

A Purposeful Legal Analysis of Blockchain and Traffic Justice in the Context of Emirati Digital Transformation

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Abstract - With the digital revolution in full swing, traffic management has come to be recognized as a crucial testing ground for decentralized technologies that can help improve evidentiary soundness and institutional accountability. The present study seeks to solve the issue of whether blockchain technology can be applied effectively toward the promotion of traffic justice in the UAE in a manner compatible with the tenets of Islamic Sharia and the country's digital governance strategy, amid broader governance questions concerning data integrity, responsibility for automated decision-making, and the evidentiary treatment of records generated by increasingly digital traffic-management systems. Using a descriptive analytical, non-empirical research approach, the study formulates a conceptual five-layer blockchain model for data gathering, identity validation, permissioned network functioning, consensus-based transaction processing, and dispute resolution services and tests it through a review of secondary materials from UAE regulatory documents, blockchain research, and Islamic jurisprudence literature. From the qualitative comparative analysis, the conceptual analysis suggests that a permissioned blockchain architecture may offer supplementary advantages over conventional centralized architectures in terms of integrity, credibility, traceability, tamper-proofing, transparency, and accountability, with the efficiency of processing being similar and human biases being mitigated but not entirely eradicated. Further, it appears that the implementation of blockchain technology conforms to the principles of Sharia concerning the preservation of life, property, justice, and public order with proper considerations for privacy and constant human supervision. This research thus shows that there is potential for blockchain technology to effectively improve digital traffic justice in the UAE, provided that its implementation is supported by appropriate regulatory guidance concerning evidentiary verification, liability, data governance, and institutional oversight and through piloting prior to full-scale implementation.

Keywords: Blockchain, Traffic Justice, Digital Transformation, Islamic Sharia, UAE Governance, Evidentiary Reliability

I. INTRODUCTION

Digital transformation is currently used as one of the pillars of contemporary statecraft, going far beyond the sphere of administration in order to change governance patterns and increase transparency and accountability in government (Al Shamsi, 2024). Traffic is central to such transformation, since it involves a large amount of data and concerns public safety and lives of citizens. Digital government through AI-based platforms in national programs is a part of such strategic approach, placing this research in a framework of active search of new technologies for traffic systems (Kattan, 2024).

From human-operated traffic control, modern traffic has evolved to automated monitoring, analysis using algorithms and networked infrastructures. As a result, not only technical issues have been raised, but also those related to data integrity, evidential justice and limitations in attributing liability to algorithms (Mollah et al., 2020). Blockchain appears to be a technology that can redefine digital trust, providing a distributed, immutable ledger that allows for transparent verification of evidence (Dorri et al., 2017). Blockchain is relevant for traffic because, besides improving efficiency, it may support traffic justice by strengthening the traceability and integrity of properly collected evidence while reducing, though not eliminating, the risk of unauthorized alteration and documentation error (Casino et al., 2019).

On the other hand, using blockchain technology in traffic management generates a number of legal uncertainties related to the authentication of the digital evidence, liability

of the automated decision-making, and the alignment of this technology with the goals of Islamic law, which are self-protection, justice, and order (Ibrahim et al., 2026). This research addresses this gap by providing an integrative analysis of the technology, its legal and intended impacts, with a focus on its role in traffic justice in the context of the digital transformation process of the UAE and how the regulatory model may balance technological effectiveness and procedural justice (AlKhamaiseh et al., 2025). The significance of this research can be derived from the novelty of its topic against the lack of specialized Arabic research, the possibility of creating a safer and more just traffic environment through increasing the evidence reliability and decreasing the margin of errors, the relevance of the topic to the fast digital transformation of the UAE and the contribution towards the creation of the regulatory model of digital traffic justice.

The Problem of the Study

The primary challenge of this research is the following question: To what extent can blockchain technology be used to achieve traffic justice in the UAE, according to the aims of Islamic law and demands of digitalization?

This challenge consists of the following questions:

1. What is the legal and technical nature of blockchain technology?
2. What is the influence of blockchain on traffic evidence and procedural justice promotion?
3. How compatible is the use of blockchain technology in traffic management with the objectives of Islamic law?
4. What legal guarantees must be provided for the implementation of blockchain technology in UAE traffic management system?

Research Objectives

1. A technical and legal analysis of the blockchain technology is required.
2. The possibility to apply this innovation to the creation of traffic proof and ensuring procedural justice should be explored.
3. The compliance of the proposed employment with the objectives of Islamic Sharia should be examined.
4. The legislative and regulatory conditions of the implementation of this technology within the UAE traffic system should be identified.

This document will be organized into seven sections as follows: Section I provides the introduction of the study; Section III gives the methodology of research; Section IV deals with the blockchain-based traffic justice model; Section V provides results and comparative analysis; Section VI gives

findings and implications along with limitations; while Section VII concludes and suggests future research directions.

II. LITERATURE REVIEW

Modern studies regard the use of blockchain technology as a tool to improve digital governance and accountability (Al Shamsi, 2024). UAE studies develop a concept of "digital justice," which is an integrated framework of technology, transparency, and accountability (Kattan, 2024). Additional studies apply this framework to project management by demonstrating the benefits of using smart contracts for financial safety and regulation compliance (Tairu et al., 2025). Further, some studies investigate the regulatory environment of blockchain implementation to provide sustainable information management (Akinradewo et al., 2025). Studies analyzing UAE commercial law note the ongoing ambiguity regarding the status of artificial intelligence in terms of contract (AlKhamaiseh et al., 2025). Basic studies discuss the distributed nature of blockchain technology and the use of blockchain in automotive data protection, while systematic reviews discuss the classification of blockchain technology uses and issues related to governance (Mollah et al., 2020; Dorri et al., 2017; Casino et al., 2019; Bajaj et al., 2026).

Other than governance, blockchain and AI applications affect different regulated sectors. There is research regarding the implementation of AI in the UAE transport sector that points out the challenges in adopting these technologies (Al Suwaidi et al., 2026). There are also research papers on digital transformation in the higher education sector, which illustrate how technology helps achieve sustainable development goals (Al-Shaer et al., 2025). Empirical legal research explores the relationship between AI and blockchain on sustainability results and compares research on AI in criminal justice governance (Abbas et al., 2024; Ibrahim et al., 2026). Fintech literature explains the benefits of digital transformation in terms of bank performance based on adoption models, and sustainability literature talks about the environmental effects of cryptocurrency for the company's strategy (Arora et al., 2025; Srivastava et al., 2021). Literature in the field of insurance examines the novel risks generated by technological changes and ways to adapt performance and risk management strategies to those risks, whereas the research related to health care examines the ethical side of blockchain technology in complex networked environments (Alghathian & Alahmad, 2025; Rebekah & Afjal, 2025). Traffic-specific research further demonstrates blockchain's capacity to enable transparent enforcement supporting sustainable road safety (Chen et al., 2024).

Design integration models of demand-responsive transportation systems, specifically in the study of transportation, exemplify the role that spatiotemporal data plays in design at a systems level, while in the field of criminology, fundamental to trust in law enforcement is procedural justice and the legitimacy of the police's authority

(Kim et al., 2023; Mazerolle et al., 2013). Land use modeling literature provides further examples of the application of predictive spatial technology for infrastructure design (Mondal et al., 2020). While these studies exist, most existing

literature considers blockchain, AI, and procedural justice in silos, and no study exists to date that includes all three elements in one traffic justice model, especially not in the context of the UAE.

TABLE I CRITICAL COMPARISON OF PREVIOUS STUDIES

Study (Author, Year)	Focus / Approach	Key Contribution	Limitation / Gap
Al Shamsi (2024)	Descriptive-analytical study of blockchain in digital transactions	Establishes blockchain's role in enhancing transactional transparency and trust	General transactional focus; does not address traffic-specific evidentiary or liability issues
Al Kattan (2024)	Conceptual "Digital Justice" model for the UAE	Links digital governance to justice outcomes within a UAE regulatory context	Broad governance framing; lacks a technical blockchain architecture or sector-specific application
El Khatib et al. (2025)	Qualitative study of blockchain smart contracts in project management	Demonstrates smart contracts' value for financial security and regulatory compliance	Limited to project management; findings not generalized to public-safety or traffic enforcement contexts
Mollah et al. (2020)	Survey of blockchain for Internet of Vehicles (IoV) and intelligent transportation	Provides a comprehensive technical foundation for blockchain in vehicular networks	Purely technical/engineering focus; omits legal liability, evidentiary, or Sharia-based analysis
Dorri et al. (2017)	Blockchain for automotive security and privacy	Foundational proof-of-concept for blockchain-secured vehicle data	Narrow security/privacy scope; predates UAE regulatory and digital-government developments
Chen et al. (2024)	Blockchain-enabled transparent traffic enforcement for road safety	Directly applies blockchain to traffic enforcement transparency	Focuses on enforcement mechanics only; no jurisprudential or liability-allocation dimension
Casino et al. (2019)	Systematic literature review of blockchain applications across sectors	Maps blockchain's classification and open issues broadly across domains	Cross-sectoral generality; no traffic-justice specificity or regional (UAE/Sharia) grounding

Table I gives a critical comparison between seven studies that have been carried out in relation to the application of blockchain technology in digital transactions, governance, project management, vehicle communication networks, and traffic enforcement. The table pinpoints the significant contributions made by each study and the gaps identified that have been addressed by the current study.

III. RESEARCH METHODOLOGY

Research Design

The design used in this research is descriptive and analytical. The design is a combination of the description of the technical features of the blockchain and the usage of its traffic-related application, along with the analysis of the implications associated with its law, procedures, and doctrine. The design consists of two approaches, which are the legal approach, where the focus is on whether blockchain is compatible with the legal framework of the UAE and the purpose of Islamic Sharia, and the information system approach, where the focus is on the implications of the decentralized data architecture on reliability, transparency, and accountability of traffic management.

Data Sources and Information Collection

The following four categories of secondary literature serve as the sources for the current study: UAE governmental reports on digital transformation that focus on smart governance in the UAE; scientific and technical literature about blockchain technologies and ITS; UAE legal regulations regarding traffic and digital data; institutional publications concerning traffic management. All four sources were chosen at once since it is

vital to analyze the technical, legal, and administrative aspects of blockchain-based traffic governance at once, not separately. The governmental reports will ground the study in the actual development path of the UAE in terms of digital transformation; the scientific literature will provide the actual capabilities of the technology; the legal frameworks will indicate its possible usage limitations; the institutional publications will bridge all these aspects together.

Dataset Characteristics and Selection Criteria

The nature of the underlying data is qualitative and non-numerical as it involves laws, judicial decisions, government policies, and recorded applications of technology. The sources selected were based mainly on publications dating back to the years 2017 to 2024 that represent the era of actual application of blockchain in transportation and governance, alongside primary Islamic jurisprudential texts that hold authority in terms of doctrine irrespective of their year of publication. The selection was done based on the following criteria: relevance to the use of blockchain, traffic management/governance, and Islamic law, along with favoring authoritative and highly cited works in order not to deviate from the scope of the analysis.

IV. BLOCKCHAIN AND TRAFFIC JUSTICE: LEGAL AND ANALYTICAL DISCUSSION

Proposed Blockchain-Based Traffic Justice Architecture

To operationalize the descriptive-analytical design outlined above, this study develops a conceptual system architecture that serves as the analytical framework applied.

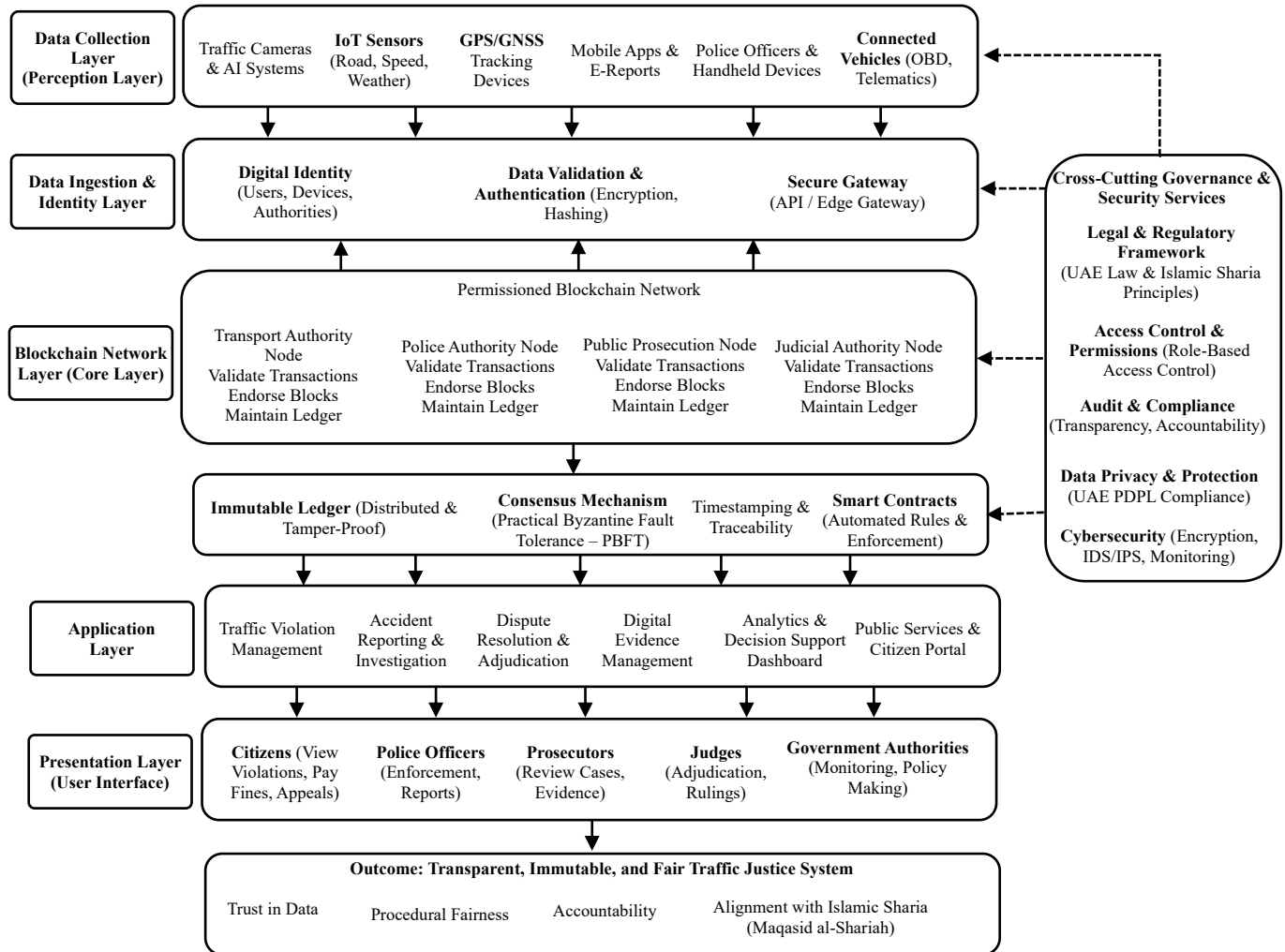


Fig. 1 Architecture of Blockchain-Based Traffic Justice System for Emirati Digital Transformation

Fig. 1 presents the suggested traffic justice architecture utilizing blockchain technology to include evidence acquisition, identity authentication, a permission blockchain network, smart contracts, and application services. It exhibits a mechanism of secure traffic evidence management, decentralization, transparency, accountability, and adherence to the law for implementing fair digital traffic management in line with UAE laws and Sharia law.

This architecture works at five layers. In the data acquisition layer, cameras, IoT sensors, GPS, and connected vehicles provide objective evidence, minimizing human involvement. In the identification/authentication layer, encryption provides a mechanism of securing each vehicle's digital identity. In the permissioned network layer, authorized traffic, police, judicial, and insurance nodes may participate in a permissioned network governed by the competent UAE authorities, creating a tamper-evident and auditable record. In the processing layer, the consensus, immutability, and timestamping ensure non-modification of the evidence and traceability. Finally, in the application layer, violations, accidents, evidence, and dispute resolution mechanisms are managed while preserving the right to appeal.

Analytical Workflow

The process of analysis behind this framework takes place in five distinct phases. The first step is the collection of raw data related to traffic from cameras, sensors, GPS, and connected cars. The second step is the verification and authentication of the collected data. In the third step, the blockchain technology is used to timestamp the collected data and make it a permanent part of the immutable ledger entry. In the fourth step, the evidence validation process takes place by comparing the recorded entry against the network consensus. Finally, the fifth step of justice-based decision support utilizes this evidence to resolve disputes and grievances.

Blockchain: Technical and Legal Foundations

(The First Requirement: Blockchain Technology and its Legal and Technical Foundations)

The blockchain technology operates as a distributed ledger system that structures the information in blocks, which are timestamped and connected to each other by a digital signature. Since changing one particular block implies that all

other following blocks have to be rewritten by most of the participants in the network, such action appears to be technically unachievable. Instead of relying on an individual authority who verifies the transactions, the blockchain transfers this task to multiple parties, meaning that the information will be considered true only if most of the participants in the system reach consensus about its correctness. In other words, the foundation for trust is changed from discretion to an algorithmically established agreement process, often called "automated trust."

There are four key features of this system which make it an effective regulatory tool: resistance to tampering, transparency of the whole transaction record, decentralization of control, and verification through the process of collective agreement as opposed to individual consent. In combination, these features create unique evidence value of records because neither of the parties involved can silently modify the information, while all the links of its chain become visible starting from its creation. This created a lot of discussion in the field of law regarding the possibility of treating blockchain characteristics as factors that may assist technical authentication and chain-of-custody analysis, without displacing the applicable evidentiary rules or the authority of the competent court, as opposed to any approval by a supervisory body. It led to the notion of algorithmic regulation in which the rules are not just formulated in some external legal document but are coded directly into the system itself in the form of smart contracts triggered automatically once certain conditions occur. Inclusion of blockchain in the area of regulation goes beyond mere technological innovation in record-keeping.

Applications in Traffic Documentation and Justice

(The Second Requirement: Blockchain Applications in Documentation and Traffic Proof)

One area where blockchain technology becomes especially useful is its ability to turn information that was previously disputable or amendable into immutable chronologically marked digital records. First, blockchain could be used to create a digital identity of a car – a chronologically marked record including all information on its regulations, licensing, ownership changes, maintenance, and violations. This way, authorized records would become more difficult to alter without detection, potentially improving the traceability of a vehicle's recorded history or preventing it from being deleted from the record.

Secondly, blockchain could be used to record real-time accidents. By combining sensors, cameras, and connected cars, it would become possible to mark chronologically all-important information about an accident (location, speed, direction, time), and thus create a chronologically correct record that does not depend on human recollection and is harder to falsify. Another way to apply blockchain here is in automated radar and surveillance devices that can record the violation and include it along with other necessary data (time

and device identification number, for example) into the chronologically marked record, making it harder to disprove.

Another area in which blockchains can be used involves the ecosystem of autonomous vehicles, where the availability of the ledger makes it possible for cars to authenticate traffic signals and warnings among themselves without requiring any central coordination server. All considered, the examples listed represent a change in the way traffic evidence will be thought of from now on, since traffic evidence will no longer be dependent on observations by humans but on data.

Legal Liability and Regulatory Safeguards

(The Third Requirement: Legal and Legitimate Responsibility When Using Blockchain Systems)

By adding the blockchain into the process of enforcing laws, make it difficult to establish the party that is responsible for any problems that arise due to the very fact that blockchain technology requires the involvement of several parties at once – the developers who are developing the technology, the operators managing it, and the users providing the data necessary for running it. One way to solve this problem is to allocate the liability depending on the origin of the problem. The developer is liable for any problems arising from the faulty coding, the operator is liable for any negligence and improper management of the technology, while the user is liable for any inaccurate information being entered.

A related issue is the problem of decisions, including penalty assessments, which are made entirely through automated means, and not subject to any form of human oversight in the moment of the decision. If this goes unregulated, there is a risk that it will lead to a situation where procedural justice is undermined, as the person on whom the automated penalty is being levied will lack a way to challenge it. Therefore, when designing blockchain technology, it must allow humans to make judgments rather than taking over their role entirely, leaving those who are responsible for designing and supervising the technology ultimately accountable for what is going on there legally.

Compatibility with the Objectives of Islamic Sharia and UAE Digital Transformation

(The Fifth Requirement: Intentional Adaptation of Modern Digital Technologies: Blockchain as a Model)

When measured by the main goals of Islamic Sharia law the protection of life, property, justice, and public order the application of blockchains for traffic safety systems fits quite well, due mainly to an increase in the degree of correctness of evidence and reduction in the possibility of record manipulation. The protection of life is guaranteed by traffic safety since correct records will lead to better prevention and investigation of accidents. The protection of property is achieved by the reliability of financial accounting in cases related to damaged property or liability. And, finally, the

protection of public order results from a consistent approach to road users regardless of their status.

Nevertheless, such an approach is not automatic but conditional on the protection of personal privacy, protection from misuse of data gathered, and maintenance of constant human supervision instead of blind submission to automated results. Two rules apply to this situation in particular: *sadd al-dharā'i'*, meaning the necessity to close all possible channels through which harmful action could take place although the technology itself is not considered prohibited, and *jalb al-maṣlaḥa wa-dar' al-mafsada*, meaning that the system must be assessed based on the ability to provide benefits while protecting against any corruption or abuse. From the perspective of the UAE's overall digital governance path, it means that the integration of blockchain into traffic systems must be accompanied by the development of specific regulations regarding digital evidence, regulatory authorities, and accountability mechanisms in order to ensure that the technological advantages do not overshadow procedural ones.

V. RESULTS AND ANALYSIS

Impact of Blockchain on Digital Traffic Evidence Reliability

The use of blockchain changes traffic evidence management through the creation of unalterable, timestamped records of traffic accidents and violations. It appears that this structural change increases the level of reliability of the digital evidence provided, decreases the risk of any tampering with or altering of the data considerably, and increases the traceability of records.

TABLE II QUALITATIVE COMPARISON OF TRADITIONAL AND BLOCKCHAIN-BASED TRAFFIC EVIDENCE MANAGEMENT

Evaluation Criteria	Traditional Traffic System	Blockchain-Based Traffic System
Data Integrity	Managed through established centralized administrative and technical controls	High: protected by distributed consensus
Evidence Reliability	Moderate: dependent on manual documentation	High: fixed at the point of digital capture
Record Traceability	Limited: fragmented across separate files	High: continuous chronological history
Tamper Resistance	Low: modification is possible by controlling party	High: requires majority network consensus to alter
Verification Accuracy	Moderate: reliant on manual cross-checking	High: automated cryptographic verification

Table II presents the comparison between the traffic management system using the conventional system and the blockchain system on the basis of certain evaluation parameters regarding digital evidence management. This is a conceptual difference rather than a difference based on some measurements. A permissioned blockchain may supplement existing centralized controls by providing distributed verification, enhanced traceability, and shared auditability.

Fig. 2 demonstrates the comparative conceptual superiority of the conventional and blockchain systems about the same assessment criteria. It is evident that blockchain has a stronger conceptual position when it comes to resistance to tampering, evidence validation, evidence trail, and data integrity, owing to the inherent strengths of blockchain in the domain of digital evidence management.

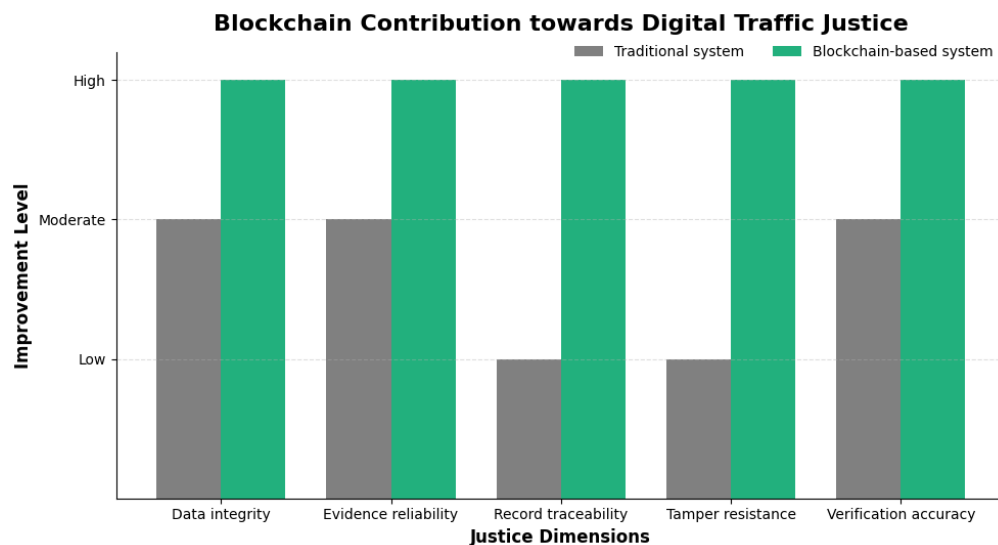


Fig. 2 Conceptual Comparison of Digital Evidence Reliability between Traditional and Blockchain-Based Traffic Systems

Comparative Evaluation of Blockchain-based and Traditional Traffic Management Systems

In contrast to centralized traditional traffic management systems, the blockchain traffic management system does not

depend on a trusted authority but on a decentralized validation process. Thus, human bias in evidence observation and decision-making decreases significantly, but is not fully eradicated, and institutional control still plays a crucial role here.

TABLE III QUALITATIVE COMPARISON OF TRAFFIC MANAGEMENT APPROACHES

Performance Indicator	Traditional System	Blockchain-Based System
Data Security	Moderate	High
Transparency	Moderate	High
Evidence Authenticity	Moderate	High
Processing Efficiency	Moderate-High	Moderate-High
Accountability	Moderate	High
Human Bias Reduction	Low	Moderate-High

Table III shows that blockchain-based traffic management has a relatively more robust conceptual position in terms of security, transparency, and accountability than traditional centralized approaches. Efficiency in processing is considered equal because although faster processing is feasible and realistic, it is not confirmed by the data; human biases are minimized with automation but not completely removed, highlighting the importance of human involvement for legal authorization and accountability.

Contribution of Blockchain to Digital Traffic Justice and Governance

The implementation of blockchain technology expands the scope of traffic justice from punishment to fairness in traffic

surveillance, evidence verification, and assignment of liability. With blockchain technology helping build credibility of evidence and minimizing conflicts connected with manipulation, a model of digital traffic governance with an emphasis on traffic justice can be built.

Fig. 3 depicts the relative contribution of the concept of blockchain in terms of five aspects related to the justice domain. The highest conceptual gains are achieved in terms of evidence integrity and traceability, fair investigations, judicial transparency, and public trust, following the analysis presented in the paper.

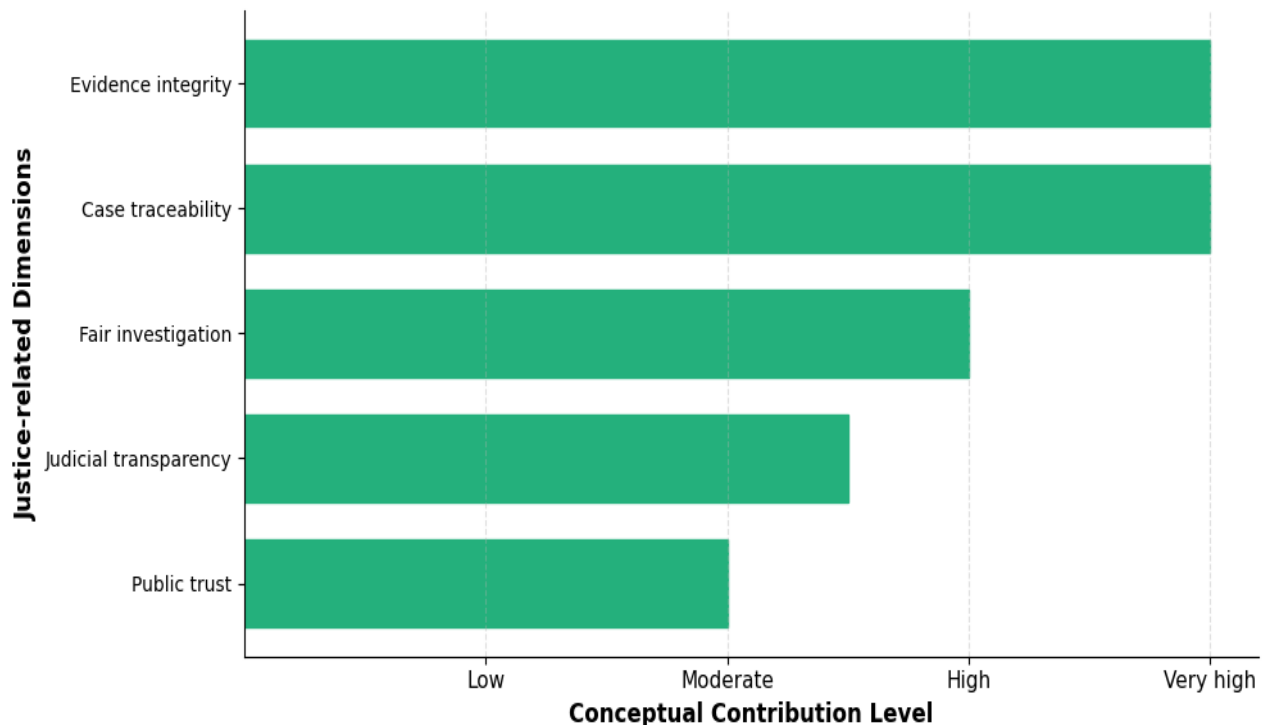


Fig. 3 Conceptual Contribution of Blockchain to Digital Traffic Justice

General Analytical Conclusion

Table IV summarizes all the results that have been identified above tables II and III in the aspects of privacy, dispute

resolution, regulatory compliance, and human supervision. Table IV demonstrates the increased privacy, speed of dispute resolution, and regulatory compliance provided by blockchain while human supervision is still necessary.

TABLE IV ANALYTICAL SUMMARY OF RESULTS

Analysis Aspect	Traditional Traffic System	Proposed Blockchain-Based System	Analytical Observation
Privacy Protection	Conventional database security	Encryption with permissioned blockchain	Provides stronger privacy while maintaining controlled access.
Traffic Dispute Resolution	Manual investigation	Time-stamped tamper-proof evidence	Accelerates fair dispute resolution with reliable digital records.
Regulatory Compliance	Requires manual verification	Supports automated compliance monitoring	Better aligns with UAE digital governance initiatives.
Human Oversight	Fully manual	Human supervision with smart contracts	Automation assists decisions without replacing legal authority.
Trust in Traffic Records	Moderate	High	Increases public confidence through transparent and verifiable records.
Overall Assessment	Limited scalability and transparency	Secure, transparent, and legally reliable framework	Blockchain provides a more robust conceptual model for digital traffic justice.

Regulatory, Ethical, and Future Implementation Considerations for Blockchain Traffic Systems

It should be noted that mere progress in technology would not guarantee fair digital traffic management without the proper legal and ethical frameworks. Even though blockchain offers increased transparency, accountability, and evidentiary security, its functioning involves certain legal measures and continuous human supervision. The UAE is a country that possesses all the prerequisites for the implementation of blockchain in the field of traffic because of its progressive digital transformation; still, special regulations must be developed to determine the validity of digital evidence, the distribution of responsibilities, and the rules of data management. In addition, algorithmic traffic monitoring and collaboration of traffic authorities, courts, and insurance companies are important. It is suggested to start from pilot implementations.

VI. DISCUSSION

This study shows how blockchain technology can improve "traffic justice" in the UAE by supporting the creation of tamper-evident, traceable, and auditable traffic records whose admissibility remains subject to applicable UAE law and assessment by the competent authority or court. The proposed framework is developed within the scope of a descriptive-analytical (non-empirical) research design, which involves a five-level architecture comprising data collection, identity verification, permissioned blockchain network, smart-contract processing, and the application layer dealing with traffic violations/disputes. Qualitative comparisons in tables II and III indicate how blockchain can surpass the conventional centralized system in terms of data integrity, reliability of evidence, traceability, tampering prevention, and accountability, with comparable processing efficiency and diminished impact of human bias, but not eliminated. The main contribution is rooted in a novel approach whereby the system is assessed with regard to Maqasid al-Sharia (preservation of life, wealth, and justice), concepts of sadd al-dharā'i' (prevention of harm) and jalb al-maṣlaḥa (achievement of benefit). In addition, analyze compliance

with UAE regulations. The practical applications are related to traffic authorities, the judiciary, insurers, and digital government platforms. The limitations involve scalability issues, high implementation costs, legal challenges, and privacy concerns. Emphasize that blockchain must aid, but not substitute, human discretion.

VII. CONCLUSION

This study aimed to investigate the potential application of blockchain technology in achieving traffic justice in the UAE based on the goals of Islamic Sharia and the requirements of digital transformation. With the use of a descriptive analytical methodology, the researchers formulated a theoretical model for a blockchain architecture consisting of five layers and compared it with conventional traffic management mechanisms with regard to the aspects of data integrity, evidence reliability, traceability, tamper-proofness, transparency, and accountability. The conceptual comparison indicates that the proposed permissioned architecture may provide additional safeguards relating to traceability, tamper evidence, shared auditability, and accountability, although there was no superiority concerning processing efficiency, and human bias, even though being minimized, was not excluded. It was found that the introduction of blockchain technology meets the goals of protecting life, wealth, justice, and public order of Islamic Sharia in case of its implementation through the rules of prevention from harm and maximizing benefits and non-corruption alongside continuous human monitoring.

All of this means that the worth of blockchain in the management of traffic is not only in its technological nature but also in the ability to create more objective evidence, decrease the chances of manipulation, and distribute responsibilities fairly. In order to make use of such technology, the existing legal framework may be supplemented, where necessary, by blockchain-specific regulations or guidance addressing evidentiary verification, network governance, and allocation of responsibility, and also involving the collaboration of traffic police, courts, and insurance companies in its management. Such research provides a holistic legal, technological, and doctrinal

perspective on blockchain usage in traffic justice and sets the ground for future research on integrating AI in it.

Ethical Considerations

In this study, no primary source of information is used; all the information is gathered from secondary sources only, which makes it unnecessary to obtain any kind of ethical clearance for this study. The sources of information are all cited appropriately in this research.

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