

Stakeholder Perceptions of Legal, Institutional, and Technological Conditions for E-Governance Adoption in Selected Jordanian Institutions

Mohamed Hadi Al Najdawi¹, Abdelkarim Kitana², Mohamed Ahmed Elbadawi³, Zainab Al Ghurabli⁴, Siham Haider⁵, and Tamadher Aldabbagh⁶

¹ Associate Professor, Public Administration Department, College of Business, City University Ajman, Ajman, UAE,
E-mail: m.najdawi@cu.ac.ae (corresponding author).

² Associate Professor, Human Resource Department, College of Business, City University Ajman, Ajman, UAE,
E-mail: a.kitana@cu.ac.ae

³ Associate Professor, Human Resource Department, College of Business, City University Ajman, Ajman, UAE,
E-mail: e.ahmed@cu.ac.ae

⁴ Associate Professor, Human Resource Department, College of Business, City University Ajman, Ajman, UAE,
E-mail: z.ghurabli@cu.ac.ae

⁵ Assistant Professor, Human Resource Department, College of Business, City University Ajman, Ajman, UAE,
E-mail: h.siham@cu.ac.ae

⁶ Associate Professor, Human Resource Department, College of Business, City University Ajman, Ajman, UAE,
E-mail: t.al-dabbagh@cu.ac.ae

Project Management

Received April 22, 2026; revised June 7, 2026, August 11, 2026, September 5, 2026; accepted September 5, 2026
Available online September 20, 2026

Abstract: This study explores stakeholder perceptions of the institutional, legal, organizational, and technological conditions surrounding e-governance implementation, as well as its perceived institutional outcomes, among surveyed stakeholder categories at selected Jordanian institutions. Guided by Institutional Theory, Socio-Technical Systems Theory, and Digital-Era Governance Theory, the study adopted a descriptive cross-sectional survey design with purposive sampling. Of the 150 questionnaires distributed, 143 valid responses were included in the analysis. The data were analyzed using frequencies, percentages, means, and standard deviations. Respondents reported a high level of perceived institutional barriers, with an average item mean of 4.38. Respondents expressed strong agreement that the organizational and technological factors support e-governance implementation, with an average item mean of 3.78. In contrast, agreement with the legal and regulatory statement was lower (E4; M = 1.55). These findings reflect respondents' perceptions of the supportive role of these conditions rather than their actual presence or availability within the institutions. Perceived institutional performance outcomes were generally favorable (average item mean = 3.83), with accountability receiving the highest rating (M = 4.38), whereas decision-making improvement received a low rating (M = 2.03). The findings indicate strong perceived barriers, broad agreement with several facilitating conditions, and uneven perceived institutional outcomes, without establishing objective institutional readiness. Because the study is cross-sectional, perception-based, and purposively sampled, the findings do not establish causal relationships and should not be generalized to all Jordanian institutions. The study contributes an integrated descriptive assessment of barriers, enabling-condition perceptions, and perceived institutional outcomes among surveyed stakeholder categories from selected Jordanian institutions.

Keywords: E-governance; digital transformation; transparency; institutional efficiency; legal frameworks.

Copyright © Journal of Engineering, Project, and Production Management (EPPM-Journal).
DOI 10.32738/JEPPM-2026-0016

1. Introduction

Digitalization has transformed public administration by shifting services and administrative procedures toward Information and Communication Technology (ICT) supported delivery. E-government primarily concerns the digital provision of public services and administrative processes, whereas e-governance has a broader institutional scope encompassing coordination, participation, transparency, accountability, and the governance of digitally enabled interactions (Rezk 2021; Grigalashvili 2023). Digital transformation is broader still, involving changes in organizational structures, processes, capabilities, and

decision practices enabled by digital technologies (Abdelhalim, 2022). Accordingly, this study uses e-governance to refer to the institutional context in which legal, organizational, technological, and human-capacity conditions surrounding digital governance are considered together. The implementation of e-government is thus viewed as an institutional undertaking from a public administration perspective. Institutional environments that include regulatory frameworks, organizational capabilities, administrative coordination, technological infrastructure and human capabilities shape the institutional environment in which e-government will be implemented. This shifts the focus away from simply deploying new technologies in the institutional context for implementing e-government. Although many studies on e-government have examined barriers to adoption, enabling conditions for adoption, and organizational outcomes from e-government development, these studies were developed independently. As such, there is little or no understanding of how stakeholders view both the institutional and legal frameworks that surround an e-government project; the organizational, technological, and human capacity elements necessary to support it, as well as how each of those three sets of factors interrelate with one another in a developing country context.

Accordingly, the study is guided by the following research questions:

1. What institutional, organizational, legal, technological, and human-resource barriers are perceived to constrain e-governance implementation?
2. What technical, organizational, legal, leadership, and human-capacity conditions are perceived to facilitate e-governance implementation?
3. How do respondents perceive e-governance in relation to institutional efficiency, transparency, accountability, procedural standardization, decision-making, and regulatory control?

As a result of rapid technological change, globalization, the expansion of Information and Communication Technologies (ICTs), and increasing dependence on human capital, organizations are moving away from segmented administration towards a unified form of digital governance (Al-Maslamani, 2022). The development of these new institutional frameworks, however, will likely face limitations due to insufficient technical knowledge, limited financial capacity, lack of regulatory preparedness, and challenges in compliance with international standards (Al-Harout, 2018). Therefore, e-government should be examined relative to the readiness of technological capabilities, organizational structures, legal requirements and the availability of human resources (Kaputa et al., 2022), rather than solely examining technological readiness.

This research draws on three complementary theoretical frameworks. Institutional Theory identifies formal rules, organizational structures and normative environments (DiMaggio and Powell, 1983; Meyer and Rowan, 1977) as determinants of how organizations. Socio-Technical Systems Theory views technological systems in relation to both the organizational and the human capabilities that support them (Churchman and Verhulst, 1960; Trist and Bamforth, 1951). Digital-Era Governance Theory examines the implications of digital technology for integrating processes and for improving efficiency, transparency, and governance in the public sector (Dunleavy et al., 2006). The research uses all three theories to define its three analytic dimensions: perceived barriers, enabling conditions and perceived institutional outcomes. Because the study is exploratory and descriptive, these theories provide interpretive lenses rather than causal or predictive hypotheses.

1.1. Theoretical Framework and Analytical Dimensions

The theoretical framework comprises three complementary perspectives corresponding to the study's three descriptive dimensions. It is theory-informed and not an empirically validated structural model. No causal, mediating, moderating or predictive relationships are tested. Institutional theory informs the first dimension, perceived barriers to e-governance implementation (B1–B6), which include technology infrastructure, employee competence, legal and regulatory frameworks, organizational resistance, digital preparedness and resources. Institutional Theory has been employed to explain how respondents perceive their institutional context, but it does not provide a basis for deriving factors that influence the decision to adopt e-government (DiMaggio and Powell, 1983; Meyer and Rowan, 1977).

Socio-Technical Systems Theory supports the second dimension, which includes six perceived enabling conditions (E1–E6). These conditions cover technical-administrative coordination, managerial support for the use of technology, integration of technology into existing systems, legal and regulatory support, adequate employee training, and the availability of necessary hardware and software (Trist and Bamforth, 1951).

Digital-Era Governance Theory explains how participants perceive institutional performance outcomes for the third dimension (P1–P6), which include efficiency, transparency, accountability, standardization of procedures and decisions, and regulatory/information security (Dunleavy et al., 2006). Therefore, Institutional Theory relates to Research Question One, Socio-Technical Systems Theory relates to Research Question Two, and Digital Era Governance Theory relates to Research Question Three. A full item listing is given in Supplementary Material S2.

In accordance with Institutional Theory, Socio-Technical Systems Theory, and Digital-Era Governance Theory, Fig. 1 presents the study's theory-informed analytical framework. The framework organizes the three descriptive dimensions, perceived institutional barriers, perceived enabling conditions, and perceived institutional performance outcomes, and illustrates their alignment with the study's theoretical perspectives and research questions. The directional sequence represents the conceptual organization of the study rather than empirically tested causal relationships.

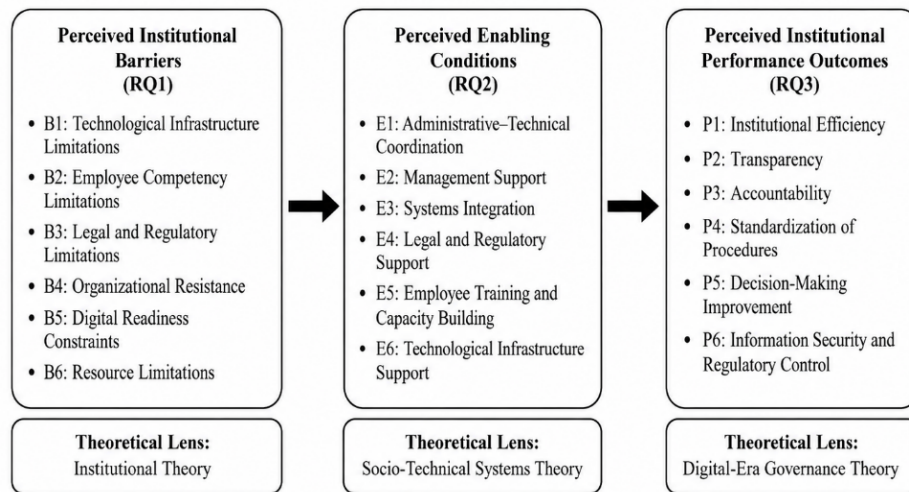


Fig. 1. Theory-informed analytical framework of the study

1.2. E-Governance: Concept, Evolution, and Foundations

E-governance has emerged as an evolving concept within public administration and digital transformation. Early e-government initiatives primarily emphasized administrative reform and digital service delivery, whereas e-governance has developed into a broader concept encompassing participatory governance, transparency, accountability, and institutional interaction (Grigalashvili, 2023).

The role of governance was previously associated with traditional notions of direction and control (Al-Beltagy, 2022), based on a leader-accountability model. Modern public administrations have transformed governance practices by incorporating information and communication technologies (ICT), enabling governments to be more responsive, efficient, and transparent in service delivery (Abu Atta and Hamdona, 2023; Al Najdawi et al., 2025b). As such, governance has expanded to encompass broader institutional objectives, such as improving government integrity and reducing corruption, while also providing greater transparency in the decision-making process (Amin, 2018).

In the context of digital transformation, e-governance is seen as an organized institutional framework that oversees electronic communications and information procedures (Al-Tayeb, 2018; Al-Asali and Al-Otaibi, 2020). It additionally fulfills a dual function in enhancing service delivery while encouraging citizen engagement (Al-Ruwaithi, 2023), indicating a transition towards a governance-centric framework.

E-governance development is influenced by political, technological, and economic conditions (Abdelhalim, 2022). Political pressures relate to demands for greater transparency and improved public services; technological conditions concern digital infrastructure and ICT development; and economic considerations include efficiency and cost reduction (Kaputa et al., 2022). These conditions are interrelated rather than independent.

1.3. Objectives, Characteristics, and System Components of E-Governance

E-governance has led to significant advancements in terms of efficiency, service quality, and overall performance for governmental administrations globally (Abu Lubhan & Khawlan, 2022; Al Najdawi et al., 2025a; Grigalashvili, 2023). E-governance's primary objectives include improving processes, integrating systems, enhancing decision-making, lowering costs, and increasing productivity (Ahmed & Al-Saedi, 2019). With regard to the structural implications of e-governance on governmental administration systems, it is worth noting that e-governance has resulted in dramatic transformations in terms of simplifying governmental administrative systems (removing unnecessary complexities), decreasing processing times (reducing time), and improving the accuracy of monitoring and evaluation systems (Kaputa et al., 2022; Shoman et al., 2023). In comparison to traditional administrative processes, e-governance supports better integration among institutional components as well as potentially increased cooperation and efficiency at the operational level (Al Najdawi et al., 2025a; Al-Dahshan & Al-Sayed, 2020). However, the current body of research has demonstrated that a number of critical success factors are interrelated in order to successfully implement an e-governance initiative. As such, both internationally and domestically, there are several common interdependent factors that have been identified. At the international level, the UN digital government model framework identifies the same seven interdependent factors as being important: policy coherence; institutional leadership; human capacity development; resilient digital infrastructure; data governance; inclusive service design; and a supportive legal and regulatory environment (UN Department of Economic and Social Affairs, 2024). Such foundations include building technical and management capabilities, reducing expectation-perception differences, increasing service accessibility, and integrating fragmented administrative procedures into digital platforms (Grigalashvili, 2023; Al-Dahshan, 2020; Al-Makki and Hussein, 2024). As such, e-governance frameworks are not confined to technology alone but comprise an integrated ecosystem of hardware, software, communication channels, human resources, legal systems, institutional capacity, and social culture (Singh, 2023; Al-Maslamani, 2022; Latupeirissa et al., 2024). Thus, e-governance should be understood as an institutional and organizational transformation rather than a purely technological change (Kaputa

et al., 2022; Filgueiras, 2023). Although technological, legal, organizational, and human-capacity requirements are widely recognized, they are frequently examined separately in the existing literature.

1.4. Challenges of Implementing E-Governance

Numerous studies highlight interrelated challenges in the implementation of e-governance. These challenges are commonly categorized into technological, administrative, legal, cultural, financial, and political dimensions. The obstacles in the context of technology include inadequate infrastructure, cyber threats to systems and compatibility issues between systems (Al-Dahshan and Al-Sayed, 2020). The organizational barriers include a lack of personnel resources, reluctance to adopt new processes within organizations, and a lack of strong strategies for development and implementation (Abu Lubhan and Khawlan, 2022). There is a need for stronger legal regulations to protect individuals' privacy rights; there is also variability in how such laws have been enacted across countries (Ngwa, 2023). Cultural barriers include lower levels of digital literacy among residents of those regions and less preparedness for the widespread use of technology (Al-Makki and Hussein, 2024). Additionally, financial constraints limit investment in technological infrastructure (Rezk, 2021), and political instability can undermine institutional support and stability (Abu Atta and Hamdona, 2023). Although these barriers are well documented, they are often examined as separate categories, limiting understanding of how multiple institutional constraints coexist within the implementation environment. While there is substantial global empirical evidence regarding the impact of digital transformation on organizational structures, administrative processes, citizen services, and institutions' relationships with external stakeholders (Haug et al., 2024), little research has been conducted to date on the perspectives of different stakeholder groups regarding the interplay of technological, organizational, legal, and human-capacity factors surrounding e-governance in developing institutional contexts, such as Jordan. Therefore, this study addresses part of that gap by applying an integrated descriptive framework to investigate perceived barriers, enabling conditions, and institutional performance outcomes among survey respondents at selected institutions in Jordan.

2. Methodology

This study used a descriptive cross-sectional survey to identify and describe barriers to e-governance implementation, enabling conditions for e-governance implementation, and perceived institutional performance outcomes among surveyed stakeholder categories from selected Jordanian institutions. The perception-based design was appropriate for providing insight into how different stakeholder groups perceive and evaluate organizational governance conditions without examining causation or predictive relationships.

2.1. Research Design and Data Collection

A cross-sectional survey design allowed for the collection of participants' perceptions at one point in time (May–June 2026). Ethical approval to collect participant data was granted prior to initiating this study by the Institutional Research Ethics Committee (IREC), City University, Ajman, United Arab Emirates, on April 18, 2026. Therefore, the methodology employed in this research was used to describe respondents' responses across three dimensions of e-governance: perceived barriers to e-governance implementation; perceived enabling conditions; and perceived institutional performance outcomes. Respondents' responses to these items were collected through an eighteen-item survey using a five-point Likert scale, which ranged from “Strongly Disagree,” with a score of 1, to “Strongly Agree,” with a score of 5. Participants included in this sample were identified using purposive sampling because they were considered relevant stakeholders due to their roles within institutional governance. Administrative and organizational staff, members of internal audit and control units, and academics or researchers specializing in management and quality represented the target stakeholder groups of this study. This selection was made because participants had professional roles that provided relevant perspectives on implementing e-governance. It should be noted that detailed archived information related to the number and types of participating institutions, the public/private distribution of participating institutions and respondents, geographical coverage, organizational size, and respondent-level demographic distributions was not retained. While the sample may be reliably characterized as consisting of these three categories of stakeholders, it should not be viewed as representative of all Jordanian institutions. Because the sample was non-probability-based, the findings produced by this study should not be generalized to all Jordanian institutions. Because this study was primarily descriptive rather than designed for inferential testing of relationships among constructs, no a priori power analysis was performed.

2.2. Operational Definition of Constructs

The study used three dimensions as an exploratory framework for describing the characteristics of institutional capacity for implementing e-governance. Institutional barriers (B1–B6), which were identified within the study's theoretical and analytical framework, include deficiencies in technological infrastructure and workforce competencies; legal and regulatory constraints; resistance to organizational change; lack of digital preparedness; and limited resources. The enabling-condition dimension (E1–E6) captures respondents' views regarding the facilitating role of administrative and technical coordination, management support, system integration, clear and effectively applied legal and regulatory frameworks, employee training, and technological infrastructure in supporting the implementation of e-governance. Respondents' perceptions regarding the facilitating role of each of these conditions were captured, but the actual presence or availability of each condition was not measured. The institutional performance outcome dimension (P1–P6) describes respondents' perceptions of outcomes related to efficiency, transparency, accountability, procedural consistency, decision-making, and information security/regulatory oversight.

2.3. Questionnaire Structure and Sample

The questionnaire was created to examine eighteen items as they relate to three major thematic areas. Six of these examined barriers; six measured facilitating factors or enabling conditions; and six measured respondents' perceptions of institutional

performance outcomes associated with e-governance. All of these questionnaire items were derived from a conceptual framework established by the researchers to guide the development of this project, along with theoretical models associated with the dimensions studied in this work. Three subject-matter experts with knowledge of public administration, digital government, institutional management, and research methods evaluated each item for relevance, clarity, and alignment with each of the study dimensions. The questionnaire was originally developed in English and translated into Arabic using a forward-back translation procedure. A bilingual expert translated the English version into Arabic, after which a second independent bilingual expert, who had not seen the original version, back-translated it into English. Discrepancies were discussed and resolved to ensure semantic and conceptual equivalence. A pilot test with 30 members of the intended population assessed the items' clarity, ease of understanding, and face validity. The minor revisions resulting from this pilot testing are reflected in the final version. All pilot study responses were omitted from the primary statistical analysis. Responses were recorded using a five-point Likert-type scale (1 = Strongly Disagree; 5 = Strongly Agree). The complete survey instrument is available in Supplementary Material S1. The questionnaire reproduced in Supplementary Material S1 is the original 18-item instrument administered during the May–June 2026 data-collection period; it was retrieved from the retained study records for inclusion as Supplementary Material S1. It was not reconstructed, added to, removed from, or reworded during manuscript revision. Its wording was verified against the retained study instrument used during data collection. An illustration of how each construct maps onto its corresponding theoretical domain is provided in Supplementary Material S2. A total of 150 questionnaires were distributed, of which 143 were retained as valid responses, yielding a response rate of 95.33%.

Table 1. Distribution and response rate of the study sample

Study sample	Distributed forms	Valid responses	Response rate	Percentage of valid sample
Administrative and organizational department employees	50	47	94%	32.87%
Members of internal audit and control units	50	49	98%	34.27%
Academics and researchers specializing in management and quality	50	47	94%	32.87%
Total	150	143	95.33%	100%

2.4. Internal Consistency of the Instrument

As shown in Table 2, Cronbach's alpha coefficients were 0.923 for perceived institutional barriers, 0.952 for perceived enabling conditions, and 0.867 for perceived institutional performance outcomes, indicating high internal consistency within each dimension. The overall instrument coefficient was 0.985. Because the instrument was designed to represent three theoretically distinct dimensions, the overall coefficient is reported descriptively and is not interpreted as evidence of scale one-dimensionality or construct validity.

Table 2. Internal consistency coefficients of the study dimensions

Study dimension	Number of statements	Reliability coefficient (Cronbach's α)
Perceived institutional barrier	6	0.923
Perceived enabling conditions	6	0.952
Perceived institutional performance outcomes	6	0.867
Total instrument	18	0.985

The questionnaire items were categorized along the study's theoretical and analytical dimensions. Cronbach's alpha was used only as a measure of internal consistency; therefore, there is no claim that the constructs were formally validated. All of the reported coefficients were generated during the initial statistical analyses. Because both the respondent-level data and the original SPSS reliability results are unavailable, these coefficients cannot be calculated from the provided marginal frequency distributions alone. Complete item wording can be found in Supplementary Material S1.

2.5. Data Analysis Approach

This study used a descriptive, perception-based analytical approach. Frequencies and percentages summarized responses across the five Likert categories, while means and standard deviations summarized item-level response patterns. Each of the

18 items had complete aggregate response counts for all 143 respondents in the retained files; therefore, no item-level missing responses are represented in Tables 3–5. Mean scores were interpreted as follows: 1.00–1.80 = Very Low, 1.81–2.60 = Low, 2.61–3.40 = Moderate, 3.41–4.20 = High, and 4.21–5.00 = Very High. No causal, predictive, or construct-level relational analyses were performed. Thus, the findings address the research questions through descriptive response patterns rather than by testing relationships among constructs. Descriptive analyses were performed using IBM SPSS Statistics for Windows, Version 26.0 (IBM Corp., Armonk, NY, USA), including frequencies, percentages, means, and standard deviations. The revised analysis did not include inferential hypothesis testing. The descriptive approach was appropriate given the study's exploratory, perception-based design and purposive sampling strategy.

3. Results

3.1. Analytical Approach

Results are presented descriptively using frequencies, percentages, means, standard deviations, interpretations, and item rankings within each of the three analytical dimensions. No inferential hypothesis testing was conducted in the revised analysis.

3.2. Perceived Institutional Barriers

As shown in Table 3, respondents generally reported strong perceptions of barriers to e-governance implementation. Mean ratings across B1–B6 ranged from 4.32 to 4.45, with an average of the six item means of 4.38. Organizational resistance received the highest rating (B4; $M = 4.45$, $SD = 0.88$), followed by employee competency limitations (B2; $M = 4.43$, $SD = 0.96$).

Table 3. Perceived institutional barriers to E-Governance implementation

Code	Strongly Agree n (%)	Agree n (%)	Neutral n (%)	Disagree n (%)	Strongly Disagree n (%)	M	SD	Interpretation	Rank
B1	80 (55.94%)	39 (27.27%)	17 (11.89%)	4 (2.80%)	3 (2.10%)	4.32	0.94	Very High	6
B2	97 (67.83%)	20 (13.99%)	18 (12.59%)	6 (4.20%)	2 (1.40%)	4.43	0.96	Very High	2
B3	79 (55.24%)	41 (28.67%)	18 (12.59%)	4 (2.80%)	1 (0.70%)	4.35	0.86	Very High	4
B4	91 (63.64%)	35 (24.48%)	10 (6.99%)	5 (3.50%)	2 (1.40%)	4.45	0.88	Very High	1
B5	87 (60.84%)	29 (20.28%)	19 (13.29%)	3 (2.10%)	5 (3.50%)	4.33	1.02	Very High	5
B6	96 (67.13%)	19 (13.29%)	20 (13.99%)	3 (2.10%)	5 (3.50%)	4.38	1.03	Very High	3

Note: Average of item means = 4.38 | Interpretation: Very High. Full item wording is provided in Supplementary Material S1.

Overall, the response pattern indicates that respondents perceived institutional, organizational, technological, and human-capacity constraints as substantial barriers to implementation.

3.3. Respondent Agreement with Enabling-Condition Statements

As shown in Table 4, respondents expressed high or very high agreement with five of the six statements concerning conditions that facilitate e-governance implementation. Agreement was highest with the statement that effective administrative–technical coordination facilitates successful e-governance implementation (E1; $M = 4.46$, $SD = 0.93$), followed by the statement concerning continuous training and development of employees' digital competencies (E5; $M = 4.35$, $SD = 0.92$). In contrast, respondents showed very low agreement with the statement that clear and adequately implemented legal and regulatory frameworks support successful e-governance implementation (E4; $M = 1.55$, $SD = 0.86$). The average of the six-item means was 3.78. Because E1–E6 assess respondents' agreement with statements about the facilitating role of specified conditions, these ratings should not be interpreted as direct measurements of the actual availability of those conditions or of objective institutional readiness. The response pattern, therefore, indicates variation in respondents' agreement with the facilitating role of the six specified conditions, with E4 representing the lowest-rated proposition.

3.4. Perceived Institutional Performance Outcomes

As shown in Table 5, respondents generally reported favorable perceptions of several institutional performance outcomes. Accountability received the highest rating (P3; $M = 4.38$, $SD = 0.95$), followed by transparency (P2; $M = 4.24$, $SD = 1.22$).

Decision-making improvement received the lowest rating (P5; $M = 2.03$, $SD = 1.26$). The average of the six-item means was 3.83.

4. Discussion

The conclusions reached in this study indicate that views of e-government as an interdependent set of tools and as a technology in itself differ. Participants across the three aspects of the study: enabling conditions, perceived institutional results, and obstacles to use, saw e-government through legal, organizational, technical, and capacity-related lenses. Findings were consistent with prior studies that described public-sector digitalization processes as systematic and multi-dimensional at the institutional level (Kaputa et al., 2022; Filgueiras, 2023).

4.1. Institutional Barriers and Structural Constraints

Participants cited many barriers to the implementation of electronic governance, such as, organizational reluctance, insufficient employee technology skills, insufficiencies in a technological environment for e-government, strict legal and regulatory standards, unpreparedness with regard to digital government services, and limited resources. Findings from this study support the Institutional Theory that outlines how formal rules or regulations (such as laws), organizational structure (the way agencies are organized) and normative conditions (social expectations) can impact the adoption of institutionalized practices (DiMaggio & Powell, 1983; Meyer & Rowan, 1977). Similar concerns regarding institutional readiness for e-governance have also been reported in previous studies (Abu Atta and Hamdona, 2023; Albassam, 2021).

Table 4. Respondent agrees with statements on enabling conditions for e-governance implementation

Code	Strongly Agree n (%)	Agree n (%)	Neutral n (%)	Disagree n (%)	Strongly Disagree n (%)	M	SD	Interpretation	Rank
E1	98 (68.53%)	22 (15.38%)	16 (11.19%)	5 (3.50%)	2 (1.40%)	4.46	0.93	Very High	1
E2	81 (56.64%)	30 (20.98%)	17 (11.89%)	7 (4.90%)	8 (5.59%)	4.18	1.17	High	3
E3	66 (46.15%)	43 (30.07%)	19 (13.29%)	13 (9.09%)	2 (1.40%)	4.10	1.04	High	4
E4	2 (1.40%)	4 (2.80%)	11 (7.69%)	36 (25.17%)	90 (62.94%)	1.55	0.86	Very Low	6
E5	83 (58.04%)	35 (24.48%)	20 (13.99%)	2 (1.40%)	3 (2.10%)	4.35	0.92	Very High	2
E6	82 (57.34%)	18 (12.59%)	22 (15.38%)	9 (6.29%)	12 (8.39%)	4.04	1.32	High	5

Note: Average of item means = 3.78 | Interpretation: High. Full item wording is provided in Supplementary Material S1.

Table 5. Perceived institutional performance outcomes

Code	Strongly Agree n (%)	Agree n (%)	Neutral n (%)	Disagree n (%)	Strongly Disagree n (%)	M	SD	Interpretation	Rank
P1	86 (60.14%)	15 (10.49%)	21 (14.69%)	15 (10.49%)	6 (4.20%)	4.12	1.24	High	4
P2	86 (60.14%)	33 (23.08%)	9 (6.29%)	2 (1.40%)	13 (9.09%)	4.24	1.22	Very High	2
P3	88 (61.54%)	31 (21.68%)	17 (11.89%)	4 (2.80%)	3 (2.10%)	4.38	0.95	Very High	1
P4	80 (55.94%)	36 (25.17%)	10 (6.99%)	4 (2.80%)	13 (9.09%)	4.16	1.24	High	3
P5	9 (6.29%)	13 (9.09%)	21 (14.69%)	30 (20.98%)	70 (48.95%)	2.03	1.26	Low	6
P6	75 (52.45%)	29 (20.28%)	19 (13.29%)	11 (7.69%)	9 (6.29%)	4.05	1.24	High	5

Note: Average of item means = 3.83 | Interpretation: High. Full item wording is provided in Supplementary Material S1.

These findings indicate that perceptions of institutional outcomes varied across the six outcome items, particularly regarding decision-making effectiveness. The findings from this study are supported by prior studies highlighting the significance of human resource capabilities and technological capacity in enabling the successful implementation of digital systems (Ngwa, 2023; Singh, 2023). As such, the relationship between these two areas of study has been a recurring theme in the literature for many years. In addition, while this study provides evidence of the need for a combination of institutional and human capabilities to support e-government implementation, it does not provide evidence on whether specific institutional conditions lead to particular outcomes.

4.2. Enabling Factors and Socio-Technical Alignment

Participants expressed strong or very strong agreement that administrative–technical coordination, management support, system integration, employee training, and technological infrastructure improve the execution of e-governance. This pattern aligns with Socio-Technical Systems Theory, which emphasizes the importance of harmony among technological systems, organizational frameworks, and human capabilities (Trist and Bamforth, 1951). In contrast, participants showed little consensus with E4, which asserts that clear, strictly upheld legal and regulatory frameworks promote effective e-governance. This finding should not be interpreted as evidence that such frameworks are objectively absent or that the surveyed institutions have low legal and regulatory preparedness. Rather, it reflects respondents' limited agreement with the statement as presented in the questionnaire. The finding, therefore, reflects stakeholders' perceptions of the role that legal and regulatory frameworks play in facilitating e-governance, rather than providing an objective assessment of the actual regulatory conditions within their institutions. Regulatory issues have also been identified as an important factor in prior research on digital governance (Filgueiras, 2023; Grigalashvili, 2023).

4.3. Institutional Performance and Outcome Variability

Participants generally expressed positive views of e-governance in terms of accountability, transparency, efficiency, procedural standardization, and regulatory compliance. These findings are consistent with the performance-oriented perspective of Digital-Era Governance Theory proposed by Dunleavy et al. (2006). Decision-making, however, received a noticeably lower rating than the other perceived institutional outcomes. This suggests that participants did not evaluate all areas of institutional performance equally positively. One potential interpretation is that perceived improvements in decision-making may be related to the digitalization of procedures and changes within organizational governance, as well as other organizational changes; however, this design does not test this explanation. The present findings are consistent with other studies, which found that digital transformation produces gradual rather than immediate organizational changes (Kaputa et al., 2022; Shoman et al., 2023).

4.4. Integrated Interpretation and Theoretical Implications

The three sets of descriptive findings are interpreted as distinct within-dimension response patterns rather than as a validated hierarchy across dimensions. Within the barrier dimension, all six items received very high mean ratings. Within the enabling-condition statements, five items received high or very high ratings, whereas E4 received a very low rating. Among the perceived institutional performance outcomes, most items received high or very high ratings, whereas the decision-making item received a low rating. Because the three dimensions differ in substantive meaning and semantic direction and were not validated as directly comparable construct-level scales, their average item means are not interpreted as a ranking of barriers, enabling conditions, and outcomes. Taken together, these within-dimension patterns illustrate how surveyed stakeholders characterized different legal, organizational, technological, human-capacity, and performance-related aspects of e-governance. The integrated interpretation, therefore, concerns the coexistence of different perceived patterns across the study domains rather than statistical or causal relationships among the domains. Previous research has similarly emphasized the relevance of institutional preparedness and human resource capacity in digital governance initiatives (Al-Maslamani, 2022; Abu Lubhan and Khawlani, 2022); the present study adds descriptive evidence from the surveyed stakeholder categories in selected Jordanian institutions.

4.5. Managerial and Decision-Making Implications

The findings suggest several decision-oriented implications for managers, although these recommendations are based on stakeholder perceptions rather than experimentally tested interventions. Digital project approval could consider legal and regulatory readiness, cybersecurity, interoperability, staffing, and employee competencies alongside technological feasibility. Multidisciplinary governance structures incorporating administrative, technical, legal, auditing, and user representation could be considered as one governance option for e-governance projects, although their effectiveness was not tested in the present study. Employee training plans could be developed in response to identified skill deficiencies. Evaluation of project implementation could also consider indicators related to efficiency, transparency, accountability, compliance, security, procedural consistency, and decision-making quality.

5. Conclusion

This study examined stakeholder perceptions of barriers, enabling-condition statements, and institutional outcomes associated with e-governance among surveyed stakeholder categories from selected Jordanian institutions. Respondents reported strong perceptions of institutional and organizational barriers and generally expressed high agreement with statements that several technical and organizational conditions facilitate e-governance implementation. However, respondents showed very low agreement with the statement concerning the facilitating role of clear and adequately implemented legal and regulatory frameworks. The enabling-condition items reflect respondents' agreement with the stated facilitating propositions and do not directly measure the actual availability of these conditions within their institutions. Respondents also generally perceived positive outcomes in accountability, transparency, efficiency, procedural standardization, and regulatory control, whereas improvement in decision-making received a comparatively low rating. These findings should be interpreted as descriptive stakeholder perceptions rather than evidence that particular conditions determine e-governance adoption or that e-governance causes changes in institutional performance. The theoretical contribution lies in applying Institutional Theory, Socio-Technical Systems Theory, and Digital-Era Governance Theory as complementary lenses to organize these three dimensions within the surveyed stakeholder categories of selected Jordanian institutions. The study is limited by its cross-sectional design, purposive sampling, reliance on self-reported perceptions, and the absence of objective measures of institutional performance. The reliance on a single self-report instrument may also introduce common-method, response, and social-desirability bias, while the available aggregate data did not permit

public/private-sector or respondent-group comparisons. Respondent-level archived data were not available for additional construct validation, subgroup analyses, or multivariate analyses. In addition, the reported Cronbach's alpha coefficients are reliability estimates from the original analysis and cannot be independently recalculated from the published marginal frequency distributions, because calculating Cronbach's alpha requires respondent-level item covariance information. The original SPSS reliability output is no longer available for independent verification. These coefficients should therefore be interpreted as historical reliability estimates from the original analysis, subject to this reproducibility limitation. Detailed archived information on the participating institutions, including their number, public/private distribution, geographical coverage, organizational size, and respondent-level demographic distributions, was unavailable. Consequently, the results should not be applied universally to all institutions in Jordan. Subsequent studies ought to use probability or stratified sampling, objective performance indicators, longitudinal designs, and respondent-level datasets appropriate for construct validation and relational analysis, ensuring the proper retention of de-identified datasets, analysis syntax, and statistical outputs when ethically and institutionally allowed.

Acknowledgments

The authors would like to acknowledge City University of Ajman for the institutional support provided during the conduct of this research.

Author Contributions

Mohamed Hadi Al Najdawi contributed to conceptualization, research design, data analysis, interpretation of results, and manuscript preparation. Abdelkarim Kitana contributed to the development of the methodology, data collection, and validation of analytical procedures. Mohamed Ahmed Elbadawi contributed to data analysis, interpretation of findings, and drafting of the manuscript. Zainab Al Ghurabli contributed to the literature review, data interpretation, and manuscript editing. Siham Haider contributed to data collection, validation, and manuscript review. Tamadher Al Dabbagh contributed to supervision, critical revision of the manuscript, and overall project administration. All authors reviewed and approved the final version of the manuscript and agree to be accountable for all aspects of the work. The data supporting the descriptive results of this study are accessible solely in aggregated form. The respondent-level dataset, records of original data cleaning, SPSS syntax, and initial SPSS output files were not preserved in a public archive following the initial analysis and are thus not available for public access or independent secondary analysis. The manuscript, along with supplemental material, includes data to support each type of frequency, percentage, mean, and standard deviation described in this section. This allows verification of the reported descriptive statistics. However, they are limited in their ability to support analysis at the individual participant level, assess construct validity, enable subgroup comparisons, perform multivariate statistical analyses and independently calculate the reported reliabilities.

Funding

This research received no external funding.

Institutional Review Board Statement

Ethical approval for this study was granted by the Institutional Research Ethics Committee (IREC), City University, Ajman, on 18 April 2026. A formal letter of approval issued by the IREC contained no specific reference or approval number. Data collection took place during May-June 2026, with all necessary approvals obtained in accordance with the approved ethical protocols. All human subject research procedures followed internationally accepted ethical standards and the guiding principles set out in the Declaration of Helsinki (2013). Participants provided voluntary informed consent before providing data. Participants were notified that they had the right to withdraw participation at any point without consequence. Anonymity was ensured, and no personal information was collected.

Declaration of Artificial Intelligence (AI) Tools

The authors have used Grammarly solely as a tool for minor language edits (such as spelling corrections), grammatical correctness and clarity of writing. They did not use Grammarly to develop research ideas, formulate their methodology, analyze or interpret data, present findings, or draw conclusions. All intellectual content, analysis, interpretation and conclusions were developed independently by the authors.

References

- Abdelhalim, T. H. (2022). Proposed mechanisms for digitizing Helwan University to transform into a smart university in light of international experiences. *Journal of Educational and Social Studies*, 28(11.2), 75–198. doi: 10.21608/jesu.2022.294766 (In Arabic).
- Abu Atta, A. A. Q. and Hamdona, A. S. (2023). Digital governance and its role in developing the institutional performance of Palestinian universities operating in the southern governorates. *Journal of the Association of Arab Universities for Research in Higher Education*, 43(), 45–61. (In Arabic). Retrieved from <https://search.emarefa.net/detail/BIM-1617771>
- Abu Lubhan, M. A. M. L., and Khawlan, M. M. I. (2022). Enhancing of digital competencies among teachers of general secondary education in Damietta Governorate in light of the digital transformation of education: A suggested proposal. *Educational Journal of the Faculty of Education at Sohag University*, 99, 521–628. doi: 10.21608/edusohag.2022.251401 (In Arabic).
- Ahmed, O. A. and Al-Saeedi, K. F. K. (2019). The impact of applying IT governance practices on enhancing organizational excellence in universities: A comparative study between the University of Dhi Qar and Al Ain Private University. *Journal of the College of Administration and Economics for Economic, Administrative and Financial Studies*, 11(4), 547–569. Retrieved from <http://search.mandumah.com/Record/1260962>

- Al Najdawi, M. H., Al Ghurabli, Z., Raafat, R., and Aburayya, A. (2025a). Enhancing logistical efficiency in public institutions through AI: A managerial framework for regulatory and technological integration. *International Journal of Industrial Engineering & Production Research*, 36(3), 81–92. doi: 10.22068/ijiepr.36.3.2459
- Al Najdawi, M. H., Al Dabbagh, T., Raafat, R., and Aburayya, A. (2025b). The role of administrative governance in enhancing integrity and transparency and reducing administrative corruption in public institutions: An analytical study. *International Journal of Industrial Engineering & Production Research*, 36(3), 93–106. doi: 10.22068/ijiepr.36.3.2460
- Al-Asali, N. and Al-Otaibi, R. G. (2020). Developing the performance of Arab universities in light of the application of e-learning: Requirements and prospects with reference to the experiences of Egypt and Saudi Arabia. *Journal of Distance Education and Open Education*, 8(14), 103–147. (In Arabic). Retrieved from <https://search.shamaa.org/FullRecord?ID=346099>
- Albassam, B. A. (2021). Governance in the public sector and sustainable development. *Arab Journal of Administration*, 41(3), 3–18. doi: 10.21608/aja.2021.186161
- Al-Beltagy, I. K. A. H. (2022). Obstacles to applying e-governance at Menoufia University and ways to overcome them. *Journal of the Faculty of Education, Menoufia University*, 37(1), 163–240. Retrieved from <https://search.shamaa.org/fullrecord?ID=337002>
- Al-Dahshan, J. A. (2020). Implementing e-governance in our Arab universities: Justifications, requirements, and challenges. *Scientific Journal of Educational Sciences and Mental Health*, 2(2), 20–44. (In Arabic). Retrieved from <https://search.shamaa.org/fullrecord?ID=278181>
- Al-Dahshan, J. A. K., and Al-Sayed, S. S. M. (2020). A proposed vision for transforming Egyptian public universities into smart universities in light of the digital transformation initiative. *Educational Journal of the Faculty of Education in Sohag*, 78(78), 1249–1344. doi: 10.21608/edusohag.2020.109825
- Al-Harout, A. I. (2018). Attitudes towards the implementation of electronic governance in Jordanian private universities and their impact on the excellence of university performance: A field study (Master's thesis, Middle East University). Retrieved from <http://scholar.alaqsa.edu.ps/id/eprint/3675>
- Al-Makki, D. N. A. N. M., and Hussein, A. M. S. (2024). The role of electronic governance in improving learning outcomes at King Khalid University. *Migration Letters*, 21(S5), 1687–1703. Retrieved from <https://migrationletters.com/index.php/ml/article/view/8459>
- Al-Maslamani, L. I. (2022). Digital transformation in Egyptian universities (Reality – requirements – obstacles). *Educational Journal of the Faculty of Education in Sohag*, 99(99), 793–876. doi: 10.21608/edusohag.2022.251405
- Al-Ruwaithi, H. A. K. (2023). Extrapolating the dimensions of e-governance in information technology departments of Saudi universities: Application and impact on beneficiary satisfaction. *Journal of the Faculty of Education, Tanta University*, 89(3), 1–48. Retrieved from https://mkmgt.journals.ekb.eg/article_308601.html
- Al-Tayeb, A. A. (2018). An analytical study of the concept of good governance and the requirements for its application in Saudi universities. *Educational Sciences*, 26(2), Part 2, 183–227. (In Arabic). Retrieved from <https://search.shamaa.org/fullrecord?ID=229674>
- Amin, M. A. (2018). Digital transformation in Egyptian universities as a requirement for achieving a knowledge society. *Educational Management Journal*, 19(19), 11–117. (In Arabic). Retrieved from https://emj.journals.ekb.eg/article_92501.html
- Churchman, C. W. and Verhulst, M. (Eds.). (1960). Management sciences: Models and techniques (Vol. 2). *Pergamon Press*. Retrieved from <https://books.google.com/books?id=2I4uAAAAMAAJ>
- DiMaggio, P. J. and Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147–160. doi: 10.2307/2095101
- Dunleavy, P., Margetts, H., Bastow, S., and Tinkler, J. (2006). New public management is dead—Long live digital-era governance. *Journal of Public Administration Research and Theory*, 16(3), 467–494. doi: 10.1093/jopart/mui057
- Filgueiras, F. (2023). The silent reform: Digital governance as a strategy for state reform in Brazil. In E. Lisboa, R. C. Gomes, and H. F. Martins (Eds.), *The Brazilian way of doing public administration: Brazil with an “s”* 83–95. *Emerald Publishing Limited*. doi: 10.1108/978-1-80262-655-120231008
- Grigalashvili, V. (2023). Digital government and digital governance: Grand concept. *International Journal of Scientific and Management Research*, 6(2), 1–25. doi: 10.37502/IJSMR.2023.6201
- Haug, N., Dan, S., and Mergel, I. (2024). Digitally-induced change in the public sector: A systematic review and research agenda. *Public Management Review*, 26(7), 1963–1987. doi: 10.1080/14719037.2023.2234917
- Kaputa, V., Loučanová, E., and Tejerina-Gaite, F. A. (2022). Digital transformation in higher education institutions as a driver of social oriented innovations. In C. Păunescu, K.-L. Lepik, and N. Spencer (Eds.), *Social innovation in higher education* 61–85. Springer. doi: 10.1007/978-3-030-84044-0_4
- Latupeirissa, J. J. P., Dewi, N. L. Y., Prayana, I. K. R., Srikandi, M. B., Ramadiansyah, S. A., and Pramana, I. B. G. A. Y. (2024). Transforming public service delivery: A comprehensive review of digitization initiatives. *Sustainability*, 16(7), 2818. doi: 10.3390/su16072818
- Meyer, J. W., and Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83(2), 340–363. doi: 10.1086/226550
- Ngwa, P. (2023). E-governance and Cameroon universities' management. *International Journal of Scientific Advances*, 4(2), 194–203. doi: 10.51542/ijscia.v4i2.10
- Rezk, S. H. H. (2021). Intelligent automation and administrative decisions. *Journal of Legal and Economic Research*, Special Issue, 644–701. doi: 10.21608/MJLE.2022.217192. (In Arabic).
- Shoman, T. B. T., Mahmoud, K. S. H., Omar, H. S. A., and Al-Damati, A. W. M. (2023). Digital governance and its role in achieving comprehensive quality and academic accreditation at Matrouh University. *Matrouh University Journal of Educational and Psychological Sciences*, 4(6), 543–573. Retrieved from <https://search.emarefa.net/detail/BIM-1671559>

- Singh, A. (2023). E-governance: Moving towards digital governance. *VIDYA – A Journal of Gujarat University*, 2(1), 204–215. doi: 10.47413/vidya.v2i1.173
- Trist, E. L., and Bamforth, K. W. (1951). Some social and psychological consequences of the longwall method of coal-getting. *Human Relations*, 4(1), 3–38. doi: 10.1177/001872675100400101
- United Nations Department of Economic and Social Affairs. (2024). *United Nations E-Government Survey 2024: Accelerating digital transformation for sustainable development*. United Nations. Retrieved from <https://desapublications.un.org/publications/un-e-government-survey-2024>



Mohamed Hadi Al Najdawi is an academic specializing in Public Law and Political Science at City University Ajman, with more than ten years of experience in teaching Law, Political Science, Public Administration, and related fields. His research interests include digital governance, AI-related legislation, public administration, human resource management, public policy, and sustainable development. He has published extensively in these areas and has contributed to academic program development, curriculum design, supervision, and quality enhancement. He has also held several academic and administrative positions, including Head of the General Education Department, Acting Dean of the College of Humanities, and Coordinator of the Public Administration Program.



Abdelkarim Fuad Kitana is an Associate Professor, Assistant Deputy Dean, and Department Chair at City University Ajman (CU Ajman) in the UAE, specializing in business management, human resource management, and organizational behavior. He holds a PhD in Business Management and has published research on topics such as service quality, student retention, and management theories. Kitana is also a specialist in smart business analysis research using advanced statistical systems such as SmartPLS, SPSS, LISREL, and AMOS. He has published more than 20 research articles in international journals on HRM and service management and leads the Scientific Research Committee at CU Ajman. His main research interests include human resource management, employee training and development, career management, staffing, organizational behavior, business ethics, business policy and strategy, leadership, and quantitative research methods.



Mohamed Ahmed Elbadawi Ali is an Associate Professor and Deputy Head of the Human Resource Management Department at City University, Ajman. With over 10 years of academic and administrative experience, he specializes in strategic HRM, talent management, and digital HR practices. He has contributed significantly to curriculum development, research integration, and the design of graduate programs aligned with national qualification frameworks. His research focuses on AI in HRM, employee engagement, and e-HRM, and he actively promotes innovative teaching and student-centered learning.



Zainab Al Ghurabli is an Associate Professor in the Wilbur O. and Ann Powers College of Business at City University, Ajman, UAE. She holds a Ph.D. in Business Management and has published research on service quality, student retention, and management theories. She specializes in operations management, marketing management, human resource management, and business administration. Her research focuses on operations management, marketing management, HRM, the adoption of artificial intelligence in education, sustainability in higher education, and digital technologies in business. She has co-authored academic papers on topics including AI adoption in UAE higher education, the metaverse in supply chains, and sustainable leadership.



Siham Haider Elderderi is an Assistant Professor of Human Resource Management at City University, Ajman, United Arab Emirates. She holds a Ph.D. in Business Management from Omdurman Islamic University, an MBA in Human Resource Management, and a bachelor's degree in Business Administration. She has extensive academic and professional experience teaching human resource management, organizational behavior, talent management, and strategic HR courses, and is actively involved in academic quality assurance and AACSB accreditation initiatives. Her research interests include strategic human resource management, organizational performance, talent management, digital HR transformation, and the application of artificial intelligence in HR practices. She has published several peer-reviewed studies in international journals and possesses practical HR leadership experience across academic, banking, and corporate sectors.



Tamadher Al Dabbagh is an Associate Professor with a Ph.D. in Business Administration from Al-Mustansiriyah University, Iraq. Her specialization is Operations Management Strategies. She has taught courses in Operations Management, International Business, Strategic Management, Innovation and Entrepreneurship, and Quality Management. She is interested in corporate excellence awards in the UAE and holds EFQM certification from the UK. She is also an external auditor for ISO 9001:2013.