



Cambridge
International

Professional Research Thesis

Titled

The role of legal policies in promoting the use of artificial intelligence in management information systems and its impact on human resource efficiency.

Researcher

ahmed saleh abdellah mohmed

Supervisor signature

2025



Introduction.

In recent decades, the world has witnessed a tremendous leap in the development of information and communication technologies, with artificial intelligence emerging as one of the most prominent features that has reshaped the landscape of contemporary societies and transformed management concepts and decision-making methodologies.

Artificial intelligence has become a strategic tool upon which modern institutions rely to enhance performance and achieve competitive advantage through its capability to analyze vast quantities of data, predict future trends, and provide intelligent solutions characterized by precision and speed. In this context, management information systems constitute one of the platforms that embrace artificial intelligence technologies and benefit from them in developing administrative work mechanisms, improving operational efficiency, and facilitating informed decision-making at the appropriate time.

However, the integration of artificial intelligence technologies within management information systems does not occur in isolation from the legal and regulatory framework, but is closely linked to a set of policies and laws that govern usage mechanisms, ensure the protection of rights, and limit the ethical and societal risks associated with such usage. With the

increasing reliance on artificial intelligence, there has emerged an urgent need to formulate balanced legal policies that ensure the safe and responsible use of these technologies while simultaneously achieving maximum possible benefit from them, without compromising the principles of justice, transparency, data protection, and individual privacy.

Given this evolving landscape, administrative institutions across various sectors have become obligated to reconsider their organizational structure and the information systems they rely upon, in alignment with rapid technological developments on one hand, and legal obligations and legislative policies on the other. Legal policies play a pivotal role in enabling institutions to utilize artificial intelligence effectively and comprehensively within management information systems, providing a flexible yet regulatory legal environment that allows for innovation and encourages institutional development.

Furthermore, the deployment of artificial intelligence within management information systems has a direct impact on human resource efficiency, whether in terms of improving decision-making processes, enhancing productivity, facilitating communication and coordination between different departments, or even regarding the reshaping of employee roles and training them in modern skills required by the digital age. Hence, the

relationship between legal policies and artificial intelligence technology cannot be understood in isolation from the human element, which constitutes the backbone of any successful institution.

Based on this reality, this study aims to shed light on the role of legal policies in enhancing the use of artificial intelligence in management information systems, while simultaneously analyzing the impact of this usage on human resource efficiency. The study also seeks to explore the legal and regulatory challenges that impede the effective deployment of artificial intelligence and proposes innovative solutions that enhance the integration of this technology within the administrative work environment in a sustainable and effective manner.

This study does not emerge from a vacuum, but rather constitutes a practical response to contemporary variables and an endeavor to contribute to providing a scientific and analytical framework through which public policies capable of ensuring the success of digital transformation initiatives and achieving sustainable administrative development can be formulated. This framework aims to enhance institutional competitiveness and service quality while establishing a foundation for a more efficient and integrated future that harmonizes technology, law, and human resources.

The study Problem.

In light of the accelerating digital transformations witnessed globally, administrative institutions face an inevitable challenge represented by the necessity to keep pace with technological developments, particularly artificial intelligence, with the aim of improving performance and raising the level of efficiency and effectiveness. Many institutions have moved toward integrating artificial intelligence technologies within management information systems, enabling them to process and analyze data, support decision-making, and achieve higher levels of accuracy and speed in task execution. However, this approach, despite its importance, cannot yield its intended benefits unless there exists a clear legal and regulatory framework that governs the use of these technologies, defines the responsibilities of various parties, and ensures legal protection for data and individual privacy.

Despite the increasing reliance on artificial intelligence in work environments, many institutions still face difficulties in achieving balance between benefiting from these advanced technologies and complying with governing legal controls and policies. The matter becomes more complex when it concerns the impact of this usage on human resources, which are affected either negatively or positively by the effectiveness of legal policies

in regulating the relationship between artificial intelligence and information systems on one hand, and the human element on the other.

Accordingly, the study problem stems from the urgent need to understand the role played by legal policies in facilitating or restricting the process of integrating artificial intelligence into management information systems, and from the necessity to reveal the extent of this integration's impact on human resource efficiency, particularly in light of challenges related to human capital requalification, job restructuring, defining responsibility boundaries, and dealing with the risks of unregulated use of intelligent technologies.

This study poses a fundamental question regarding whether current legal policies are sufficient to secure an enabling environment for the use of artificial intelligence within management information systems, and how these policies can contribute to improving human resource efficiency, or whether they constitute an obstacle to institutional development and comprehensive digital transformation.

The importance of studying:

The significance of this study stems from the nature of the subject matter it addresses, which intersects with several vital issues in our contemporary era. The relationship between legal policies and the use of artificial intelligence in management information systems represents one of the strategic axes that have come to directly influence institutional efficiency and performance quality. Given the significant expansion in artificial intelligence applications worldwide, there emerges a need for scientific studies that shed light on how this usage can be framed within an integrated legal system that ensures the safe and effective use of this modern technology while simultaneously achieving justice and protecting rights.

The significance of the study is also manifested in its endeavor to link the legal aspect on one hand with the administrative and technical aspects on the other, through analyzing the role of legal policies in facilitating the process of integrating artificial intelligence within management information systems. This linkage rarely receives adequate attention in Arabic academic literature, despite its paramount importance in supporting digital transformation efforts and modernizing institutional infrastructure.

Furthermore, the significance of this study increases when considering the impact of artificial intelligence usage on human resource efficiency, which is a complex subject requiring precise understanding of the interactions between modern technology and the human element within the work environment. The integration of artificial intelligence technologies, if not accompanied by clear legal and regulatory policies, may lead to disruption in task distribution and create a state of apprehension or anxiety among employees regarding their professional future, which negatively affects satisfaction and productivity levels.

Accordingly, this study seeks to provide a qualitative scientific contribution through exploring legal frameworks that support the prudent use of artificial intelligence in institutions and analyzing its impact on human resource efficiency. This contributes to enabling decision-makers to adopt integrated policies that enhance institutional performance and support the orientation toward a sustainable, knowledge-based digital economy.

Objectives of the study:

This study aims to achieve the following objectives:

- *Identifying the role of legal policies in regulating the use of artificial intelligence in management information systems.*
- *Analyzing the extent of artificial intelligence usage impact on human resource efficiency in institutions.*
- *Determining the relationship between legal frameworks and the efficiency of artificial intelligence implementation in the administrative environment.*
- *Revealing the legal and administrative challenges associated with deploying artificial intelligence in information systems.*
- *Presenting a proposed framework for legal policies that support the effective and responsible use of artificial intelligence.*
- *Examining the impact of integration between legal and administrative systems on developing human resource efficiency.*

Study hypotheses and questions.

Research Questions

This study seeks to answer the following research questions:

- *To what extent are current legal policies effective in enhancing the use of artificial intelligence within management information systems?*
- *How does the use of artificial intelligence contribute to improving human resource efficiency within institutions?*
- *What is the relationship between the clarity of legal frameworks and the efficiency of artificial intelligence implementation in the administrative environment?*
- *To what extent does the integration between legal and administrative policies affect human resource performance?*

Research Hypotheses

This study is based on the following hypotheses:

- *The use of artificial intelligence in management information systems leads to improved human resource efficiency.*

- *The clarity of legal policies contributes to enhancing the effectiveness of artificial intelligence implementation in the administrative work environment.*
- *There exist legal and regulatory challenges that impede the effective use of artificial intelligence within institutions.*
- *The integration between legal frameworks and management information systems positively affects the development of employee performance.*
- *The current legal environment in some institutions is insufficient to support the safe and effective use of artificial intelligence.*

Study Approach.

*This study employs the **descriptive analytical approach** to investigate "the role of legal policies in enhancing the use of artificial intelligence in management information systems and its impact on human resource efficiency."*

The limits of the study:

Spatial boundaries: The Arab world.

Time limits: .2025-2006

Study plan.

The study plan will be organized as follows, comprising several chapters, sections, sub-sections, and a conclusion:

Chapter One: Theoretical Framework and Scientific Concepts

Section One: Introduction to Understanding Artificial Intelligence

First: The Nature of Artificial Intelligence and Human Intelligence

Second: Artificial Intelligence Techniques and Methods

Third: The Genesis and Evolution of Artificial Intelligence

Fourth: Fields and Characteristics of Artificial Intelligence

Section Two: The Relationship Between Artificial Intelligence and Human Resource Efficiency

First: The Impact of Artificial Intelligence on Employee Performance Development

Second: Challenges Facing Human Resources in the Context of Intelligent Transformation

Third: The Role of Artificial Intelligence in Supporting Recruitment, Training, and Evaluation Processes

Chapter Two: Legal and Regulatory Policies and Their Role in Artificial Intelligence Management

Section One: Legal Framework for the Use of Artificial Intelligence in Institutions

First: International Policies and Laws Regulating Artificial Intelligence

Second: National Legislation in Arab Countries for Artificial Intelligence Regulation

Third: Legislative Gaps and Risks of Absence of Legal Regulation in Institutions

Section Two: Legal Policies and Their Integration with Information Systems and Resource Efficiency

First: The Role of Legal Policies in Protecting Data and Privacy within Information Systems

Second: The Relationship Between Digital Legislation and Human Resource Efficiency Development

*Third: Successful Legal Models and Experiences in Managing Artificial
Intelligence in Institutions*

Conclusion.

In the midst of the accelerating technological transformations witnessed by the world, it is no longer possible to ignore the growing role of artificial intelligence as a driving force toward institutional development and enhancing administrative performance efficiency, especially given the enormous possibilities this technology offers in data analysis, decision-making, and supporting operational processes. This study sought to shed light on one of the important dimensions of this transformation, represented by the integrative relationship between legal policies and the use of artificial intelligence in administrative information systems, and its impact on human resource efficiency within institutions.

The study has shown that integrating artificial intelligence into administrative information systems constitutes a strategic opportunity to improve institutional performance effectiveness, but this opportunity remains conditional upon the existence of clear and effective legal frameworks that regulate this use and protect individual and institutional rights simultaneously. The legal environment represents the fundamental guarantor for rational and safe use of artificial intelligence, especially in matters related to data protection, privacy, ethical responsibility, and transparency in automated decision-making.

The study also demonstrated that artificial intelligence can positively impact human resource efficiency through improving recruitment, training, and evaluation processes, and providing precise analytical tools that enable decision-making based on scientific data. However, this positive impact remains dependent on the extent to which legal policies can provide a balanced technological environment that does not exclude the human element nor compromise their occupational or informational rights.

The study results highlight the importance of enhancing integration between law and technology in building intelligent administrative systems based on legal principles and good governance, contributing to enabling institutions to achieve their objectives efficiently while preserving human values that cannot be reduced to algorithms or intelligent systems. The study emphasized the necessity of updating existing legislation to keep pace with challenges posed by artificial intelligence use, and providing flexible yet disciplined institutional policies that stimulate innovation and protect rights simultaneously.

Based on the foregoing, this study represents a scientific attempt to establish foundations for comprehensive understanding of the relationship between law, technology, and human resources, and serves as a starting

point toward future studies that delve deeper into analyzing the legal and social impact of employing artificial intelligence within work environments. The hope remains that the results of this study will contribute to supporting decision-makers, legislators, and administrators in building effective policies that achieve the desired balance between technological innovation, legal protection, and institutional justice.

Results:

- *There exists a positive relationship between the effectiveness of legal policies and the level of efficiency in using artificial intelligence in administrative information systems.*
- *Artificial intelligence contributes to improving recruitment, training, and evaluation processes within human resource departments.*
- *Weak legal frameworks lead to hindering optimal utilization of artificial intelligence technologies in the administrative environment.*
- *Data protection and privacy constitute among the most prominent challenges facing artificial intelligence implementation in institutions.*
- *There is a need for flexible and updated legislation that keeps pace with technological development and provides required legal protection.*
- *Effective integration between legal policies and information systems contributes to enhancing organizational justice and employee trust.*
- *The lack of clear legal policies in Arab institutions creates a gap that weakens the efficiency of intelligent information systems.*
- *Balance between technological development and legal controls is necessary for achieving ethical use of artificial intelligence.*
- *Using artificial intelligence without a disciplined legal framework may lead to unfair or biased administrative decisions.*

- *Supporting successful digital transformation in institutions requires actual integration between technical, legal, and administrative policies.*

Recommendations:

- *The necessity of updating and developing legal policies to keep pace with technological developments in the field of artificial intelligence.*
- *Enacting clear and binding legislation to protect personal data and ensure privacy within administrative information systems.*
- *Enhancing integration between legislative, technical, and administrative bodies to formulate unified policies governing artificial intelligence use.*
- *Providing legal and administrative training programs for employees on mechanisms of using artificial intelligence responsibly.*
- *Adopting clear governance standards to regulate artificial intelligence use in recruitment and institutional evaluation processes.*
- *Establishing units within institutions to monitor legal compliance for the use of intelligent technologies.*
- *Encouraging applied scientific research to study the effects of artificial intelligence on human resources from a legal perspective.*
- *Developing secure digital infrastructure that supports the implementation of intelligent information systems within a robust legal framework.*
- *Benefiting from successful international experiences in artificial intelligence regulation and adapting them to suit the Arab environment.*

- *Involving employees in formulating internal policies for artificial intelligence use to increase institutional acceptance.*

The reviewer:

Arabic references:

- ✓ أبو بكر، محمد عبد الله (2020). الذكاء الاصطناعي والتحول الرقمي في المؤسسات الحكومية. القاهرة: دار الفكر الجامعي.
- ✓ الأسطل، سامي محمد (2019). حوكمة البيانات في ظل الذكاء الاصطناعي. المجلة الفلسطينية للتقنيات الإدارية، 7(2).
- ✓ الجهني، فهد بن ناصر (2022). الذكاء الاصطناعي والنظام القانوني السعودي. الرياض: مكتبة العبيكان.
- ✓ حسن، منى عبد الرحيم (2021). نظم المعلومات الإدارية الحديثة وأثرها في تنمية الموارد البشرية. مجلة الدراسات الإدارية، جامعة القاهرة، 35(1).
- ✓ الرفاعي، أحمد عمر (2020). التحول الرقمي بين التشريع والتطبيق الإداري. مجلة العلوم القانونية، جامعة الموصل، 42(3).
- ✓ أبو الخير، سلوى محمود (2023). أخلاقيات الذكاء الاصطناعي: رؤية قانونية. مجلة القانون المعاصر، جامعة عين شمس، 29(1).
- ✓ الجميلي، مروان سالم (2021). التشريعات العربية لحماية الخصوصية في بيئة الذكاء الاصطناعي. المجلة العربية للعلوم القانونية، 14(2).
- ✓ الحربي، عبد الله بن سعود (2022). إدارة الموارد البشرية الرقمية في المؤسسات السعودية. الرياض: مركز البحوث الإدارية.

- ✓ عبد القادر، حسام الدين (2019). إدارة المعرفة ونظم المعلومات الذكية. عمان: دار صفاء للنشر والتوزيع.
- ✓ العبدلي، نوال حسين (2020). السياسات القانونية والتنظيمية للتحويل الرقمي في القطاع الإداري. مجلة دراسات قانونية، جامعة قسنطينة.
- ✓ داود، أحمد عبد الجواد (2022). حماية البيانات الشخصية في البيئة الإلكترونية. القاهرة: دار النهضة العربية.
- ✓ الفقي، طارق محمد (2021). الأمن السيبراني وأثره على حماية نظم المعلومات الإدارية. مجلة البحوث الإدارية، جامعة الإسكندرية، 30(2).
- ✓ صبري، ناهد عبد الرحمن (2020). التحويل الرقمي وأثره على أداء المؤسسات العامة. مجلة الاقتصاد والإدارة، 28(1).
- ✓ الشربيني، جمال الدين (2022). التنظيم القانوني لاستخدام الذكاء الاصطناعي في القطاع الإداري. مجلة الشريعة والقانون، جامعة الإمارات.
- ✓ عطية، عمر حسن (2023). الذكاء الاصطناعي والخصوصية في بيئة العمل. مجلة العلوم الاجتماعية، جامعة الأزهر.
- ✓ عبد الحليم، مراد محمد (2021). تكنولوجيا الذكاء الاصطناعي في تقييم الأداء المؤسسي. مجلة الإدارة الإلكترونية، 11(2).
- ✓ آل الشيخ، ماجد بن عبد الرحمن (2020). إدارة الموارد البشرية في عصر الذكاء الاصطناعي. الرياض: مكتبة الملك فهد الوطنية.

✓ أحمد، صفاء مجدي (2022). السياسات الرقمية في المؤسسات الحكومية. مجلة الإدارة الحديثة،
18(1).

✓ زيدان، علاء الدين (2021). الذكاء الاصطناعي كأداة دعم للقرار الإداري. جامعة بغداد، كلية
الإدارة والاقتصاد.

✓ ناصر، هالة عبد العظيم (2023). البيئة القانونية لحوكمة الذكاء الاصطناعي في الوطن العربي.
مجلة القانون والسياسة، 13(1).

✓ الشاذلي، نجلاء حسان (2022). نظم المعلومات الإدارية وأثرها في صنع السياسات المؤسسية.
القاهرة: دار المسيرة.

✓ الجابري، زينب حسن (2020). الذكاء الاصطناعي والمسؤولية القانونية في القرارات الإدارية.
مجلة القانون العام، 8(2).

✓ إدريس، بشير أحمد (2021). أثر الذكاء الاصطناعي على ممارسات التوظيف في المؤسسات
العربية. مجلة الموارد البشرية، 12(1).

✓ المومني، عادل محمد (2022). التحديات القانونية للذكاء الاصطناعي في القطاع العام. مجلة
الحقوق، جامعة الكويت.

✓ ناصر، جمال عبد الجليل (2019). المسؤولية القانونية عن أخطاء الذكاء الاصطناعي في بيئة
الأعمال. مجلة الدراسات القانونية، جامعة الزيتونة.

✓ كمال، صفوت عبد السلام (2020). التحول الرقمي وفعالية نظم المعلومات الإدارية. مجلة
جامعة القاهرة، كلية التجارة.

- ✓ عبد الرحمن، هالة أحمد (2021). أثر سياسات الأمن المعلوماتي على حماية الخصوصية المؤسسية. مجلة بحوث الأعمال، 17(2).
- ✓ الجندي، سمير محمد (2022). الذكاء الاصطناعي والتنظيم المؤسسي في البيئة الإدارية الحديثة. القاهرة: المركز القومي للبحوث الإدارية.
- ✓ أبو شهاب، فهد محمد (2023). الحوكمة القانونية للذكاء الاصطناعي في القطاع الحكومي. مجلة القانون والإدارة، جامعة مؤتة.
- ✓ النمر، ليلي كمال (2021). الخصوصية والشفافية في تطبيقات الذكاء الاصطناعي. مجلة الإعلام الرقمي، 9(1).
- ✓ عبد اللطيف، خالد يوسف (2020). السياسات التنظيمية للتقنيات الذكية في الإدارة العامة. مجلة الاستراتيجيات الإدارية، 13(1).
- ✓ الفار، يوسف أحمد (2022). القانون والذكاء الاصطناعي في المؤسسات التعليمية. مجلة القانون والتربية، جامعة المنوفية.
- ✓ عبد الرؤوف، مازن عبد الحي (2021). مخاطر الذكاء الاصطناعي دون أطر قانونية حاکمة. مجلة التكنولوجيا والمجتمع، 7(2).
- ✓ عثمان، تهاني عبد العزيز (2023). التحول الرقمي والقانون في بيئة الإدارة الذكية. مجلة نظم المعلومات الإدارية، جامعة السودان.
- ✓ عبد الكريم، أمل ناصر (2020). دور السياسات القانونية في حماية البيانات في القطاع الصحي الذكي. مجلة العلوم الإدارية، 10(3).

- ✓ بدران، فتحي علي (2022). أثر القوانين الرقمية على الأداء المؤسسي في الدول العربية. مجلة القانون المقارن، 14(1).
- ✓ الزهراني، محمد بن عبدالله (2021). الذكاء الاصطناعي والأخلاقيات الإدارية. الرياض: دار الحضارة للنشر.
- ✓ إبراهيم، نادية فؤاد (2020). الإطار القانوني للموارد البشرية في ظل الأتمتة والتحول الرقمي. مجلة الإدارة الحديثة، 16(2).
- ✓ أبو عاصي، هيثم خالد (2022). التنظيم القانوني للتوظيف الذكي وأثره على العدالة المؤسسية. مجلة حقوق الإنسان والقانون، جامعة بيرزيت.
- ✓ خليل، حنان محمد (2023). الذكاء الاصطناعي وإعادة صياغة السياسات الإدارية في المؤسسات الحكومية. مجلة دراسات إدارية وقانونية، 11(2).

Foreign references:

1. Binns, R. (2018). *Algorithmic Accountability and Public Reason*. *Philosophy & Technology*, 31(4), 543–556.
2. Mittelstadt, B. D., Allo, P., Taddeo, M., Wachter, S., & Floridi, L. (2016). *The Ethics of Algorithms: Mapping the Debate*. *Big Data & Society*, 3(2), 1–21.
3. Meijer, A., & Wessels, M. (2019). *Predictive Policing: Review of Benefits and Drawbacks*. *International Journal of Public Administration*, 42(12), 1031–1039.
4. Pasquale, F. (2015). *The Black Box Society: The Secret Algorithms That Control Money and Information*. Harvard University Press.
5. Gasser, U., & Almeida, V. A. F. (2017). *A Layered Model for AI Governance*. *IEEE Internet Computing*, 21(6), 58–62.
6. Eubanks, V. (2018). *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor*. St. Martin's Press.
7. Floridi, L., & Cowls, J. (2019). *A Unified Framework of Five Principles for AI in Society*. *Harvard Data Science Review*, 1(1), 1–15.
8. Lepri, B., Oliver, N., Letouzé, E., Pentland, A., & Vinck, P. (2017). *Fair, Transparent, and Accountable Algorithmic Decision-making Processes*. *Philosophy & Technology*, 31(4), 611–627.

9. Zuboff, S. (2019). *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*. PublicAffairs.
10. Yeung, K. (2018). *Algorithmic Regulation: A Critical Interrogation*. *Regulation & Governance*, 12(4), 505–523.
11. Cath, C. (2018). *Governing Artificial Intelligence: Ethical, Legal and Technical Opportunities and Challenges*. *Philosophical Transactions of the Royal Society A*, 376(2133), 1–15.
12. Brynjolfsson, E., & McAfee, A. (2014). *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies*. W. W. Norton & Company.
13. Susskind, R., & Susskind, D. (2015). *The Future of the Professions: How Technology Will Transform the Work of Human Experts*. Oxford University Press.
14. Binns, R. (2020). *Human Judgment in Algorithmic Decision-Making: Challenges and Opportunities*. *Legal Studies*, 40(4), 587–606.
15. Wirtz, B. W., Weyerer, J. C., & Geyer, C. (2019). *Artificial Intelligence and the Public Sector—Applications and Challenges*. *International Journal of Public Administration*, 42(7), 596–615.
16. Jobin, A., Ienca, M., & Vayena, E. (2019). *The Global Landscape of AI Ethics Guidelines*. *Nature Machine Intelligence*, 1(9), 389–399.

17. Nemitz, P. (2018). *Constitutional Democracy and Technology in the Age of Artificial Intelligence*. *Philosophical Transactions of the Royal Society A*, 376(2133), 1–14.
18. Crawford, K., & Calo, R. (2016). *There Is a Blind Spot in AI Research*. *Nature*, 538(7625), 311–313.
19. Ransbotham, S., Kiron, D., Gerbert, P., & Reeves, M. (2017). *Reshaping Business with Artificial Intelligence*. *MIT Sloan Management Review*, 59(1), 1–17.
20. Taddeo, M., & Floridi, L. (2018). *How AI Can Be a Force for Good*. *Science*, 361(6404), 751–752.