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Administrative oversight in the digital era: Analyzing the impact of automation and artificial intelligence on the exercise of executive authority - an applied study on the Iraqi context

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DOI: https://www.doi.org/10.33545/26646021.2025.v7.i9c.682

Abstract
The digital revolution has introduced profound transformations in public administration and the exercise of executive authority, with automation and artificial intelligence emerging as central tools in enhancing efficiency and transparency in administrative oversight. This study examines the impact of digital technologies on the Iraqi context, particularly following the enactment of the Electronic Signature and Electronic Transactions Law No. 78 of 2012 and the establishment of the Higher Committee for Artificial Intelligence. The research seeks to analyze the conceptual and theoretical framework of administrative oversight in the digital era, assess the legal and regulatory environment of Iraq's digital transformation, and evaluate the current state of digital applications in public administration. Using descriptive-analytical, comparative, and legal approaches, the study highlights both the opportunities and challenges associated with the integration of AI and automation into Iraq's oversight system. Findings indicate that while digital transformation holds significant potential for improving transparency, accountability, and efficiency, structural, legal, and institutional barriers remain. The study concludes with practical recommendations and strategic initiatives aimed at strengthening digital oversight, thereby enhancing the effectiveness of Iraq's administrative system.

Keywords: Administrative oversight, digital transformation, automation, artificial intelligence, public administration, Iraq

Introduction
The world today is witnessing an unprecedented digital revolution that has brought about fundamental transformations in various aspects of life, foremost among them public administration and the mechanisms of exercising executive authority. Artificial intelligence (AI) technologies and automation have emerged as pivotal tools in enhancing governmental performance and strengthening the efficiency of administrative oversight. This development necessitates a reconsideration of the traditional frameworks of administrative and regulatory practices.

The significance of this study lies in addressing a vital issue concerning the future of public administration in Iraq, particularly in light of the government's orientation toward digital transformation and the automation of public services. Following the enactment of the Electronic Signature and Electronic Transactions Law No. (78) of 2012, and the establishment of the Higher Committee for Artificial Intelligence, it has become necessary to examine the impact of these transformations on the system of administrative oversight and the mechanisms of executive authority.

Research Problem
The research problem is embodied in the following central question:
What is the impact of implementing automation and artificial intelligence technologies on the effectiveness of administrative oversight in Iraq? And what challenges confront the digital transformation process in Iraqi public administration?

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Research Objectives
This study seeks to achieve the following objectives:
- To analyze the conceptual and theoretical framework of administrative oversight in the digital era.
- To examine the legal and regulatory framework of digital transformation in Iraq.
- To assess the current application of digital technologies in Iraqi administration.
- To propose practical recommendations to enhance digital administrative oversight.

Research Significance
The importance of this study stems from its focus on a crucial and impactful issue in the Iraqi context, namely the digital transformations in administrative oversight and the implications of AI and automation for the exercise of executive authority. This research contributes to providing a scientific framework for understanding the influence of digital transformation on governmental administration in Iraq. It highlights the challenges facing the oversight system under this transformation and reviews both local and international experiences in this field. Through this study, strategic recommendations and innovative initiatives are proposed to strengthen digital administrative oversight, thereby enhancing transparency and accountability in governmental performance and improving the overall effectiveness of Iraq's administrative system.

Research Methodology
The study adopts the descriptive-analytical method to describe and analyze the current state of administrative oversight and digital transformation, the comparative method to examine Arab and international experiences, and the legal method to analyze legislative and regulatory texts.

Research Structure
The research follows an integrated structure that begins with an analysis of the conceptual and theoretical framework of administrative oversight in the digital era, addressing key concepts such as administrative control and the impact of modern technologies upon it. It then moves on to examine the legal and regulatory framework of digital transformation in Iraq, with a focus on existing legislation and legal opportunities for development. The third section discusses the reality of digital transformation in Iraq, considering current projects and their impact on administrative oversight. Finally, the study presents necessary recommendations to strengthen digital administrative oversight through innovative strategies, including the development of legal, technical, and human infrastructures.

Chapter One
The Conceptual and Theoretical Framework of Administrative Oversight in the Digital Era
Studying the theoretical and conceptual foundations of administrative oversight in the digital era constitutes a necessary starting point for understanding the radical transformations taking place in contemporary public administration. Modern technologies particularly artificial intelligence (AI) and automation are no longer merely auxiliary tools; they have become essential drivers in reshaping the very concepts of oversight and the mechanisms by which it is exercised. This transformation requires a reconsideration of traditional definitions of administrative oversight and an understanding of how digital technologies affect the essence of the oversight process itself, in terms of objectives, methods, and outcomes.

Building an effective digital oversight system in the Iraqi context requires first grounding theoretical concepts and linking them to local realities, followed by examining the practical applications of AI and automation in the field of administrative oversight. This chapter aims to establish the conceptual and theoretical foundations that form the reference framework for understanding subsequent developments in this study, with a particular focus on the challenges and opportunities associated with applying these concepts in the Iraqi administrative environment.

Section One: The Concept and Historical Development of Administrative Oversight
The epistemological construction of any administrative system requires, first and foremost, the definition and consolidation of basic concepts, particularly in the field of administrative oversight, which has undergone continuous evolution throughout history. Understanding the linguistic and terminological meaning of "oversight" and "administration" reveals the deep roots of this concept in Arab and Islamic heritage, and shows how these meanings evolved from simple notions of monitoring and safeguarding to complex systems of integrated procedures and operations. Studying the historical development of administrative oversight in Iraq also illustrates how the system has been shaped by various political, economic, and technological transformations.

1. The Linguistic and Terminological Definitions of Administrative Oversight
- **Linguistic definition:** In Arabic, the word *raqāba* (oversight) derives from the verb *raqaba*, which means "to watch, observe, or guard." According to *Lisān al-ʿArab* by Ibn Manẓūr, *raqīb* (overseer) is "the guardian who does not overlook anything," and *murāqaba* refers to safeguarding and constant observation. The term "administration" (*idāra*) is derived from the verb *dāra*, meaning "to manage or direct," as in "to administer an affair" (*adāra al-amr*).
- **Terminological definition:** Administrative oversight is commonly defined as "a set of organized processes and procedures aimed at verifying the progress of administrative work in accordance with established plans, laws, and regulations, while taking corrective actions to ensure that the intended objectives are achieved efficiently and effectively."

The legal scholar Dr. Majid Raghib Al-Helou defined it as "the mechanism that ensures the proper functioning and regularity of public services, guarantees employees' compliance with laws, regulations, and instructions, and safeguards the public interest through the detection and correction of deviations."
Within the Iraqi legal context, the Integrity Commission Law No. (30) of 2011 established a legal framework for oversight of state functions and anti-corruption efforts. Article (3) stipulates the Commission's objectives as "preventing and combating corruption in all its forms, detecting it, investigating cases of corruption, and referring perpetrators to the judiciary."

From the preceding definitions, it is evident that administrative oversight entails several core elements: continuous monitoring of performance, comparison with predefined standards, detection of deviations, and the implementation of corrective measures. These elements remain constant despite the evolution of oversight tools and methods from traditional to digital.

2. The Historical Development of Administrative Oversight in Iraq

Administrative oversight in Iraq has undergone multiple historical phases:

- **First Phase (1920-1958):** During the British Mandate and the Monarchical era, the foundations of modern administrative oversight in Iraq were established. The first Civil Service Law was enacted in 1931, laying down the basic rules for employee oversight. Oversight during this period relied primarily on traditional methods such as inspections and manual record reviews.

- **Second Phase (1958-2003):** This period witnessed significant progress in regulatory legislation. The Civil Service Law No. (24) of 1960, the State Consultative Council Law No. (65) of 1979, and the Law on the Discipline of State and Public-Sector Employees No. (14) of 1991 collectively formed a comprehensive legal framework for administrative oversight, with emphasis on preventive and corrective measures. Article (18) of the 1960 Civil Service Law stipulated: "Employees shall be promoted on the basis of competence and length of service," reflecting the legislator's concern with establishing clear standards for performance oversight.

- **Third Phase (2003-2012):** After 2003, Iraq experienced profound transformations in its state structure and institutions. New oversight bodies were established, such as the Commission of Integrity under Coalition Provisional Authority Order No. (55) of 2004, followed by the Integrity Commission Law No. (30) of 2011. Additionally, the Federal Board of Supreme Audit was restructured under Law No. (31) of 2011. In this phase, initial attempts were made to introduce modern technologies into oversight work, though progress was limited due to weak infrastructure and a shortage of specialized personnel. Oversight bodies faced significant challenges, particularly in combating widespread administrative and financial corruption, thereby necessitating more effective oversight mechanisms.

- **Fourth Phase (2012-2025):** This phase marks a turning point toward digital administrative oversight. The Electronic Signature and Electronic Transactions Law No. (78) of 2012 provided the legal basis for digital transformation in public administration. Article (1) defined the electronic signature as "a personal mark consisting of letters, numbers, symbols, signals, sounds, or other forms with a unique character that indicates its attribution to the signatory and is certified by an accredited authority."

From this analysis, it is clear that the concept of administrative oversight has deep roots in Arab linguistic and cultural traditions, reflecting the essential nature of oversight as a continuous process of monitoring and verification. Over time, the terminological definition evolved to encompass an integrated set of organized procedures designed to ensure that administrative work proceeds in accordance with established plans and laws, while implementing corrective actions to achieve objectives efficiently and effectively.

Section Two: Artificial Intelligence and Automation in Administrative Oversight

AI technologies and automation represent a qualitative leap in developing administrative oversight methods, shifting the process from reliance on human effort and manual procedures to intelligent systems capable of automated data processing and decision-making. This transformation necessitates a precise understanding of the nature, potential, challenges, and opportunities that these technologies present for enhancing oversight effectiveness. Examining the linguistic and terminological definitions of AI and automation highlights the remarkable evolution of these fields from theoretical concepts to practical applications that are reshaping the administrative landscape.

1. The Concept of Artificial Intelligence and Its Oversight Applications

- **Linguistic definition:** In Arabic, the word *dhakāʾ* (intelligence) derives from the verb *dhakā*, meaning "to intensify or increase in strength," and by extension refers to mental acuity and quick understanding. The term "artificial" relates to what is human-made rather than naturally occurring.

- **Terminological definition:** AI is commonly defined as "the science and engineering of creating intelligent machines, particularly intelligent computer programs, associated with the task of using computers to understand human intelligence." The OECD defines AI as "an automated system that, for a given objective, is capable of making predictions, recommendations, or decisions influencing real or virtual environments."

In the context of administrative oversight, AI can be defined as "a set of advanced techniques and algorithms that enable oversight systems to process big data, detect patterns, predict risks, and make oversight decisions in an automated or semi-automated manner, thereby enhancing the efficiency and effectiveness of the oversight process."

Applications of AI in administrative oversight include:
1. **Natural Language Processing (NLP):** Used to automatically analyze administrative documents and correspondence, extract key information, and detect linguistic or legal violations. In Iraq, this could be applied to review thousands of government contracts and tenders for irregular clauses or signs of corruption.
2. **Machine Learning (ML):** Algorithms can analyze patterns of administrative and financial behavior among employees and institutions to predict potential risks. For example, ML could detect anomalies in government expenditures or licensing procedures.
3. **Computer Vision (CV):** Applied to verify scanned documents, seals, and signatures, as well as monitor employee attendance via surveillance cameras. It can also be used to track government construction projects and verify compliance with specifications.
4. **Decision Support Systems (DSS):** These systems

assist officials in making oversight decisions based on comprehensive data analysis, providing recommendations regarding inspection and monitoring priorities according to risk indicators.

2. Administrative Automation and Its Role in Strengthening Oversight

- **Linguistic definition:** The Arabic term "otmamah" (automation) is a modern derivative of the English word *automation*, meaning the automatic execution of processes without direct human intervention.
- **Terminological definition:** Administrative automation is defined as "the use of digital technologies and software to execute administrative tasks and processes automatically or semi-automatically, thereby reducing human effort and time while increasing accuracy and efficiency."

In Iraq, the Ministry of Planning's National Development Strategy (2022-2026) defined administrative automation as "the process of transforming administrative procedures and processes from traditional manual systems into automated electronic systems that ensure efficiency, timeliness, and transparency."

Applications of administrative automation in oversight include:

1. **Robotic Process Automation (RPA):** Software "robots" execute repetitive, routine tasks in administrative oversight. RPA can be used to review financial transactions, verify document compliance with legal requirements, and generate periodic reports. Article (15) of the Electronic Signature and Transactions Law permits the transmission of information electronically provided it can be stored, retrieved, and printed later, thereby establishing the legal foundation for automation.
2. **Electronic Workflow Systems:** These systems manage the flow of transactions and approvals between departments electronically. Several Iraqi ministries have begun adopting such systems to accelerate processes and improve tracking.
3. **Unified E-Government Portals:** Provide a single entry point for public services, facilitating oversight of service quality and citizen satisfaction. The Iraqi government has launched several such portals, including the Ministry of Interior's e-services portal.
4. **Electronic Document Management Systems (EDMS):** Enable the storage, organization, and retrieval of administrative documents electronically, greatly facilitating review and audit processes.

The analysis demonstrates that AI and automation represent a transformative leap in administrative oversight methods, moving from reliance on human effort and manual procedures toward intelligent systems capable of processing big data and making oversight decisions automatically or semi-automatically.

Chapter Two
The Legal and Regulatory Framework of Digital Administrative Oversight in Iraq

The legal and regulatory framework constitutes the backbone of any modern administrative system. In the era of digital transformation, its importance becomes even greater, as the success of applying artificial intelligence (AI) and automation in administrative oversight requires a supportive and flexible legislative environment capable of keeping pace with rapid technological advancements.

The shift toward digital administrative oversight in Iraq cannot be achieved without a comprehensive legal framework that defines powers and responsibilities, ensures the protection of data and information, and provides the legal basis for recognizing oversight procedures and decisions undertaken by electronic means. In recent years, important steps have been taken in this direction, beginning with the enactment of the Electronic Signature and Electronic Transactions Law and culminating in the formation of specialized committees for digital transformation. Nevertheless, these efforts require further development and coordination to ensure the establishment of an integrated and effective digital oversight system that balances administrative efficiency with the legal guarantees of both employees and citizens.

Section One: Legislation Governing Traditional and Digital Administrative Oversight

Understanding the reality of digital administrative oversight in Iraq requires a careful study of the legislative foundations regulating this domain. These foundations encompass both traditional legislation, which laid the basis of administrative oversight decades ago, and modern legislation, which has sought to keep pace with technological developments.

First: Fundamental Laws of Administrative Oversight

The Iraqi system of administrative oversight is grounded in a series of fundamental laws enacted over several decades. Chief among these is the Law on the Discipline of State and Public-Sector Employees No. (14) of 1991 (as amended), which serves as the backbone of oversight over employee conduct.

- Article (4) sets forth the basic duties of the employee, including:
1. Performing his duties personally with accuracy, honesty, and integrity, while preserving the dignity of the profession both within and outside the workplace.
2. Executing the orders of superiors within the limits of the law, with the obligation to notify his superior in writing if the order is unlawful. If the superior insists, the employee must comply, while liability rests with the superior.
3. Respecting superiors and dealing with colleagues and citizens with appropriate courtesy.

- Article (5) enumerates prohibited conduct in detail, including:
1. Holding two positions simultaneously or combining public employment with other work, except as permitted by law.
2. Engaging in commercial activities, establishing companies, or serving on boards of directors, with limited exceptions such as purchasing shares in joint-stock companies or managing inherited property.

- Article (8) establishes a graduated scale of disciplinary penalties: admonition, warning, salary deduction, reprimand, salary reduction, demotion, dismissal, and removal from service.

The Civil Service Law No. (24) of 1960 (as amended) provided the general framework for public employment.

- Article (7) specifies the conditions of appointment, including Iraqi nationality, minimum age, good conduct, absence of criminal conviction, and physical and mental fitness.
- Article (18) regulates promotions on the basis of efficiency and years of service, except in professional posts requiring specific academic qualifications.

The State Consultative Council Law No. (65) of 1979 (as amended) added a judicial dimension to administrative oversight by assigning the Council powers of codification and legal advisory.
The Integrity Commission Law No. (30) of 2011 further introduced specialized oversight mechanisms for combating corruption.

- Article (3) identifies the objectives of the Commission as preventing and combating corruption in all its forms, investigating corruption cases, and raising public awareness about its risks.
- Article (11) empowers the Commission to investigate corruption offenses, access documents, request data, employ experts, and adopt precautionary measures over suspected assets.

Second: The Electronic Signature and Electronic Transactions Law and Its Impact on Oversight
The **Electronic Signature and Electronic Transactions Law No. (78) of 2012** established the legal foundation for digital transformation in public administration, including administrative oversight. This law represented a qualitative shift in recognizing electronic documents and transactions.

- Article (1) defines key terms such as electronic signature, signer, electronic certification, and electronic documents.
- Article (12) sets the conditions for a "reliable" electronic signature, including exclusivity, control, detectability of alterations, and certification by a licensed authority.
- Article (13) grants electronic documents full evidentiary value equivalent to paper documents, provided they can be retained, retrieved, and verified for accuracy.
- Article (8) outlines the conditions for licensing certification authorities, subject to judicial review in cases of administrative abuse of power.

In Decision No. (215/Administrative Judiciary/2023), the Administrative Court ruled that the refusal to grant a license for an electronic certification authority must be duly justified under Article (8) and is subject to judicial review for apparent misuse of discretion.
This law thus provides the necessary legal framework for digitizing oversight processes, including electronic inspections, electronic record-keeping, and the use of electronic signatures in oversight correspondence and decisions.

Section Two: The Institutional Framework and Legal Challenges of Digital Transformation
The success of any digital transformation project is closely linked to the strength of its institutional framework, the clarity of roles and responsibilities among the concerned entities, and their capacity to coordinate and integrate in implementing strategies and plans.

First: Institutions Concerned with Digital Transformation and Oversight
In recent years, Iraq has established several committees and institutions to lead digital transformation, with a direct impact on developing digital administrative oversight:

- **The Higher Committee for Artificial Intelligence:** Established by a decision of the Council of Ministers to design the National AI Strategy. It aims to create data-gathering systems, establish specialized data centers, propose relevant legislation, and lead the digital transformation process. The committee identified eight strategic measures, including attracting digital talent, developing infrastructure, creating ethical frameworks, fostering partnerships, establishing AI excellence centers, updating curricula, supporting R&D, and developing AI applications for government services.
- **The E-Government Committee:** Established under Executive Order No. (23) of 2018, tasked with supervising e-government projects, setting national strategies, developing technical standards, ensuring system integration, and monitoring digital transformation indicators.
- **The Ministry of Communications:** Plays a central role through the General Company for Internet Services, with legal responsibility for granting legal recognition to electronic transactions and signatures under Article (2) of the Electronic Signature Law.
- **The National Data Center:** Recently inaugurated at the Ministry of Interior, featuring advanced infrastructure with the capacity for long-term expansion and autonomous operation during nationwide power outages.

Second: Legal and Regulatory Challenges to Digital Transformation
Despite progress, Iraq faces several legal and regulatory challenges impeding the full realization of digital oversight:

1. **Contradictory and outdated legislation:** Many existing laws remain paper-based, such as the Evidence Law No. (107) of 1979, which has not been comprehensively amended to accommodate electronic evidence, and the Penal Code No. (111) of 1969, which lacks detailed provisions on cybercrime.
2. **Absence of a Data Protection Law:** Iraq lacks comprehensive legislation protecting personal data and privacy, raising concerns over potential misuse of sensitive information in digital oversight systems.
3. **Delay in issuing implementing regulations:** Although the Electronic Signature Law was passed in 2012, many ministries have yet to issue detailed executive regulations, limiting its practical application.
4. **Institutional resistance to change:** Field studies in 2024 revealed that 65% of government employees preferred traditional paper-based methods, citing fear of job loss or inability to adapt to new technologies.

Conclusion: Iraq has established a diverse institutional framework supervising digital transformation, led by the Higher Committee for Artificial Intelligence, which has outlined a comprehensive strategy for advancing Iraq's position in AI. Nevertheless, significant legal and

organizational challenges remain, requiring coordinated reforms to ensure an effective and integrated digital administrative oversight system.

Chapter Three
The Reality of Digital Transformation and Prospects for Developing Administrative Oversight in Iraq

Iraq is currently experiencing a significant transitional phase in its path toward digital transformation, as governmental efforts converge to modernize the public administration system and develop oversight mechanisms. This chapter reviews the current state of digital transformation through indicators and ongoing projects, then addresses proposed mechanisms for enhancing digital administrative oversight and future recommendations.

Section One: The Reality of Digital Transformation and Progress Indicators in Iraq

Digital transformation represents a structural lever for modernizing public administration in Iraq, as it enables more efficient and transparent service delivery, strengthens data governance, and promotes institutional integration. Assessing the current situation is essential because it defines the baseline against which subsequent policies and programs are measured, while also revealing both strengths and gaps that require enabling interventions (infrastructure, legislation, capacity, and sustainable financing). From this perspective, this section reviews the progress trajectory through measurable indicators that allow comparison across time and sectors, paving the way for a qualitative analysis to interpret variations and guide policymakers toward actionable priorities for acceleration.

First: Quantitative Indicators of Digital Transformation in Iraqi Administration

Measuring progress in digital transformation is necessary to evaluate the effectiveness of policies and programs in this field. Recent indicators in Iraq point to tangible improvements in digital transformation, even though the process still requires intensified efforts to achieve comprehensive transformation.

- The digital transformation rate in Iraqi ministries and institutions increased from 18% in 2022 to 32% in 2025, representing 78% growth. This indicator reflects gradual development in administrative automation by measuring several factors, including the percentage of services provided electronically, the percentage of digitally completed transactions, the level of integration across government systems, and citizen satisfaction with e-services.

- The e-payments index witnessed remarkable growth, reflecting the rapid adoption of modern financial technologies. The total volume of electronic payments reached 1.37 trillion Iraqi dinars in May 2025, compared to less than 90 billion dinars at the end of 2022 a staggering 1,400% increase. This accelerated growth is attributed to factors such as:
1. The Cabinet's decision requiring government employees to receive salaries via electronic cards.
2. Expansion of the electronic point-of-sale (POS) network to more than 50,000 terminals nationwide.
- Financial inclusion in Iraq reached 40% in 2025, up from less than 10% in 2019. This indicator measures the share of adults holding bank accounts or using formal financial services. Its notable improvement directly enhances financial oversight mechanisms by facilitating tracking of financial flows and strengthening anti-money laundering and counter-illicit financing measures.

Second: Major Digital Transformation Projects and Their Impact on Administrative Oversight

The Iraqi government is implementing a set of ambitious strategic projects aimed at advancing digital transformation and developing administrative oversight in line with global technological trends. These projects represent a real paradigm shift in traditional government operations and oversight mechanisms.

The National Data Center Project serves as a pioneering model of government data centers in the region. The Ministry of Interior's Digital Data Center is equipped with high-level technical specifications ensuring optimal performance and reliability. It currently has a storage capacity of 200 data cabinets, expandable to meet needs for the next 20 years. It is also equipped with backup generators and an advanced UPS system, enabling uninterrupted operation for up to 30 days during nationwide power outages.

The center currently supports more than 15 critical government systems, including:
- The electronic passport system, processing over 10,000 daily transactions.
- The unified national ID system, containing data on more than 38 million citizens.
- The vehicle registration system, with records of over 7 million vehicles.
- The criminal evidence system, storing millions of fingerprints and criminal records.

The center has had a tangible impact on oversight efficiency:
- Processing time for transactions decreased by 70%.
- Document forgery and tampering cases declined by 85%.
- Real-time verification and data matching became possible with high accuracy.

In this context, the Supreme Administrative Court, in Decision No. 87/Administrative Appeal/2024 dated March 15, 2024, ruled in a dismissal case based on algorithmic data analysis that:

"The use of artificial intelligence in administrative decision-making does not exempt the administration from its duty to provide justification and verify the accuracy of results. An administrative decision based solely on automated analysis without adequate human review is defective due to lack of sufficient reasoning."

This judgment sets important guidelines for the use of AI in administrative oversight and underscores the need to balance automation with human review.

Conclusion of Section One: Iraq is witnessing gradual yet tangible progress in digital transformation, reflected in improved quantitative indicators and diverse strategic projects. Despite disparities across institutions, the overall

trajectory indicates clear governmental commitment to developing digital infrastructure and enhancing administrative oversight using modern technologies, laying the foundation for a more advanced phase of comprehensive digital transformation in the near future.

Section Two: Strategies and Innovative Initiatives for Strengthening Digital Government Oversight

The contemporary world is undergoing rapid advances in digital technology, requiring governments to modernize their oversight systems to keep pace with the digital age. In this context, developing innovative strategies and initiatives becomes essential to enhance oversight effectiveness, transparency, and accountability in government performance.

First: Proposed Mechanisms for Developing Digital Administrative Oversight

Building an effective and comprehensive digital oversight system requires implementing a set of interrelated mechanisms spanning legislative, regulatory, technical, and human dimensions in a balanced and integrated manner. This transformation necessitates a long-term strategy that considers Iraq's local specificities while drawing on successful international experiences.

1. Developing a comprehensive legislative framework

- Enacting an integrated legislative package, including a comprehensive e-government law that defines the legal framework for digital transactions, powers, and responsibilities.
- Updating data protection and privacy laws to align with international standards.
- Enacting a cybersecurity law specifying mechanisms for protecting digital infrastructure and addressing cyber threats.

2. Strengthening advanced technical infrastructure

- Establishing a secure and advanced government network connecting all institutions and ensuring integration.
- Expanding government data centers and enhancing storage and processing capacity to meet growing data volumes.
- Creating specialized digital oversight platforms employing AI and machine learning to analyze data and automatically detect violations and irregularities.

3. Developing specialized human capacities

- Launching advanced training programs for oversight personnel to enable effective use of modern digital tools.
- Establishing specialized institutes for training oversight staff in the latest methods and technologies.
- Creating graduate programs (Master's/PhD) in digital administrative oversight in cooperation with local and international universities.

Second: Strategic Innovative Initiatives for Developing Government Oversight in the Digital Era

To modernize Iraq's administrative oversight system in line with digital age requirements, a set of innovative strategic initiatives must be adopted:

- **Initiative One: National Strategy for Digital Oversight Transformation**
  Given Iraq's low ranking (145 out of 193 countries) in the 2024 UN E-Government Development Index, a comprehensive national strategy is urgently needed to set goals, priorities, and timelines for digital oversight transformation. This strategy should include a long-term digital government plan, coordination mechanisms, and universal access to ICT infrastructure.

- **Initiative Two: Institutional Development of Digital Oversight Capacities**
  With support from the UNDP Iraq Country Office, the UNDP Regional Hub, and in partnership with the Estonian e-Governance Academy, Iraq should launch a comprehensive digital maturity assessment and adopt a "digital-first" approach across key ministries. This requires establishing specialized digital oversight units within ministries and agencies, equipped with skilled staff and advanced technical tools.

- **Initiative Three: International Strategic Partnerships for Digital Transformation**
  Iraq should leverage public-private partnerships (PPP) where government acts as a facilitator safeguarding consumer rights and data protection. Collaboration with leading digital governance countries and international organizations will allow transfer of expertise and best practices, as well as the establishment of expert exchange programs in digital oversight.

Conclusion of Section Two: Strategies and innovative initiatives to enhance digital government oversight are an urgent necessity to keep pace with the rapid evolution of digital technologies. Transformation requires a comprehensive package of reforms spanning legislative modernization, advanced infrastructure development, and human capacity building. By adopting an integrated legal framework including e-government, data protection, and cybersecurity laws Iraq can regulate digital transactions and protect government information against cyber threats, laying the foundation for a robust and accountable digital oversight system.

Conclusion

This study concludes that the process of digital transformation in administrative oversight in Iraq is at a critical juncture, requiring intensified efforts at all levels.

Findings

- **Digital Progress in Iraq:** Despite tangible progress in digital transformation such as the increase in the digitalization rate from 18% to 32% within three years, and the remarkable 1400% growth in electronic payments there remain substantial structural challenges that require urgent attention.
- **The Legal Framework Needs Updating:** The current legal framework remains insufficient to keep pace with digital transformation. Iraq still lacks updated data protection laws, and revisions are needed in evidentiary and penal codes to address cybercrimes.
- **Human Capacity and Infrastructure Gaps:** Iraq suffers from a shortage of qualified personnel in advanced digital technologies. Furthermore, the ICT infrastructure requires massive investments to meet the

necessary standards.

- **Significant Opportunities Ahead:** Iraq possesses great opportunities to develop digital administrative oversight, particularly given the presence of a young, educated, and technology-oriented generation, which enables Iraq to benefit from successful international experiences.

Recommendations

- **Develop a Comprehensive National Strategy for Digital Transformation:** Formulate a long-term strategic plan that defines objectives and priorities to ensure effective digital transformation in administrative oversight.
- **Update the Legislative Framework:** Modernize Iraqi laws to include comprehensive personal data protection legislation, new cybercrime laws, and amendments to evidentiary and penal codes in alignment with digital transformation.
- **Build Human Capacity:** Invest in training Iraqi personnel in modern digital technologies through accredited local and international programs, and establish specialized institutes.
- **Enhance ICT Infrastructure:** Increase investments in developing government networks, data centers, and e-services to ensure the efficiency of the digital oversight system.
- **Strengthen Cybersecurity:** Develop a comprehensive national cybersecurity strategy to protect government data and citizens against cyber threats.
- **Promote International Partnerships:** Cooperate with leading countries in digital governance to transfer knowledge and experiences in digital oversight.
- **Engage the Private Sector:** Encourage public-private partnerships to provide technological and financial support for Iraq's digital transformation.

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