Requirements and Standards of Electronic Governance and Their Relationship to Institutional Performance in Libyan Universities: Case Study of Fezzan University

Hasan Abdulsalam Ali Emran[1], Hassan Bashier Hassan Mohammed[1] & Milad Abdelnabi Salem[1,2]

[1] Fezzan University, Libya

[2] Community College of Qatar, Qatar

Correspondence: Hasan Abdulsalam Ali Emran, Fezzan University, Libya.

Received: October 4, 2025 Accepted: November 10, 2025 Online Published: December 18, 2025

doi:10.5430/ijba.v16n4p37 URL: https://doi.org/10.5430/ijba.v16n4p37

Abstract

This study is directed to detect the requirements and standards of e-governance and their association with enhancing institutional performance from the faculty members at Fezzan University, in the context of hasty transformations affecting higher education institutions. The study implemented a descriptive-analytical approach, and data were collected through an electronic questionnaire distributed to a sample of faculty members, yielding 100 valid responses for analysis.

The statistical analysis showed a strong and positive statistically significant relationship between the accessibility of e-governance requirements and standards and the enhancement of institutional performance at Fezzan University. The Spearman association coefficient between the total e-governance requirements and standards and institutional performance was 0.760, with a significant level of $p = .000$.

The outcomes indicated that the highest-rated aspects of e-governance application at Fezzan University were adherence to ethical standards for the use of digital data and transparency in issuing administrative verdicts and information. Additionally, statistically significant differences were observed in faculty members' evaluations of e-governance standards based on age and years of experience. Furthermore, significant differences were found in evaluations of institutional act according to gender and age.

The study suggests continuous updating and looking after electronic systems to meet cybersecurity requirements and data protection standards. It also emphasized the importance of reinforcing the values of transparency, accountability, participation, and fairness in university processes. Moreover, the study proposes organizing constant training programs for staff and faculty members to enhance digital skills and understanding of e-governance practices.

Keywords: e-governance requirements, e-governance standards, institutional performance, Libyan universities, Fezzan University

1. Introduction

E-governance is an important notion that has received widespread attention across both governmental and private institutions. Higher education institutions are among the most significant sectors where this idea should be implemented. Implementing governance is considered vital for promoting transparency, accountability, participation in decision-making, and adherence to the rule of law

The higher education sector in Libya faces multiple challenges, including insufficient funding, outdated curricula, the absence of research facilities, and the lack of faculty development programs. Moreover, disproportions in terms of access to higher education are present between regions, with remote areas exhibiting significantly lower enrollment rates. These obstacles have contributed to the decrease in institutional performance, leading to inadequacies and a gap between policy and practice.

Accordingly, this study targets to investigate the vital role of e-governance requirements and standards in enhancing the institutional performance of higher education institutions.

2. Literature Review

This section highlights the most essential studies in the field of e-government and institutional performance. The current study aims to link the results of previous studies with its own, highlighting points of agreement and conflict.

The role of e-governance in enhancing institutional performance was tested in the Saudi health sector (Al-Juhani, 2025). He conducted a descriptive study including a sample of 269 employees in Al-Madina General Hospital which consisted of 900 individuals. The outcomes indicated a strong positive correlation between institutional performance and e-governance. Additionally, a study by Abdel-Moaz (2024) analyzed the impact of governance on institutional performance in the Egyptian health sector. The study adopted a descriptive-analytical approach for all employees in hospitals and educational institutes in Cairo and Giza (12,807 individuals). Using a sample of 373, the study concluded that there is a statistically significant relationship between governance dimensions (transparency, accountability, and participation in decision-making) and institutional performance. Moreover, Mahdar (2024) investigated the role of governance implementation in improving the institutional performance efficiency in government sector hospitals in Makkah, Saudi Arabia. Based on data from 270 employees, the results addressed a statistically significant effect of governance implementation on institutional performance efficiency.

In addition to the previous studies, Hababiya and Obeid (2024) studied the impact of e-governance on institutional performance in Palestinian insurance companies. The descriptive-analytical study collected data from 304 employees and found that e-governance dimensions affect the efficiency of internal processes, which is a key aspect of institutional performance. In addition, Al-Awadi and Kamoun (2024) investigated the potential of implementing hospital governance through enhancing social responsibility at Al-Hussein Military Hospital. Using a descriptive-analytical approach and surveying 925 hospital staff members, the study found a strong positive relationship between hospital governance through enhancing social responsibility.

The literature has showed richness and diversity in previous studies in both the cognitive and methodological frameworks. Therefore, the current study relies on the previous literature to identify its main variables. In addition, the current study also resembles some studies in the methodology used, the questionnaire as a data collection tool, and in adopting the descriptive-analytical approach. Additionally, it benefited from previous studies in formulating the study instrument. Previous studies have highlighted the importance of e-governance and its strong relationship with performance.

What distinguishes this study is that it is the first – to the researchers' knowledge – to address a highly important topic, namely the relationship between the requirements and standards of e-governance and the improvement of institutional performance in higher education institutions in Libya: A case study of Fezzan University.

3. Governance in Higher Education Institutions

Governance relates to an institution's ability to direct the actions and decisions of various stakeholders based on defined objectives, utilizing available tools by following established guidelines, assumptions, and attitudes, without excluding other stakeholders, to achieve its goals (Huisman et al., 2015). Additionally, governance is defined as the processes and structures involved in decision-making regarding important issues that affect stakeholders (Shattock, 2013).

Governance in higher education institutions encompasses the processes, systems, relationships, structures, and policies that collectively provide oversight and leadership for these institutions and their activities, including administration, learning, scholarships, teaching, and research (Cervantes, 2017). Typically, institutions have a single governing body, such as a university council, which works alongside various structures like subcommittees, academic boards, faculty councils, teaching and learning committees, and curriculum advisory committees. Higher education institutions also operate within a multi-stakeholder environment when carrying out their functions. Generally, each institution has its own uniqueness, but they usually consist of several administrative units, faculties, and departments. Institutions are also connected to external stakeholders, such as the Ministry of Education, the Education Authority, and other governmental and private bodies. Additionally, there are various actors within the institutions, such as staff at different levels and students, each with distinct responsibilities and roles.

Therefore, governance in higher education requires the establishment of solid processes and structures to engage various stakeholders. Institutions work with all stakeholders to support effective coordination. According to (Hodgins & Lubelsky, 2020), higher education governance is not a traditional hierarchy, as it involves diverse actors, with each institution applying unique governance techniques and structures. The working environment in these institutions is highly complex, characterized by high or low enrollment rates, increasing costs, low public funding, the necessity to manage finances, and maintain reputation. These characteristics expose institutions to different risks and require an

effective governance system. Other studies have shown that higher education institutions include diverse and independent stakeholders, all working to sustain and support the institution's internal organizational mission while serving broader societal goals (Guthrie, 2019). Additionally, institutions serve diverse types of students with varying abilities, resources, and needs. According to (Bevins et al., 2020), governance in higher education institutions focuses on core functions, such as monitoring specified objectives, conducting governance performance assessments, hiring staff, and determining transitions and succession. These functions are interconnected and require clear identification of responsibilities and roles among the institution's board of directors, leadership, and various subcommittees. Given the large size of higher education institutions, effective governance systems should be established to ensure that different actors perform their roles efficiently.

Moreover, in higher education, governance is considered the processes and forms institutions use to manage their operations or affairs. Many governance-related issues arise in higher education because institutions focus on research and education as their products, making it difficult for university leadership to fully understand the meaning of quality products (Lee, 2017). Furthermore, the production of research and education depends on professionals, including researchers and teachers. Consequently, professionals largely control the production process, which in turn leads to the creation of fragmented organizations (Fumasoli, 2017).

4. E-governance in Higher Education

The education institutions included systems, which are characterized by several elements. These elements are complementary to each other such as technical and vocational institutions, infrastructure, teachers, and syllabi (Shrivastava, et al., 2014). The information technology plays a critical rule in enhancing the efficiency of the educational system, reduce the costs, and improve the transparency across all educational system (Kapoor & Kelkar, 2013). E governance could enable educational institutions to extend their current geographical reach, to attract new students across the world (Alhomod & Shafi, 2013. Additionally, E-governance process provides institutions with transparency in their system, which might lead to improvements in the process and cost reduction as well (Shrivastava, et al., 2014; Sharmin et al, 2025).

5. E-governance and Performance in Higher Education

Performance concerns value creation (Carini et al., 2019). Institutions create value using their productive assets (Štofova et al., 2017). Therefore, the existence of higher education institutions depends on their ability to achieve equal or greater value that meets or exceeds their expected value. Productivity is a measure of institutional performance and concerns the ratio of all outputs to all inputs (Rix, 2019). Additionally, indicators such as customer satisfaction, market share, and institutional profitability can be used to measure outcomes (Sharma & Sharma, 2018). For higher education institutions, performance dimensions include financial services...

The aforementioned discussion refers that E-governance is considered a crucial concept that has received widespread attention across governmental and private institutions. Higher education institutions represent a key sector where this concept should be implemented, as governance practices enhance transparency, accountability, participation in decision-making, and adherence to the rule of law. Institutional performance is likewise a critical concern, particularly in light of global challenges and increasing competition to provide higher-quality services and outcomes, making institutional excellence a primary objective for all educational institutions.

The higher education sector in Libya faces several challenges, including inadequate funding, outdated curricula, limited research facilities, and insufficient faculty development programs. Furthermore, disparities exist between urban and rural areas, with remote regions exhibiting significantly lower enrollment rates. These challenges contribute to decreased performance levels, resulting in bureaucratic and ineffective institutions and creating a gap between policy and practice.

Several studies have emphasized the importance of addressing institutional performance. For instance, Ababnah (2011) reported a decline in performance at the Faculty of Arts, Misurata University, highlighting the need for increased attention to performance levels. Similarly, Abdullah (2019) noted that university administrations still need to make additional efforts to address performance-related issues. The study by Issa et al. (2020) revealed multiple performance problems at the Faculty of Arts, Benghazi University, particularly regarding faculty members' performance. Al-Shater et al. (2021) indicated that institutional performance at the Graduate Studies Academy, Ajdabiya branch, was suboptimal. Moreover, Karnaf (2021) found that institutional performance at the Faculty of Arts, University of Bani Walid, remained low. Despite efforts to improve university performance, significant shortcomings persist.

Based on this context, the main research question can be formulated as follows: To what extent is there a relationship between the availability of e-governance requirements and standards and the improvement of institutional performance at Fezzan University?

Consequently, this study aims to:

1. Identify the role of e-governance requirements and standards in improving institutional performance at Fezzan University.
2. Determine the level of availability of e-governance requirements at Fezzan University.
3. Determine the level of implementation of e-governance standards at Fezzan University.
4. Assess the level of institutional performance at Fezzan University.

6. Study Hypotheses

Based on the study problem and objectives, the following hypotheses were formulated:

1. There is no statistically significant relationship between the application of e-governance standards and institutional performance at Fezzan University from the faculty members' perspective.
2. There is no statistically significant relationship between the availability of e-governance requirements and institutional performance at Fezzan University from the faculty members' perspective.
3. There are no statistically significant differences in the application of e-governance standards according to gender, experience, academic qualification, and academic rank.
4. There are no statistically significant differences in the availability of e-governance requirements according to gender, experience, academic qualification, and academic rank.
5. There are no statistically significant differences in institutional performance levels according to gender, experience, academic qualification, and academic rank.

7. Research Methods

The study model includes independent and dependent variables. The independent variables are e-governance requirements and standards, while the dependent variable is institutional performance, as perceived by faculty members at Fezzan University.

The study opts to use a quantitative approach. It relies on descriptive analysis to investigate the relationships between the variables. Data were collected using a questionnaire distributed randomly to a sample of faculty members at Fezzan University. The questionnaire was designed to achieve the study's objective of identifying the requirements and standards for implementing e-governance in Libyan universities and examining their relationship to institutional performance, with Fezzan University as a case study. A total of 100 valid questionnaires were collected. It

Several data analysis' techniques were used to screen the data and test the hypothesis. These techniques are Cronbach's alpha coefficient to assess the reliability of the study instrument, and Pearson correlation coefficient to examine the validity of the instrument, Spearman correlation test: to test the study hypotheses and One-way ANOVA: to examine differences across variables.

8. Data Analysis

The data were processed and analyzed using the Statistical Package for the Social Sciences (SPSS). The following section discusses the data analysis process.

8.1 Readability

A reliability test was conducted to ensure the internal consistency of the questionnaire. Table 1 presents the results of the test. Cronbach's alpha was 0.96, indicating a high level of reliability and stability, as the questionnaire is expected to yield consistent results when administered repeatedly.

Table 1. Cronbach's Alpha Coefficient Values for Measuring the Reliability of the Questionnaire Items

Description	Number of Items	Cronbach's alpha coefficient
Overall Reliability Coefficient	30	0.96

Additionally, the test is extended to assess the internal consistency of each dimension. Table 2 Illustrates the results of the reliability coefficient measurement method for the study tool (questionnaire). The Cronbach's alpha coefficient value at the overall level reached (0.96). Additionally, the Cronbach's alpha coefficient value was (0.93) at the first axis level, (0.92) at the second axis level, and (0.94) at the third axis level. This indicates that the questionnaire designed by the researchers, if applied to an individual or a group of individuals multiple times, will yield the same results or estimates. Therefore, the study questionnaire can be described as reliable.

Table 2. Reliability Coefficients for the Study Variables

	Variable	Number of items	Cronbach's Alpha Coefficient
First	E-Governance Standards	10	.93
Second	E-Governance Requirements	10	.92
Third	Institutional Performance	10	.94
	Total	30	.96

8.2 Construct Validity of the Study Dimensions

Although the items of the questionnaire were derived from previous studies, the study is extended to test the construction validity. Table 3 presents the correlation coefficients between the mean score of each study dimension and the overall mean. All coefficients were statistically significant at the 0.05 or 0.01 levels, confirming the construct validity of the questionnaire items.

Table 3. Pearson Correlation Coefficients between the Mean Scores of Each Study Dimension

	Variable	Correlation Coefficient	Significance Value
First	E-Governance Standards	.663**	.000
Second	E-Governance Requirements	.656**	.000
Third	Institutional Performance	.627**	.000

8.3 The Descriptive Statistics of the Sample

The following section outlines the key demographic and professional characteristics of the study sample.

8.3.1 Sample Distribution by Gender

The gender was defined by two categories (Male or Female). Table 4 indicates a disparity between the two groups; the percentage of males was (74%), which is the majority, while the percentage of females was (26%). The researchers attribute this disparity to the nature of work in universities, which requires individuals capable of enduring work pressures and patience—traits that are more commonly found in males than females.

Table 4. The relative frequency distribution of the sample by gender

Gender	Frequency	Percentage
Male	74	74%
Female	26	26%
Total	100	100%

8.3.2 Sample Distribution by Age

The sample of study was distributed across four classes. Table 5 indicates that the majority of the study sample are aged between (35–45) years at (46%), followed by the age group (45–55) years at (38%), then the age group (55 years and above) at (12%), and finally the group (25–35) years at (4%).

It is clear to the researchers that the majority of the sample individuals are aged between (35–55) years, constituting (84%).

Table 5. Relative Frequency Distribution of the Sample by Age

Years of Age	Frequencies	Percentage
From 25 to less than 35 years	4	4%
From 35 to less than 45 years	46	46%
From 45 to less than 55 years	38	38%
55 years and above	12	12%
Total	100	100%

8.3.3 Sample Distribution by Years of Experience

The study classified the sample into 6 groups according to their experience. Table 6 indicates that the majority of the study sample have experience between (5–10) years at (27%), followed by those with experience from (15–20) years at (25%), then less than one year at (22%), then from (10–15) years at (16%), and finally from (1–5) years at (10%).

Table 6. Relative Frequency Distribution of the Sample by Years of Experience

Years of Experience	Frequencies	Percentage
Less than 1 year	22	22%
From 1 year to less than 5 years	10	10%
From 5 years to less than 10 years	27	27%
From 10 years to less than 15 years	16	16%
From 15 years to less than 20 years	25	25%
20 years and above	0	0%
Total	100	100%

8.3.4 Sample Distribution by Academic Degree

In this section, respondents were classified according to their qualifications. Table 7 indicates that the majority of the study sample belong to the Assistant Lecturer category at (42%), followed by the Lecturer category at (34%), then the Assistant Professor category at (15%), then the Professor category at (5%), and finally the Associate Professor category at (4%).

Table 7. Relative Frequency Distribution of the Sample by Academic Degree

Academic Qualification	Frequencies	Percentage
Assistant Lecturer	42	42%
Lecturer	34	34%
Assistant Professor	15	15%
Associate Professor	4	4%
Professor	5	5%
Total	100	100%

8.3.5 Descriptive Statistics of E-governance Standards

E-governance variable was measured using 10 items. It is observed from Table 8 that most sample members somewhat agree on the availability of e-governance standards at Fezzan University, with an arithmetic mean of 2.90. This is also evident from the ranking of the axis items according to the arithmetic mean as follows:

The highest scored was for the item the university adheres to ethical standards in the use of digital data, with an arithmetic mean of 3.50. Then followed by the item the university applies transparency standards in publishing administrative decisions and data, with an arithmetic mean of 3.31. Then the item the university applies accountability standards in publishing administrative decisions and data, with an arithmetic mean of 2.99. Fourth rank was scored for the item periodic reviews are conducted to ensure governance systems comply with local and international laws, with an arithmetic mean of 2.98. Then followed by item E-governance systems achieve fairness in the distribution of resources among faculties, with an arithmetic mean of 2.93. Then the item mechanisms for electronic accountability (such as digital performance reports) exist, with an arithmetic mean of 2.90. Then the question of institutional performance evaluation results is announced periodically via digital platforms, with an arithmetic mean of 2.66. The next item was electronic channels are provided to receive beneficiaries' complaints and suggestions, with an arithmetic mean of 2.65. Then the question Artificial intelligence systems are used to support strategic decision-making, with an arithmetic mean of 2.60. Then the lowest score was for the item university community members (professors and students) participate in decision-making through digital platforms, with an arithmetic mean of 2.51.

Table 8. The e-governance standards

Topic	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Rank
The university applies transparency standards in publishing administrative decisions and data.	9%	41%	25%	22%	3%	3.31	2
Mechanisms for electronic accountability exist (e.g., digital performance reports).	3%	27%	30%	37%	3%	2.90	6
University community members (teachers, students) participate in decision-making via digital platforms.	5%	17%	14%	52%	12%	2.51	10
E-governance systems achieve fairness in resource distribution among faculties.	7%	26%	29%	29%	9%	2.93	5
Electronic channels are provided to receive beneficiaries' complaints and suggestions.	8%	19%	16%	44%	13%	2.65	8
Institutional performance evaluation results are periodically announced via digital platforms.	5%	24%	15%	44%	12%	2.66	7
The university adheres to ethical standards in the use of digital data.	10%	47%	31%	7%	5%	3.50	1
Periodic reviews are conducted to ensure e-governance systems comply with local and international laws.	5%	24%	38%	26%	6%	2.98	4
Artificial intelligence systems are used to support strategic decision-making.	3%	19%	24%	43%	11%	2.60	9
The university applies transparency standards in publishing administrative decisions and data	7%	29%	30%	24%	10%	2.99	3
Overall Average:						2.90	

8.3.6 Descriptive Statistics of E-governance Requirements

The concept E-Governance Requirements was measured using 10 item. However, these item have received difference importance according to the perception of the study sample. Table 9 shows that most of the sample members somewhat agree on the availability of e-governance requirements at Fezzan University, with an arithmetic mean of (3.05). This is reflected in the ranking of the axis items according to the arithmetic mean.

The university cooperates with external experts to improve the technical infrastructure of e-governance scored the highest rank with an arithmetic mean of (3.33). The second highest rank was scored for information security standards (such as encryption and firewalls) are applied to protect university data, with an arithmetic mean of (3.23). Then followed by the item electronic systems are continuously updated to keep pace with security requirements, with an arithmetic mean of (3.23). the fourth position was ranked for clear administrative policies support the implementation of e-governance at the university, with an arithmetic mean of (3.16). Then the effectiveness of e-governance requirements is measured through clear performance indicators, with an arithmetic mean of (3.02). Followed by regulatory frameworks govern the use of digital data among university departments, with an arithmetic mean of (3.00). Then the item the necessary technological infrastructure (such as servers and software) is available for the implementation of e-governance, with an arithmetic mean of (2.93). The item employees possess the necessary digital skills to use e-governance systems quipped the eighth rank with an arithmetic mean of (2.87). Then followed by the item a sufficient budget is allocated annually for the development of e-governance systems, with an arithmetic mean of (2.87). And the lowest score was observed for the item employees receive regular training on cybersecurity challenges, with an arithmetic mean of (2.87).

Table 9. The requirements of e-governance

Topic	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Rank
Clear administrative policies exist to support the implementation of e-governance at the university.	8%	33%	30%	25%	4%	3.16	4
The necessary technological infrastructure (such as servers, software) is available to implement e-governance.	4%	27%	33%	30%	6%	2.93	7
Information security standards (such as encryption, firewalls) are applied to protect university data.	8%	31%	41%	16%	4%	3.23	2
Staff possess the digital skills required to use e-governance systems	6%	23%	29%	36%	6%	2.87	8
A sufficient budget is allocated annually for the development of e-governance systems.	10%	19%	27%	36%	8%	2.87	9
Regulatory policies govern the use of digital data among university departments.	6%	13%	25%	33%	5%	3.00	6
Staff are regularly trained on cybersecurity challenges.	10%	20%	25%	37%	8%	2.87	10
The university collaborates with external experts to improve the technical infrastructure of e-governance.	13%	33%	31%	20%	3%	3.33	1
Electronic systems are continuously updated to keep pace with security requirements.	14%	28%	29%	25%	4%	3.23	3
The effectiveness of e-governance requirements is measured through clear performance indicators.	4%	31%	35%	23%	7%	3.02	5
Overall Average:						3.05	

8.3.7 Institutional Performance at Fezzan University

The performance as an outcome variable was measured using 10 items. It is evident from Table 10 that most members of the sample agree on the institutional performance at Fezzan University, with an arithmetic mean of (3.45). However, there is difference in the ranks across the items.

The highest score was observed for the item the university strives to keep pace with modern technologies, with an arithmetic mean of (3.71). Then followed by the item the university seeks to establish and strengthen relations with productive and service-oriented economic sectors, with an arithmetic mean of (3.62). Then the university adopts the absorption of the largest possible number of students to achieve development, with an arithmetic mean of (3.61). Followed in fourth rank is the university determines the priorities of its activities aimed at improving performance, with an arithmetic mean of (3.51). Coming after is the university fosters creativity and innovation, with an arithmetic mean of (3.47). Then the university participates in local and global databases, with an arithmetic mean of (3.45). Ranking seventh is the university relies on identifying external obstacles as feedback to improve performance, with an arithmetic mean of (3.38). Then the university works to enhance the concepts of integrity, transparency, honesty, and respect for the rights of others, with an arithmetic mean of (3.35). The second last is the university pays attention to the selection and appointment of its administrative leadership, with an arithmetic mean of (3.29). The lowest is the university has a reliable and realistic plan to develop its own resources, with an arithmetic mean of (3.15).

Table 10. The variable of institutional performance

Topic	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Rank
The university sets priorities for its activities aimed at improving performance.	15%	39%	30%	14%	2%	3.51	4
The university pays attention to selecting and appointing its administrative leaders.	13%	37%	23%	20%	7%	3.29	9
The university works on promoting concepts of integrity, transparency, honesty, and respect for others' rights.	14%	36%	27%	17%	5%	3.35	8
The university adopts admitting the largest number of students to achieve development.	21%	39%	24%	12%	4%	3.61	3
The university relies on understanding external obstacles as feedback to improve performance.	13%	36%	31%	16%	4%	3.38	7
The university seeks to establish and strengthen relationships with productive and service economic sectors.	14%	47%	29%	7%	3%	3.62	2
The university has a reliable and realistic plan to develop its own resources.	7%	27%	43%	20%	3%	3.15	10
The university is keen to keep pace with modern technologies	17%	47%	27%	8%	1%	3.71	1
The university participates in local and global databases	10%	39%	39%	10%	2%	3.45	6
The university assists in creativity and innovation.	15%	36%	34%	11%	4%	3.47	5
Overall Mean						3.45	

8.4 Testing the Study Hypotheses

This section discusses the main hypothesis testing process. The study uses Spearman Correlation Coefficient and Analysis of variance (ANOVA) to statistically support or reject any proposed **Hypotheses**.

8.4.1 Testing the Main Hypothesis

There is no statistically significant relationship between the requirements and standards for implementing e-governance and institutional performance at Fezzan University

It is evident from Table 11 that there is a positive correlation between the requirements and standards for implementing e-governance and institutional performance at Fezzan University, with a correlation coefficient of (.760**). It is also noted that the p-value equals (.000), which is less than both the 5% and 1% significance levels.

Therefore, we reject the null hypothesis and accept the alternative hypothesis; that is, there is a statistically significant relationship between the requirements and standards for implementing e-governance and institutional performance at Fezzan University.

Table 11. Spearman Correlation Coefficient

Correlation Coefficient	p-value
.760**	**000.**

Significance level: 1%. Significance level: 5%.

8.4.2 Testing the First Hypothesis

There is no statistically significant relationship between the standards for implementing e-governance and institutional performance at Fezzan University.

It is observed from Table 12 that there is a significant positive relationship between the standards for implementing e-governance and institutional performance at Fezzan University, with a correlation coefficient of (.795**). It is also noted that the p-value equals (.000), which is less than the significance levels of 5% and 1%.

Therefore, we reject the null hypothesis and accept the alternative hypothesis; that is, there is a significant relationship between the standards for implementing e-governance and institutional performance at Fezzan University.

Table 12. Spearman Correlation Coefficient

Correlation Coefficient	p-value
.795**	000.

Significance level: 1%. Significance level: 5%.

8.4.3 Testing the Second Hypothesis

There is no significant relationship between the requirements for implementing e-governance and institutional performance at Fezzan University.

It is evident from Table 13 that there is a positive correlation between the requirements for implementing e-governance and institutional performance at Fezzan University, with a correlation coefficient of (.677**). It is also noted that the p-value equals (.000), which is less than the significance levels of 5% and 1%.

Therefore, we reject the null hypothesis and accept the alternative hypothesis; that is, there is a significant relationship between the requirements for implementing e-governance and institutional performance at Fezzan University.

Table 13. Spearman Correlation Coefficient

Correlation Coefficient	p-value
.677**	000.

Significance level: 1%. Significance level: 5%.

8.4.4 Testing the Third Hypothesis

There are no statistically significant differences in the application of e-governance standards at Fezzan University from the perspective of its faculty members, according to the variables (gender, experience, academic qualification, academic degree).

It is evident from Table 14 that there are statistically significant differences in the application of e-governance standards at Fezzan University from the perspective of faculty members according to the variables (age, years of experience), at significance levels (0.007, 0.011), respectively, which are less than the 5% significance level. Meanwhile, there are no statistically significant differences according to the variables (gender, academic degree), at significance levels (0.211, 0.078), respectively, which are greater than the 5% significance level.

Table 14. Results of One-Way ANOVA Test

Independent Variable	F Value	Significance Level (Sig.)	Conclusion
Gender	1.58	0.211 (> 0.05)	No statistically significant differences
Age	3.72	0.007 (< 0.05)	Statistically significant differences exist
Years of Experience	3.92	0.011 (< 0.05)	Statistically significant differences exist
Academic Degree	2.17	0.078 (> 0.05)	No statistically significant differences

Significance level: 5%.

8.4.5 Testing the Fourth Hypothesis

There are no statistically significant differences in the availability of e-governance implementation requirements at Fezzan University from the perspective of its faculty members, according to the variables (gender, experience, academic qualification, academic degree).

Table 15 shows that there are statistically significant differences in the availability of e-governance implementation requirements at Fezzan University from the perspective of faculty members, according to the gender variable at a significance level of (0.058), which is equal to the 5% significance level. Meanwhile, no statistically significant differences exist according to the variables (age, years of experience, academic degree), at significance levels (.082, .270, .566), respectively, all of which are greater than the 5% significance level.

Table 15. Results of One-Way ANOVA Test

Independent Variable	F Value	Significance Level (Sig.)	Conclusion
Gender	3.69	0.058 (< 0.05)	Statistically significant differences exist
Age	2.14	0.082 (> 0.05)	No statistically significant difference
Years of Experience	1.32	0.270 (> 0.05)	No statistically significant difference
Academic Degree	0.742	0.566 (> 0.05)	No statistically significant difference

Significance level: 5%.

8.4.6 Testing the Fifth Hypothesis

There are no statistically significant differences in the levels of institutional performance at Fezzan University from the perspective of its faculty members, according to the variables (gender, experience, academic qualification, academic degree).

It is evident from Table 16 that there are statistically significant differences in the levels of institutional performance at Fezzan University from the perspective of faculty members according to the variables (gender, age), at significance levels (0.012, 0.035), respectively, which are less than the 5% significance level. However, there are no statistically significant differences according to the variables (years of experience, academic degree), at significance levels (0.427, 0.361), respectively, which are greater than the 5% significance level.

Table 16. Results of One-Way ANOVA Test

Independent Variable	F Value	Significance Level (Sig.)	Conclusion
Gender	6.52	0.012 (< 0.05)	Statistically significant differences exist
Age	2.70	0.035 (< 0.05)	Statistically significant differences exist
Years of Experience	0.935	0.427 (> 0.05)	No statistically significant difference
Academic Degree	1.10	0.361 (> 0.05)	No statistically significant difference

Significance level: 5%.

9. Results

The study investigated Requirements and Standards of Electronic Governance and Their Relationship to Institutional Performance in Libyan Universities: Case Study of Fezzan University. After analyzing the data, the study reached several conclusions.

With regard to the descriptive part, the results indicated that the level of application of e-governance standards at Fezzan University had an overall average of (2.90) out of 5, reflecting an acceptable degree of availability. The highest values were associated with adherence to ethical standards for using digital data and transparency standards in publishing decisions and administrative data.

The results also indicated that the level of availability of e-governance requirements reached an overall average of (3.05), with collaboration with external experts to improve the technical infrastructure of governance emerging as the most available requirement. In addition the level of institutional performance was relatively good, with an overall average of (3.45). The highest ratings were recorded for the keenness to keep up with modern technologies and enhance relationships with economic and productive sectors.

In addition to the descriptive results, the study aimed to examine the correlation and difference. The study found a strong and statistically significant positive relationship between the availability of requirements and standards for implementing e-governance and the improvement of institutional performance at Fezzan University. The Spearman correlation coefficient between the total requirements and standards of e-governance and institutional performance was (.760**) with a significance level (p-value = .000). This rejects the null hypothesis and confirms the presence of a statistically significant relationship. Additionally, a strong and statistically significant relationship exists between the standards of e-governance implementation and institutional performance, with a correlation coefficient of (.795**) and a significance level of (.000).

In addition, data analysis shows a statistically significant relationship exists between the requirements for implementing e-governance and institutional performance, with a correlation coefficient of (.677**) and a significance level of (.000).

Testing the differences hypotheses resulted in the exist of a statistically significant differences in faculty members' evaluations of e-governance standards according to the variables of age and years of experience, while no differences appeared based on gender and academic degree. Additionally, ANOVA also revealed statistically significant

differences in faculty members' evaluations of e-governance requirements based only on the gender variable, while no significant differences were found based on age, years of experience, or academic qualification.

Furthermore, the test indicated a statistically significant differences in faculty members' evaluations of institutional performance levels according to the variables of gender and age, while no significant differences were found based on years of experience or academic qualification.

10. Recommendation and Weaknesses

According to the study results, decision makers in the university should continuously update and maintain electronic systems to keep pace with cybersecurity requirements and data protection. Additionally, they should collaborate with external technical experts to develop the technical infrastructure of e-governance.

Additionally, more attention should be paid to the principles and importance of e-governance among all university staff. They should establish supportive administrative policies for implementing e-governance, including data usage, privacy protection, and channels for submitting complaints and suggestions, and provide training courses for employees and faculty members to enhance digital skills and understanding of e-governance.

The study also recommends that the university consolidate the values of transparency, accountability, participation, and justice in university operations. In addition to involving members of the university community (students, professors, employees) in decision-making processes through digital platforms.

Moreover, universities should develop clear performance measurement tools to monitor the effectiveness of applying e-governance requirements and standards, and their impact on institutional performance.

Finally, although this study provides a contribution to the field of performance and e-governance, it has some weaknesses. First, the study was conducted at one university, which limited the ability to generalize the results. Therefore, future studies should include different institutions. Additionally, there is a concern about sample size. Thus, future studies should increase the sample size to increase the accuracy of the results.

Acknowledgments

We would like to show our appreciation to our faculty members at Fezzan University who have contributed to this study by filling out the questionnaire, which has been a significant part of this paper.

Authors' contributions

All authors have contributed to this manuscript equally in terms of data collection and analysis, literature review, and writing. Each stage has been reviewed collectively by others.

Funding

This work received no specific grant from any funding institution in the public, commercial, or not-for-profit sectors

Competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of Sciedu Press.

The journal and publisher adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

References

Ababneh, S. A. A. (2011). Evaluation of the quality of university performance from the point of view of faculty members at the Faculty of Arts, Misurata University. *Arab Journal for Quality Assurance in University Education, 4*(8).

Abdullah, M. A. R. (2019). A proposed strategy to develop the institutional performance of the New Valley University in light of the integration between the approaches of organizational learning and management by results. *Educational Journal,* (58).

Alhomod, S., & Shafı, M. M. (2013). E-governance in education: Areas of Impact and Proposing a Framework to Measure the Impact. *Turkish Online Journal of Distance Education, 14*(2), 305-313.

Al-Jahni, T. A. (2025). The Role of E-Governance in Improving Institutional Performance in the Saudi Health Sector. *Scientific Journal of Business and Environmental Studies, 16*(2).

Al-Shater, S. M., Karim, N. I. A., & Faraj, K. M. (2021). The reality of practicing knowledge management processes and their impact on achieving institutional performance among faculty members at the Academy of Graduate Studies. *Ajdabiya Branch, Research Journal,* (18).

Bevins, F., Law, J., Sanghvi, S., & Valentino, R. (2020). Shaping university boards for 21st century higher education in the US McKinsey. Retrieved from Www.mckinsey.com.https://www.mckinsey.com/industries/education/our-insights/shaping-university-boards-for-21st-century-higher-education-in-the-us

Carini, E., Pezzullo, A. M., Frisicale, E. M., Cacciatore, P., Pilla, A. D., Grossi, A., … Specchia, M. L. (2019). Measuring organizational performance. A review of the dimensions of hospital performance indicators. *European Journal of Public Health*, *29*(Supplement_4). https://doi.org/10.1093/eurpub/ckz185.617

Cervantes, M. (2017). Higher Education Institutions in the Knowledge Triangle. *Foresight and STI Governance*, *11*(2), 27-42. https://doi.org/10.17323/2500-2597.2017.2.27.42

Chukwemeka, O. D. (2020). Talent Management and Entrepreneurial Sustainability in Organizations. *International Journal of Innovative Research and Development*, *9*(8). https://doi.org/10.24940/ijird/2020/v9/i8/aug20020

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approach* (5th ed.). SAGE Publications.

Fumasoli, T. (2017). Systems, Organizations and Students. *Higher Education Quarterly*, *71*(2), 127-128. https://doi.org/10.1111/hequ.12124

Guthrie, K. (2019). Challenges to Higher Education's Most Essential Purposes. https://doi.org/10.18665/sr.311221

Habaybah, H. H. (2024). The Impact of E-Governance on Institutional Performance. *Al-Quds Open University Journal of Administrative Research, 9*(21).

Huisman, J., De Boer, H., & Dill, D. D. (2015). *The Palgrave international handbook of higher education policy and governance*. Palgrave Macmillan.

Issa, E. E.-D. M. A., Jalil, T. M. A., & Al-Farjani, M. M. (2020). Academic problems facing students of the Faculty of Arts at the University of Benghazi according to some variables. *Al-Manara Scientific Journal,* (1), Part 1.

Kapoor, R., & Kelkar, N. (2013). E-governance: Higher education in rural area. In *Proceedings of National Conference on New Horizons in IT-NCNHIT* (pp. 95-98).

Karnaf, M. M. (2021). The Reality of Institutional Performance of the Faculty of Arts at Bani Walid University in Light of Six Sigma Principles. *The Third Scientific Conference of the Faculty of Education, Ajilat, and the First for the Departments of Education, Psychology, and Arabic Language*.

Lee, Y. (2017). Understanding Higher Education Institutions' Publicness: Do Public Universities Produce More Public Outcomes than Private Universities?. *Higher Education Quarterly, 71*(2), 182-203. https://doi.org/10.1111/hequ.12120

Mahdar, H. H. (2024). The impact of applying governance on the efficiency of institutional performance in government sector hospitals in Makkah Al-Mukarramah. *Scientific Journal of Business and Environmental Studies, 15*(4).

Moez, A., & Muhammad Farouk, M. (2024). The Impact of Governance on Institutional Performance. *Journal of Administrative Research, 42*(2).

Rix, M. (2019). The New Australian System of Corporate Governance: Board Governance and Company Performance in a Changing Corporate Governance Environment. *Corporate Law & Governance Review, 1*(2), 29-41. https://doi.org/10.22495/clgrv1i2p3

Sharma, R. C., & Sharma, N. (2018). *Human resource management managing people at work*. New Delhi Sage Publications India Pvt Ltd Thousand Oaks, California Sage Publications.

Sharmin, S., & Chowdhury, R. H. (2025). Digital transformation in governance: The impact of e-governance on public administration and transparency. *Journal of Computer Science and Technology Studies, 7*(1), 362-379.

Shattock, M. (2013). University Governance, Leadership and Management in a Decade of Diversification and Uncertainty. *Higher Education Quarterly, 67*(3), 217-233. https://doi.org/10.1111/hequ.192017

Shrivastava, R. K., Raizada, A. K., & Saxena, N. (2014). Role of e-Governance to strengthen higher education system in India. *IOSR Journal of Research & Method in Education, 4*(2), 57-62.

Štofova, L., Szaryszova, P., & Vilamova, Š. (2017). Development of the integrated quality management model for increasing the strategic performance of enterprises in the automotive industry. *Problems and Perspectives in Management, 15*(3), 4-15. https://doi.org/10.21511/ppm.15(3).2017.01