CHAPTER 53

TECHNOLOGY
INFORMATICS & COMMUNICATION

Doctoral Theses

01. JASIM (Osamah Mohammed)
AI-Enabled E-Governance for Improved Credit Mobility and Quality Assurance in Higher Education Institutions in the Middle East.
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Abstract

This thesis examines the transformative role of Artificial Intelligence (AI) in advancing e-governance within higher education institutions (HEIs) in the Middle East, with particular focus on Iraq's dual governance structure encompassing both the federal system and the Kurdistan Regional Government (KRG). Despite increasing regional momentum toward digital transformation, Iraq continues to face fragmented governance arrangements, legacy administrative practices, and limited digital infrastructure, which collectively constrain credit mobility and weaken the consistency of quality assurance (QA) mechanisms. To address these challenges, the study proposes an integrated AI-enabled e-governance framework aimed at enhancing interoperability, transparency, and institutional coordination across HEIs. A mixed-methods research design was employed, combining bibliometric analysis, semi-structured interviews with institutional leaders, and a stakeholder survey involving students, faculty members, and administrators. This triangulated approach enabled a comprehensive assessment of global research trends, governance gaps specific to Iraq, and stakeholder perceptions regarding AI adoption in higher education governance. The findings reveal persistent fragmentation in accreditation and credit recognition systems, weak data-sharing practices, institutional inertia, and sociocultural barriers, including limited trust and resistance to technological change. At the same time, the results demonstrate strong potential for AI to automate credit transfer processes, streamline administrative workflows, and support continuous quality improvement through predictive analytics. Chapters 1 and 2 establish the conceptual foundations and present a bibliometric analysis of global and regional research trends. Chapters 3 and 4 examine digital credit transfer systems and AI-driven quality assurance frameworks. Chapter 5 investigates stakeholder perceptions of AI-enabled e-governance. Chapter 6 proposes an integrated AI-enabled governance framework comprising a Universal Credit Registry, student credential wallet, blockchain-based verification, real-time QA dashboards, predictive analytics engines, and a secure federated technical architecture. Chapter 7 outlines future research directions and policy implications, emphasizing scalability, ethical safeguards, interoperability, and long-term evaluation.

Contents

1. Higher Education Landscape in Iraq 2. Evidence Base for E-Governance: A Bibliometric Study of Higher Education Research in Iraq Country 3. Credit Mobility & Digital Credit Transfer Systems 4. AI-Driven Quality Assurance in Higher Education 5. Stakeholder Perceptions of AI-Enabled E-Governance in Higher Education 6. Integrated Results, Analysis & Proposed AI-enabled E-Governance Framework 7. Conclusion and Future Work.