system performs its commercial function.

Transactional connection provides an additional safeguard. An AI-generated act should be more readily attributable where it is closely connected to the business activity for which the system was deployed. A supplier-management system purchasing ordinary inventory presents a stronger case for attribution than a system generating an unrelated transaction outside the enterprise's commercial activities.

These elements support a structured attribution framework without introducing unnecessary concepts of AI personality.

5. AI-Generated Mistake and Defective Consent

Artificial intelligence also creates difficult questions concerning mistake. A system may generate an incorrect price, quantity, product specification, contractual clause, payment instruction, or acceptance. Some errors may result from inaccurate input data, some from system configuration, and others from the probabilistic or adaptive characteristics of the AI itself (Fratton, 2023) ^[20].

Traditional mistake doctrine generally focuses on discrepancies between the party's actual intention and the contractual declaration (Oliver, 2021) ^[30]. AI complicates this analysis because the immediate declaration may not correspond to a transaction-specific human intention at all. The relevant comparison may instead be between the AI-generated output and the authorised commercial parameters established by the user.

This distinction is significant. An output that falls within authorised parameters but proves commercially disadvantageous should not automatically be treated as a legal mistake. Commercial parties ordinarily bear the consequences of poor decisions. By contrast, an output that materially exceeds the authority granted to the system may justify a different legal analysis, particularly where the counterparty knew or reasonably should have recognised the anomaly.

The legal system must therefore distinguish technological unpredictability from legally relevant mistake. Not every unexpected AI output should permit avoidance of the contract. Otherwise, commercial actors could invoke the complexity of their own technological systems to undermine transactional reliability. A more balanced approach requires examination of authorisation, foreseeability, counterparty knowledge, and the seriousness of the deviation.

6. Civil Liability for AI-Mediated Commercial Activity

Contract formation represents only one aspect of the problem. Artificial intelligence may also affect performance after a contract has been validly concluded (Janssen, 2022) ^[22]. AI systems may manage payments, delivery scheduling, inventory allocation, customer services, pricing adjustments, quality controls, or other contractual obligations. A system failure or erroneous decision may therefore produce non-performance, delay, defective performance, or economic loss.

Civil liability in these circumstances should remain centred on recognised legal persons (Soyer & Tettenborn, 2022) ^[35].

Where an enterprise uses AI as part of its contractual performance, the technological nature of the system should not by itself remove the enterprise's responsibility to perform its obligations (Pfeifer-Chomiczewska, 2022) ^[31]. The relevant question is ordinarily whether the contractual obligation was fulfilled rather than whether the failure resulted from a human employee or an automated system. More complex problems arise in the relationship between the enterprise and the AI provider or developer (Rodríguez de las Heras Ballell, 2023) ^[33]. An enterprise may be liable to its counterparty while separately having contractual or other legal claims against the provider whose defective system contributed to the loss. This distinction between external contractual responsibility and internal allocation of responsibility is essential.

The commercial user, developer, provider, platform operator, and counterparty may therefore occupy different legal positions (Buiten *et al.*, 2023) ^[11]. Their respective responsibilities should not be collapsed into a single concept of AI liability (Noto La Diega & Bezerra, 2024) ^[29]. The contractual relationship, degree of control, source of the defect, foreseeability of harm, and applicable standards of performance all remain relevant.

7. Research Gap and Study Contribution

Existing legal discussions frequently address artificial intelligence through broad questions of regulation, ethics, data protection, or technological governance. These perspectives are important but do not fully resolve the private-law consequences of AI-generated commercial activity. The more specific problem concerns how established principles of contract formation, consent, attribution, mistake, performance, and civil liability should operate when the immediate commercial act is generated by an intelligent system (Knetsch, 2022) ^[23].

Within the Jordanian context, this problem requires particular attention because existing private-law and electronic-transaction principles provide a significant foundation, yet contemporary AI systems introduce forms of decision-making that are more autonomous and adaptive than conventional electronic intermediaries (Al-Mhaierat, 2026) ^[3]. The resulting doctrinal issue is therefore not simply whether Jordan needs additional AI regulation. It is whether the existing structure of commercial and civil law can be interpreted coherently to govern AI-mediated transactions and, where clarification is necessary, what form that clarification should take (Al-Hawamdeh & Alhasan, 2024) ^[1].

This study addresses that gap by developing an integrated Jordanian approach to AI commercial contracting. It connects commercial certainty with civil-law consent and liability and proposes a structured attribution model based on authorised deployment, scope of authority, effective control, and transactional connection.

Research Methodology

1. Research Design and Legal Scope

The study adopts a doctrinal legal research methodology to examine the treatment of artificial intelligence within Jordanian commercial contracting and civil liability. Doctrinal legal research is appropriate because the research questions concern the interpretation, coherence, application, and development of existing legal rules rather than the measurement of social attitudes or behavioural outcomes

(Bódig, 2021) ^[9]. The purpose is to determine how established Jordanian legal principles operate when applied to commercial transactions involving AI-assisted, automated, or AI-generated decision-making.

The analysis focuses on the legal relationship among Jordanian civil-law principles, commercial-law rules, electronic-transaction legislation, and other relevant private-law provisions. These bodies of law are examined as an integrated legal framework rather than as isolated legislative instruments (Taekema & van der Burg, 2024) ^[38]. This approach reflects the nature of commercial contracting, in which the validity of the transaction may depend simultaneously on general rules of consent, specialised commercial principles, rules concerning electronic communications, and liability provisions governing performance and damages.

2. Functional Classification of AI Contracting

The first stage of the methodology involves conceptual legal classification (da Silva Filho, 2025) ^[15]. AI-related contractual activity is divided into three categories: AI-assisted contracting, automated contracting, and AI-generated contracting. AI-assisted contracting refers to circumstances in which artificial intelligence provides information, recommendations, or drafting assistance but a human actor makes the final contractual decision. Automated contracting concerns transactions executed according to previously established instructions or operational parameters. AI-generated contracting refers to transactions in which the system exercises a greater degree of decision-making capacity by generating, selecting, or adapting transaction-specific outputs without contemporaneous human approval.

This classification is methodologically important because the legal consequences may differ according to the functional role of the technology. The study therefore avoids treating all uses of artificial intelligence as legally identical. Instead, the degree of technological participation is examined in relation to the relevant legal concept.

3. Systematic Doctrinal Interpretation

The second stage consists of systematic doctrinal interpretation (Majeed *et al.*, 2023) ^[25]. The legal principles governing contract formation, consent, offer and acceptance, attribution, mistake, performance, contractual responsibility, causation, damages, and remedies are identified and interpreted in relation to AI-mediated commercial activity. Particular emphasis is placed on the relationship between general civil-law doctrine and rules governing electronic commercial transactions.

The analysis applies conventional interpretive considerations, including the text and purpose of legal rules, their relationship with other provisions, the coherence of the broader legal framework, and the commercial function served by the rule (Theil, 2025) ^[39]. The objective is not merely to determine whether existing provisions expressly mention artificial intelligence. Instead, the study examines whether their underlying legal principles can reasonably extend to technologically mediated conduct.

4. Scenario-Based Doctrinal Analysis

The third stage employs problem-based doctrinal analysis (McConville & Chui, 2024) ^[26]. Representative legal scenarios are used to test the operation of existing rules.

These scenarios include an AI system generating an offer, accepting a supplier's terms, determining an incorrect price, purchasing an unintended quantity, modifying contractual provisions, executing performance incorrectly, or causing economic loss through automated decision-making. The scenarios are not treated as empirical observations. They function as analytical devices through which the adequacy and boundaries of existing legal doctrine can be examined.

5. Attribution and Formation-Performance Framework

The fourth stage concerns attribution. The study evaluates whether an AI-generated contractual act can be connected legally to a commercial actor through four elements: authorised deployment, scope of authority, effective control, and transactional connection. Authorised deployment concerns the intentional introduction of the system into the contracting process. Scope of authority examines the commercial decisions the system was permitted to undertake. Effective control concerns the ability of the user to configure, restrict, supervise, or discontinue the system. Transactional connection considers whether the disputed output arose within the business activity for which the system was deployed.

The fifth stage distinguishes contract formation from contractual performance. This distinction is necessary because an AI-generated error may affect either the existence and validity of the contract or the fulfilment of an already valid obligation. Formation-related problems are analysed primarily through consent, attribution, mistake, and enforceability. Performance-related problems are examined through breach, causation, civil responsibility, damages, and remedies.

6. Analytical Boundaries and Evaluation

The methodology is exclusively legal and qualitative (Choudhary, 2024) ^[36]. It does not employ surveys, interviews, statistical analysis, or experimental methods. The findings are derived from structured interpretation and synthesis of Jordanian private-law doctrine. The study ultimately evaluates whether the existing legal framework can accommodate AI-based commercial transactions through interpretation or whether specific doctrinal or legislative clarification is warranted.

Doctrinal Results and Discussion

1. Legal Recognition and Attribution of AI-Mediated Contracting

The doctrinal analysis indicates that Jordanian private law contains a substantial conceptual foundation for addressing AI-mediated commercial contracting, but contemporary artificial intelligence places particular pressure on the doctrines of attribution, consent, mistake, and responsibility. The central finding is that the legal system does not require artificial intelligence to possess independent legal personality or contractual intention. Instead, AI-generated conduct can be analysed by identifying the legally responsible person behind the technological system and determining whether the disputed output falls within the sphere of commercial activity that person authorised.

The first result concerns the legal recognition of AI-mediated contracting. The underlying principles of Jordanian contract law do not depend upon physical presence or paper documentation. Electronic mechanisms

can therefore participate in the formation of commercial obligations. This provides an important doctrinal basis for AI contracting. The mere fact that an offer, acceptance, order, or other contractual communication is generated or transmitted through artificial intelligence does not, by itself, prevent legal effect.

However, legal recognition of the medium does not resolve the separate question of attribution. A contract cannot be explained solely by stating that an AI system generated the relevant communication. The law must identify the natural or legal person to whom that communication is attributable. The analysis therefore supports a distinction between technological generation and legal attribution. Artificial intelligence may generate the immediate output, while the legal act remains attributable to the commercial actor that authorised and deployed the system (Seng & Tan, 2024) ^[34]. This distinction provides a more stable doctrinal approach than proposals based on AI legal personality. Commercial law requires identifiable parties capable of possessing rights, obligations, assets, and responsibility. An AI system does not need to become an independent legal subject merely because it performs increasingly sophisticated transactional functions (Fenwick & Wrzka, 2022) ^[18]. The more coherent solution is to treat AI as an instrument through which commercial conduct is produced while applying attribution principles to determine whose conduct it legally represents.

2. Prior Authorisation and the Four-Element Attribution Test

The second major finding concerns prior authorisation. In AI-mediated contracting, legally relevant intention may arise before the specific transaction is generated. A business that deliberately deploys an AI procurement system and authorises it to purchase specified categories of goods within defined commercial parameters demonstrates a legally significant intention to conduct transactions through that system. The absence of contemporaneous human review of each transaction should therefore not automatically prevent contractual responsibility (European Law Institute, 2025) ^[17].

This conclusion is especially important for commercial certainty. If businesses were permitted to reject obligations whenever an AI system generated the transaction without immediate human approval, counterparties would face substantial uncertainty when dealing with automated commercial systems. The commercial benefits of automation would be retained by the deploying enterprise while transactional uncertainty would be transferred to counterparties. A more balanced legal position is that transactions generated within the authorised operational scope of the system are ordinarily attributable to the enterprise.

Nevertheless, the analysis also indicates that authorisation cannot be unlimited. The legal effect of an AI-generated act should depend partly on whether the system operated within its authorised commercial scope. This supports the proposed four-element attribution framework.

The first element, authorised deployment, establishes whether the commercial actor intentionally introduced the AI system into the relevant transaction environment. Accidental or unauthorised use presents a materially different legal situation from deliberate deployment.

The second element, scope of authority, determines whether the generated transaction falls within the category of decisions the system was permitted to make. A system authorised to purchase routine office supplies cannot automatically be treated as having authority to enter high-value financing arrangements. The relevant question is functional rather than purely technical.

The third element, effective control, concerns the relationship between the commercial actor and the AI system. A party that selects the system, establishes its objectives, determines operational parameters, provides relevant data, monitors outputs, and possesses the ability to suspend its operation has a sufficiently strong connection to the resulting commercial conduct to justify attribution in ordinary circumstances.

The fourth element, transactional connection, examines whether the output is connected to the business activity for which the AI system was deployed. This prevents attribution from being determined solely by ownership or possession of technology. The disputed transaction must remain connected to the commercial function entrusted to the system.

Taken together, these elements provide a structured legal test. The stronger the evidence of authorised deployment, functional authority, effective control, and transactional connection, the stronger the justification for attributing the AI-generated act to the commercial actor (Heine & Quintavalla, 2024) ^[21].

3. Contractual Consent and Layered Intention

The third major result concerns contractual consent. Traditional doctrine often associates consent with direct human awareness of the particular transaction. AI systems make such an approach increasingly difficult because high-volume commercial automation necessarily separates prior authorisation from individual transactions. The analysis therefore supports a layered understanding of contractual intention.

The first layer is the intention to use artificial intelligence in commercial decision-making. The second is the intention to authorise the system to perform particular types of transactions. The third is the particular AI-generated output. The fourth is subsequent conduct, such as confirmation, performance, payment, rejection, or ratification.

This layered model permits Jordanian civil-law principles to accommodate advanced automation without abandoning the requirement of consent. Human intention remains fundamental, but its legal expression may occur through the prior design and authorisation of the transactional process rather than through direct approval of each output.

4. AI-Generated Mistake and Commercial Reliance

The fourth result concerns mistake. AI-generated errors should not automatically be treated as defects of consent. A commercially disadvantageous output is not necessarily a legal mistake merely because the user later regrets it or because the system generated a result different from what the user expected. Commercial actors ordinarily bear the consequences of decisions made within systems they have intentionally deployed.

A stronger basis for invoking mistake arises where the AI output materially exceeds the system's authorised parameters or where the generated declaration is clearly inconsistent with the commercial context. Even then, the position of the counterparty is important. Where the

counterparty had no reason to suspect an internal AI error and reasonably relied on the communicated terms, commercial certainty weighs strongly in favour of enforceability. Where the counterparty knew or clearly should have recognised that the AI output was anomalous, allowing strict reliance may be less defensible.

The analysis therefore suggests that AI-related mistake should be assessed through the interaction of authorisation, material deviation, counterparty knowledge, and reasonable commercial reliance (Zhai, 2026) ^[42]. This approach prevents artificial intelligence from becoming a general mechanism through which businesses escape unfavourable transactions.

5. Contractual Performance and Multi-Actor Responsibility

The fifth finding concerns contractual performance. Where a valid contract already exists, the use of artificial intelligence in performing that contract should generally not alter the basic responsibility of the contracting party (Džipković, 2026) ^[3]. If a business uses an AI system to arrange delivery, process payment, calculate contractual quantities, or manage other obligations, a technological failure does not ordinarily transform the nature of the contractual obligation.

The contracting party remains responsible for performance toward the counterparty, while responsibility between the user and the technology provider may be addressed separately. This distinction is important because external contractual liability and internal technological responsibility are not identical. A business may owe damages to its counterparty for defective performance while simultaneously possessing a claim against a provider whose defective system contributed to the breach.

The sixth finding therefore concerns multi-actor responsibility. AI-mediated commerce may involve the commercial user, software developer, technology provider, platform operator, data provider, and counterparty. Their responsibilities should be analysed according to their respective legal relationships rather than through a single category of "AI liability." (Qadan & Irehaie Hatamleh, 2026) ^[32]

The commercial user is ordinarily the actor most directly connected with the counterparty. The developer or provider may bear separate responsibility where the AI system fails to meet contractual or legal standards (Al-Wreikat *et al.*, 2025) ^[4]. The platform operator may assume responsibility according to its contractual role and degree of control. The counterparty may also bear responsibility where it knowingly exploits an obvious AI-generated error.

The study consequently supports a relational approach to civil liability. Responsibility should follow legal relationships, control, contractual obligations, causation, and the source of the relevant failure (Steel, 2024) ^[36].

6. Overall Doctrinal Synthesis

Overall, the doctrinal findings indicate that Jordanian law can accommodate a substantial proportion of AI-enabled commercial activity without abandoning established private-law concepts. The principal requirement is doctrinal clarification rather than wholesale replacement of existing contract law (Bertolini, 2025) ^[15]. The most important area requiring development is attribution. Once the AI-generated act is connected legally to a recognised person, conventional

rules governing consent, performance, breach, liability, and remedies can perform much of the remaining analytical work.

Legal and Practical Implications

1. Attribution and Business Governance

The findings have important implications for Jordanian commercial law, civil law, contracting practice, and future legislative development. The principal implication is that artificial intelligence should be integrated into the existing architecture of private law rather than regulated as if every AI-enabled transaction required a separate legal regime. Jordanian law already contains the conceptual foundations needed to address electronic contracting, contractual consent, commercial responsibility, mistake, breach, causation, and remedies. The priority should therefore be to clarify how these existing concepts apply when the immediate commercial output is generated by an AI system. A first implication concerns contractual attribution. Jordanian law would benefit from a clearer rule establishing that AI-generated commercial conduct may be attributed to the natural or legal person that intentionally deploys the system within an authorised commercial function. Such a rule would strengthen transactional certainty without requiring legal personality for artificial intelligence. The proposed framework of authorised deployment, scope of authority, effective control, and transactional connection provides a practical basis for this determination.

A second implication concerns business contracting practices. Enterprises using artificial intelligence should define the operational authority granted to their systems with greater precision. Internal governance should distinguish between systems that merely provide recommendations and systems permitted to generate legally consequential decisions. The permissible types of transactions, monetary limits, prohibited activities, escalation requirements, and human-approval thresholds should be identified before deployment.

These internal arrangements would not merely serve technological governance. They could become relevant in determining whether a disputed AI-generated transaction occurred within the commercial authority established by the enterprise. Clear operational boundaries may therefore reduce uncertainty concerning consent and attribution.

2. Contractual Allocation with AI Providers

A third implication concerns contractual drafting between businesses and AI providers. Commercial agreements should address the allocation of responsibilities relating to system performance, data inputs, security, availability, accuracy standards, monitoring, modification, and correction of erroneous outputs. However, contractual allocation between the user and provider should be distinguished from the rights of external counterparties. An enterprise should not necessarily be able to avoid its contractual obligations toward a counterparty merely because a separate technology provider contributed to the underlying failure.

3. Mistake, Commercial Reliance, and Civil Liability

A fourth implication concerns mistake. Jordanian private law should maintain a cautious distinction between genuine defects affecting consent and ordinary commercial consequences arising from the use of automated systems.

An AI-generated outcome should not become legally avoidable merely because it was unexpected. Otherwise, the reliability of digital commerce would be weakened. The more appropriate approach is to examine whether the output materially exceeded authorised parameters, whether the deviation affected an essential contractual element, and whether the counterparty knew or should reasonably have recognised the anomaly.

A fifth implication concerns civil liability. The use of artificial intelligence should not create a liability vacuum. Where a business relies on AI to perform contractual obligations, responsibility toward the counterparty should ordinarily remain attached to the contracting party. Questions concerning the responsibility of developers, providers, or other technological actors can then be resolved through the legal relationships connecting those parties.

4. Targeted Legislative Development

A sixth implication concerns future Jordanian legislative development. Any reform should remain targeted. A comprehensive reconstruction of contract law is unnecessary. More useful development would involve clarification of automated and AI-generated attribution, treatment of outputs exceeding authorised parameters, documentation of materially significant automated decisions, and the relationship between AI-generated error and established doctrines of mistake and contractual responsibility.

The study also has an important conceptual implication. Artificial intelligence does not require the abandonment of human-centred private law. The increasing autonomy of technological systems changes how commercial decisions are produced, but it does not necessarily change the identity of the persons who receive commercial benefits, control technological deployment, and bear legal obligations. The relevant legal task is therefore to connect technological conduct to recognised persons through principled rules of attribution.

Conclusion

In conclusion, artificial intelligence represents an important development in Jordanian commercial contracting because it moves electronic commerce beyond the simple transmission of human decisions toward systems capable of generating transaction-specific outputs. This development places pressure on traditional concepts of consent, intention, mistake, attribution, and liability, but it does not make those concepts obsolete.

The doctrinal analysis indicates that Jordanian commercial and civil law can provide a coherent basis for governing AI-mediated transactions if legal analysis distinguishes between the AI system as a technological mechanism and the commercial actor as the bearer of legal rights and obligations. The strongest approach is therefore not to recognise artificial intelligence as an independent contracting person, but to determine when AI-generated conduct should be attributed to the person that authorised and controlled its commercial deployment.

The proposed four-element framework—authorised deployment, scope of authority, effective control, and transactional connection—offers a structured method for making that determination. It preserves commercial certainty while allowing appropriate consideration of situations in which an AI system materially exceeds its authorised function.

Jordanian law should consequently approach artificial intelligence as an evolutionary challenge to existing private-law doctrine rather than as a complete rupture from established legal principles. Clarifying attribution, consent, mistake, contractual responsibility, and remedies would allow the legal framework to respond to advanced AI-enabled commerce while maintaining the stability, predictability, and coherence required by commercial transactions.

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