



The Impact of Digital Transformation on Contextual Performance: A Field Study on the Universities of Fezzan and Sirte

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ABSTRACT

Objective – This study aimed to examine the impact of digital transformation on contextual performance at the Universities of Sirte and Fezzan.

Methodology – The study population consisted of faculty members working at both universities. A questionnaire was used as the data collection instrument, and the study sample comprised 148 participants. To achieve the study objectives and test the hypotheses, a descriptive correlational approach was employed.

Findings – The analysis revealed several findings, most notably that digital transformation has a limited impact on contextual performance in the universities under study. The coefficient of determination indicates that digital transformation explains approximately 9.6% of the variance in contextual performance.

Novelty – This study provides rare empirical evidence from the Universities of Sirte and Fezzan, identifying a significant “readiness gap” where digital transformation accounts for only 9.6% of contextual performance. It distinguishes itself by shifting the focus from global digital trends to the specific infrastructural and cultural barriers unique to the Libyan higher education sector.

Keywords: *digital transformation, performance, contextual performance, universities, University of Sirte, University of Fezzan*

JEL Classification: O33, M54, I23

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I. INTRODUCTION

Employee performance plays a pivotal role in the success of any organization. A range of factors influence employee performance; therefore, understanding how organizations affect their employees is essential. In this context, digital transformation represents a bridge connecting today's universities with the future landscape of education. Successful digital transformation requires comprehensive implementation and a deep understanding of technology, not only at the individual level but also at the institutional level. Digital transformation has been defined as the systematic application of digital technologies to create innovative processes, products, and services. In higher education, the need for digital transformation is



increasingly urgent. Digital transformation in universities has become a pressing strategic necessity to enhance the quality of education, improve operational efficiency, and strengthen scientific research, thereby meeting the demands of the knowledge society and labor market. This study aims to identify the impact of digital transformation on contextual performance in selected Libyan universities (Sirte and Fezzan) from the perspective of faculty members. The study is based on the hypothesis that digital transformation has an impact on contextual performance in the universities under investigation. Understanding these influencing factors is critically important for organizational success. Maintaining high levels of employee satisfaction is a key driver in creating a more effective work environment, as organizations cannot achieve successful digital transformation without strong employee performance. Accordingly, this study focuses on two key variables to examine the relationship between them.

Previous research has highlighted multiple factors influencing contextual performance and organizational effectiveness. Leadership grounded in respect has been found to positively predict followers' social awareness, which in turn enhances their performance across various contexts (Kundi et al., 2025). Likewise, performance management practices in higher education institutions have been shown to play a crucial role in improving employee outcomes; a study conducted in a Ghanaian technical university revealed that participants recognized the importance of performance management, with many affirming that effective performance management enhances job satisfaction (Akanpaadgi et al., 2024).

Individual-level factors have also been strongly associated with contextual performance. Self-efficacy and work engagement were found to jointly explain 31% of the variance in contextual performance, with self-efficacy contributing 13.2% and work engagement 16.7% (Rohaeni & Aulia, 2024). These findings suggest that strengthening employees' psychological resources can significantly improve contextual performance. Similarly, soft skills have been shown to influence contextual performance both directly and indirectly through the mediating role of creativity (Gustari & Widodo, 2023). Other behavioral strategies, such as self-promotion, ingratiation, and exemplification, were found to positively affect coworker support, customer satisfaction, and organizational commitment, respectively (Edeh et al., 2023).

From an organizational perspective, effective human resource management has been linked to better stress management and improved task and contextual performance (Hameed et al., 2023). Flexible work arrangements were also found to moderate the relationship between informational support and contextual job performance (Taibah & Ho, 2023). In parallel, research addressing digital transformation in higher education has emphasized its strategic importance. Digital transformation initiatives have primarily focused on delivering competitive and high-quality higher education (Fernández et al., 2023). Scholars have further stressed that digital transformation strategies should be aligned with functional strategies and that higher education institutions urgently need well-developed digital transformation models (Hashim et al., 2022). Beyond the education sector, digital transformation has also been shown to significantly improve organizations' environmental performance (Chen & Hao, 2022).

Contextual performance refers to voluntary employee behaviors that go beyond formally assigned duties and are not explicitly stated in job descriptions, yet contribute positively to organizational effectiveness. The concept is often used interchangeably with terms such as extra-role performance, discretionary behavior, organizational citizenship behavior, and proficiency in non-task-related activities. Such performance represents an essential dimension of overall job performance, particularly in service-oriented institutions like universities.

Despite the growing global emphasis on improving higher education performance through digital and organizational development, international rankings indicate that Libyan universities occupy relatively low positions. At the same time, rapid advancements in information and communication technologies offer significant opportunities for enhancing performance in service organizations, including higher education institutions. However, several local studies have documented substantial challenges affecting the quality of



higher education in Libya. These include the absence of a clear strategic vision for quality improvement (Al-Sani, 2025), financial and research-related constraints as well as community service challenges (Karawan & Al-Dhawi, 2020), and obstacles to implementing quality standards related to community service, technical and research issues, and organizational and leadership factors (Abdelhafeez et al., 2021). Other studies have emphasized that quality in higher education has become a prerequisite for global competitiveness (Haroun, 2020), while earlier research pointed to a broader crisis in university education quality in developing countries (Al-Masri, 2002) and identified financial limitations and inadequate institutional resources as key barriers to quality improvement (Sabra, 2020).

In light of the importance of performance in its various forms—particularly contextual performance—as highlighted in previous research (Kundi et al., 2025; Akanpaadgi et al., 2024; Rohaeni & Aulia, 2024), and given the strategic role of digital transformation in improving institutional effectiveness, the present study seeks to address the following research questions: (1) What is the level of digital transformation implementation at the Universities of Fezzan and Sirte? (2) What is the level of contextual performance at the Universities of Fezzan and Sirte? (3) To what extent are there statistically significant differences in contextual performance attributable to demographic variables (gender and workplace affiliation)?

II. LITERATURE REVIEW

First: Concept of Digital Transformation

Digital transformation and big data analytics capabilities enable organizations to adapt to rapidly changing markets, innovate, and maintain their position in the digital era (Butt et al., 2024). Digital transformation also requires a clear strategic vision (Emran et al., 2025). Organizations and governments should adopt strategies to enhance skill development in alignment with technological advancements (Emran et al., 2025). The term “transformation” implies the ability to take necessary actions when organizations encounter new technologies and should not be confused with simple change (Singh & Hess, 2017). Digital transformation represents a shift in the activities of individuals and organizations through the application of digital technologies to achieve significant improvements in operations, customer experience, and new business models (Abdulquadri et al., 2021). A more specific definition describes digital transformation as a process aimed at improving an entity by making fundamental changes to its properties through a combination of information, computing, communication, and connectivity technologies (Vial, 2019). Digital transformation is the use of digital technologies to improve the efficiency and effectiveness of processes (Emran & Elhony, 2023). Digital transformation has profound effects on institutions across various sectors (Emran & Elhony, 2025). Digital transformation is also considered a process for enhancing competitive advantage (Reis et al., 2020). Its key components include technology, human competencies (skills), and strategies appropriate to the stage of organizational development. Therefore, organizations undergoing digital transformation require a clear strategy, sound methodology, and appropriate competencies to establish an effective digital transformation system, promote systematic change, and accelerate innovation in continuous development (Teng et al., 2022). Accordingly, digital transformation has become essential for enhancing organizational performance in today’s competitive business environment.

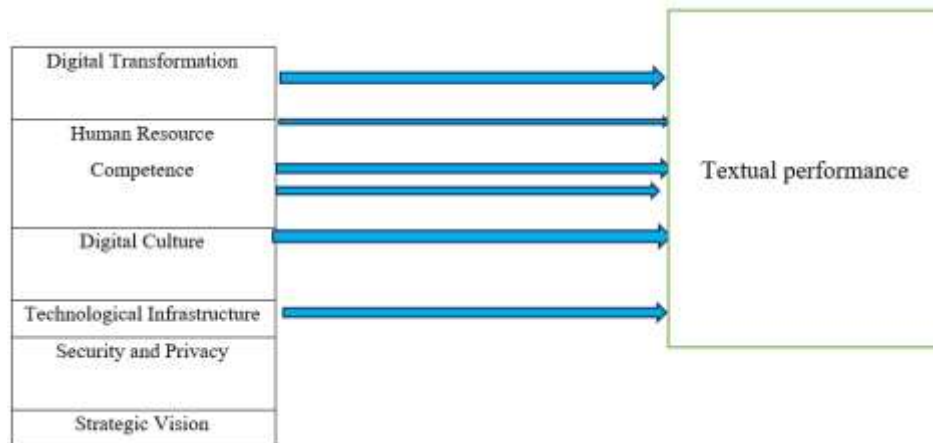


Figure 1 Study Model

Second: Dimensions of Digital Transformation

Human Resource Competence

Human resources are among the most critical factors influencing organizations' adoption of data-use practices. In the context of big data, the availability of qualified personnel in information technology and data science expertise is crucial for developing data-driven strategies. Human capital factors, such as the number of employees and the presence of specialized staff, are particularly important for radical innovations that involve fundamental changes and substantial new knowledge (Manny et al., 2021).

Digital Culture

A well-established digital transformation culture across the organization indicates not only readiness but also the expertise required to integrate data into planning and internal decision-making processes. Employees benefit from organizational support for digital transformation initiatives through training and interdepartmental data sharing (Giest, 2017).

Customer Experience

Customers increasingly demand higher-quality products and services and expect organizations to adapt quickly and personalize their evolving needs. This is particularly relevant for new "digital-native" generations. To meet these expectations, organizations must adjust their approaches to products and services in line with consumption trends. Applying technologies in processes is only a small part of digital transformation; technologies must generate added value for customers, businesses, and stakeholders (Nazari & Musilek, 2023).

Infrastructure and Technology

As the volume of data generated by new technologies grows significantly, so does the need for data analysis, processing, and interpretation (Ingildsen & Olsson, 2016). However, the issue extends beyond technical efficiency to include organizational capabilities and readiness, as big data utilization may require changes in roles, routines, and decision-making within the organization (Manny et al., 2021). Therefore, strong and updated infrastructure is essential for enabling digital strategies.



Strategic Vision of Leaders

Leadership is not a one-directional concept but a relational exchange between leaders and other parties, such as employees and stakeholders (Hensellek, 2020). Leaders must possess a clear strategic vision for the future of their organizations in the context of digital transformation and be capable of determining how technology can be used to expand operations. Digital transformation is considered successful in the long term when organizational goals are achieved. Likewise, individuals accept technological advancement only when they understand its relevance to their tasks. Senior managers, in particular, bear significant responsibility for managing strategic alignment and promoting digital culture (Cortellazzo et al., 2019).

Security and Privacy

Digital security risks have become a major challenge rather than merely a technological issue and must be managed in an integrated and balanced manner to achieve long-term sustainable gains. A structured approach is required to ensure information security for both internal and external stakeholders (Abbas, 2021). Establishing a foundation of security measures to protect sensitive data and reduce the likelihood of breaches is the primary goal of security compliance. It is important to distinguish between security compliance and broader cybersecurity strategies. While compliance focuses on meeting specific regulatory requirements, cybersecurity strategies involve a more comprehensive approach to protecting information systems from various cyber threats (Hamdani et al., 2021). Such strategies may include risk management, incident response planning, threat intelligence, and continuous monitoring—essential components of a proactive security posture. Compliance forms the basis of cybersecurity efforts by ensuring that organizations implement necessary controls to safeguard sensitive data and meet legal obligations (Taherdoost, 2022).

Third: Concept and Importance of Contextual Performance

Contextual performance focuses on employee behaviors that contribute to the effective functioning of the organization beyond formal task performance. It is expressed through positive employee behaviors that are not included in job descriptions but support the organizational environment (Çalışkan & Koroğlu, 2022). Public higher education institutions face substantial pressure to deliver services that justify the investments governments have made over the years to improve higher education, especially given the growing demand for high-quality education. Therefore, effective performance management has become essential for establishing a structure that motivates and guides employees while fostering a culture of performance excellence (Medlin, 2013).

Performance management is defined as a system in which an organization sets work standards, evaluates outputs according to those standards, provides feedback and rewards, and recommends improvements (Armstrong, 2019). It is also described as a continuous process of identifying, measuring, and developing the performance of individuals and teams, and aligning that performance with the strategic goals of the organization. A well-designed performance management system is a prerequisite for organizational success and has become a top priority for organizational development practitioners (Almulaiki, 2023). An effective performance management system must align with the organization's strategic objectives to achieve desired outcomes (Aguinis et al., 2013). Performance management ultimately aims to improve the performance of the organization, group, individual, product, or service (DeNisi & Pritchard, 2006). Moreover, effective interaction with employees through empowerment, recognition, motivation, and participation in decision-making can significantly influence organizational performance (Subbaiah & Mathew, 2019).



However, many performance management systems fail to achieve their intended results for several reasons, including lack of managerial commitment to performance improvement, insufficient performance management skills affecting goal-setting, inadequate coaching skills that limit the ability to bring out the best in employees, and ineffective performance appraisal schemes that sometimes lead to conflict when evaluators fail to assess subordinates fairly (Kaur & Singla, 2019).

Recent research has also emphasized the psychological mechanisms underlying performance. Silva and Caetano (2024) identified a positive mediating pathway between positive emotions, work engagement, and performance at both daily and individual levels. To explain the relationship between positive emotions and performance, Diener et al. (2020) proposed that positive affect influences relevant positive outcomes, such as work engagement, through a mediating channel. According to this perspective, positive emotions broaden cognitive capacities, which in turn lead to positive work-related behaviors, including contextual performance. Experimental studies further support this view. Mailliez et al. (2020) demonstrated that positive emotions enhance decision-making performance through feedback processing. Ko et al. (2020), using a randomized crossover experiment, found that individuals with a window view experienced more positive emotions than those without, which positively affected working memory and concentration. Similarly, Kiuru et al. (2020) showed that positive emotions mediated the relationship between high task value and expectations of task success.

Fourth: Dimensions of Contextual Performance

Numerous studies have indicated that contextual performance is closely associated with organizational citizenship behavior (OCB). At both individual and organizational levels, OCB has become a priority in addressing environmental challenges and intense competition in the digital era. Organizations need to develop and strengthen their understanding of the key organizational component—human resources. This requires a shift in the role of human resource management from a purely administrative function to that of a strategic partner and change agent.

Optimal results can be achieved when employees rely not only on their skills but also on a broader understanding of their personal potential, family context, and community in order to create added value and improve living standards. Human resource management encompasses the knowledge and methods used to manage employment relationships and human resources efficiently and effectively, aiming to optimize their use in achieving the shared goals of the organization, employees, and society.

Among the behaviors that can enhance employee performance are extra-role behaviors, also known as organizational citizenship behavior (OCB). Such behaviors improve employees' effectiveness, efficiency, and creativity, enabling them to contribute positively to organizational change and responsiveness. Employee behavior that reflects OCB characteristics involves demonstrating positive actions that go beyond formal roles, duties, and job descriptions as required by the organization (Soelton, 2023).

III. METHODOLOGY

To achieve the objectives of the study and test its hypotheses, the descriptive-correlational method was adopted. This method is appropriate given the goals of the study. The study population consisted of faculty members from the Universities of Sirte and Fezzan. A sample of 148 individuals was selected using a simple random sampling method.

To collect the necessary data for this study, a questionnaire was used as the main data collection tool. The questionnaire was developed based on the scales by Gurbaxani & Dunkle and Al-Shammari & Al-Fifi for the independent variable (digital transformation). For the dependent variable (contextual performance),



the scales of Golchi et al. and Kalia Bhawana were adapted, with some modifications to suit the hypotheses and objectives of the study.

Pilot Sample

To ensure the appropriateness of the instrument for data collection, a pilot study was conducted. The data collected were analyzed to assess the reliability and validity of the instrument.

Reliability of the Instrument

Several methods exist to measure reliability, with Cronbach's Alpha being the most widely used. Cronbach's Alpha formula was applied to measure the reliability of the study instrument. The reliability coefficients of the dimensions of the digital transformation variable ranged between 0.695 and 0.927, while the overall reliability coefficient of the digital transformation variable was 0.948. The reliability coefficient for contextual performance was 0.874, indicating acceptable reliability. This demonstrates that the questionnaire exhibited good consistency and a satisfactory level of measurement quality, as summarized in Table 1.

Table 1 Reliability Coefficients of the Questionnaire

Variables	Number of Items	Reliability Coefficient (α)
Strategic Vision	5	0.904
Infrastructure and Technology	5	0.695
Digital Culture	5	0.763
Human Resource Competence	5	0.890
Security and Privacy	5	0.927
Digital Transformation	25	0.948
Contextual Performance	15	0.874

Source: Prepared by the researchers based on statistical analysis using SPSS

Validity of the Instrument

- (A) Face Validity: The instrument was presented to a group of expert faculty members in the field of management. The experts suggested deleting, modifying, and rephrasing certain items. Based on their feedback and recommendations, the items were revised and finalized, making the instrument ready for practical application.
- (B) Statistical Validity (Construct Validity): The validity of the study instrument was also assessed statistically to measure the degree to which respondents' answers reflect the intended construct. Statistical validity was calculated using the square root of the reliability coefficient. Both reliability and validity values range between 0 and 1. Using this approach, the validity coefficients of the dimensions of the digital transformation variable ranged from 0.834 to 0.963, with an overall validity coefficient of 0.974 for the entire digital transformation variable. For contextual performance, the overall validity coefficient was 0.935, confirming that the questionnaire effectively measures what it was designed to assess.

Statistical Methods Used

To achieve the study objectives and analyze the collected data, several appropriate statistical methods were employed. The choice of statistical tools varied according to the specific objectives of the study, aimed



at exploring the impact of digital transformation on contextual performance in the Libyan universities under study. The following statistical methods were used:

1. Reliability of the Study Instrument (Cronbach's Alpha): To ensure the consistency and internal coherence of the questionnaire items and their alignment with the study problem, Cronbach's Alpha was used. Self-validity (construct validity) was also applied to verify the instrument's effectiveness in measuring its intended constructs.
2. Arithmetic Mean (Mean): Used to determine the central tendency of responses for all major dimensions of the study.
3. Standard Deviation (SD): Applied to measure the dispersion of responses from the mean, providing insight into variability across study dimensions.
4. Regression Analysis: Conducted to examine the effect of digital transformation on contextual performance at the Universities of Fezzan and Sirte.

Table 2 Statistical Validity of the Questionnaire Dimensions

Variables	Number of Items	Validity Coefficient
Strategic Vision	5	0.951
Infrastructure and Technology	5	0.834
Digital Culture	5	0.873
Human Resource Competence	5	0.943
Security and Privacy	5	0.963
Digital Transformation	25	0.974
Contextual Performance	15	0.935

Source: Prepared by the researchers based on statistical analysis using SPSS

Data Analysis Procedures

After distributing, sorting, and verifying the returned questionnaires, only valid responses were included in the analysis. Data collected from the study sample were analyzed using the Statistical Package for the Social Sciences (SPSS). A model was employed to analyze responses to the questionnaire items to determine the level of agreement using the five-point Likert scale, which is widely used in such studies. Each response was assigned a score as follows: Strongly Disagree = 1; Disagree = 2; Neutral = 3; Agree = 4; Strongly Agree = 5

Table 3 illustrates the relative weight distribution and how it corresponds to the levels of digital transformation and contextual performance at the Universities of Fezzan and Sirte.

Table 3 Likert Scale Levels and Relative Weight (%)

Likert Label	Agreement Score	Score Range	Relative Weight (%)	Level Description
Strongly Disagree	1	1.00–1.79	20–36	Very Low
Disagree	2	1.80–2.59	36–52	Low
Neutral	3	2.60–3.39	52–68	Medium
Agree	4	3.40–4.19	68–84	High
Strongly Agree	5	4.20–5.00	84–100	Very High



IV. RESULTS AND DISCUSSION

Descriptive Aspect: Study Variables

The descriptive analysis focused on the study variables as reported in the study instrument.

Sample Characteristics

1. Sample by Gender

Table 4 shows the distribution of the study sample according to gender.

Table 4 Sample Distribution by Gender

Gender	Number	Percentage
Male	92	62.20%
Female	56	37.80%
Total	148	100%

Source: Prepared by the researchers based on statistical analysis using SPSS

From Table 4, it is clear that the majority of the sample were males (92; 62.20%), followed by females (56; 37.80%).

2. Sample by Workplace

Table 5 shows the distribution of the study sample according to the university.

Table 5 Sample Distribution by Workplace

Workplace	Number	Percentage
Fezzan	74	50%
Sirte	74	50%
Total	148	100%

Source: Prepared by the researchers based on statistical analysis using SPSS

From Table 5, it is evident that the sample was evenly distributed across the two universities, allowing for the assessment of differences attributable to the workplace variable.

Research Questions: Results and Analysis

Question 1: What is the level of digital transformation implementation at the Universities of Fezzan and Sirte? To answer this question, means and standard deviations were calculated for the responses of the study sample regarding the dimensions of digital transformation.

Table 6 Means, Standard Deviations, and Rank of Digital Transformation Dimensions

No.	Dimension	Mean	Std. Deviation	Level	Rank
1	Strategic Vision	3.7135	0.4922	High	1
2	Technology Infrastructure	3.1973	0.6952	Medium	5
3	Digital Culture	3.5635	0.5667	High	2
4	Human Resource Competence	3.3392	0.6336	Medium	3
5	Security and Privacy	3.3081	0.7062	Medium	4
	Overall Mean	3.4243	0.515	High	-



It can be observed from Table 6 that Strategic Vision ranked first (mean = 3.7135), indicating a strong orientation toward building a comprehensive and smart educational system in both universities. Digital Culture ranked second (mean = 3.5635), reflecting active efforts by the universities to raise awareness of digital transformation and ensure an interactive and effective learning environment. Human Resource Competence came third (mean = 3.3392), suggesting a moderate level of skills among staff, highlighting the need for further training and development. Security and Privacy ranked fourth (mean = 3.3081), reflecting a relatively lower awareness of cybersecurity and a lack of specialized human competencies. Finally, Technology Infrastructure ranked last (mean = 3.1973), which can be explained by insufficient funding, resistance to change among academics and students, and limited digital skills.

Comparison by University

The means and standard deviations for each digital transformation dimension were calculated for both universities to identify differences in adoption levels.

Table 7 Means and Standard Deviations of Digital Transformation Dimensions by University

University	Measure	Strategic Vision	Infrastructure & Technology	Digital Culture	Human Resource Competence	Security & Privacy	Digital Transformation
Sirte	Mean	3.7162	3.3081	3.5757	3.3486	3.3514	3.4600
	Standard Deviation	0.47629	0.66389	0.5637	0.64197	0.70444	0.50783
Fezzan	Mean	3.7108	3.0865	3.5514	3.3297	3.2649	3.3886
	Standard Deviation	0.51086	0.71238	0.5732	0.62936	0.71009	0.52466

Analysis of Dimensions

1. Strategic Vision: Both universities scored similarly, with Sirte at 3.7162 and Fezzan at 3.7108, indicating a high and comparable level of strategic vision adoption. The close standard deviations reflect consistency in respondents' opinions.
2. Technology Infrastructure: This dimension shows the lowest scores among all dimensions, with Sirte at 3.3081 and Fezzan at 3.0865, indicating challenges in digital infrastructure readiness, especially at Fezzan. The higher standard deviation suggests variability in perceptions regarding infrastructure adequacy.
3. Digital Culture: Sirte scored slightly higher (3.5757) than Fezzan (3.5514), showing a positive digital culture in both universities that supports technology adoption. The close standard deviations indicate relative agreement among respondents.
4. Human Resource Competence: Both universities achieved moderate scores: Sirte (3.3486) and Fezzan (3.3297). This reflects acceptable digital skills, but still necessitates training programs to strengthen staff capabilities.
5. Security and Privacy: This dimension recorded moderate levels: Sirte (3.3514) and Fezzan (3.2649). The results highlight the need for stronger digital security measures and clear cybersecurity policies, particularly at Fezzan, which had the lowest mean for this dimension.
6. Overall Mean of Digital Transformation: Sirte University: 3.4600; Fezzan University: 3.3886

It is evident that Sirte University exhibits a slightly higher level of digital transformation compared to Fezzan University. However, the difference is not substantial, indicating a similar level of digital progress in both universities, with a clear need to enhance some dimensions, particularly infrastructure and security.



Results of the Second Research Question: What is the level of contextual performance at the Universities of Fezzan and Sirte? To achieve this objective, arithmetic means and standard deviations were calculated for the responses of the study sample to this dimension, as shown in the following table.

Table 8 Level of Contextual Performance at Fezzan and Sirte Universities

No.	Statement	Mean	Std. Dev.	Relative Weight (%)	Level
1	I always try to solve problems in my work	4.1554	0.6029	83.11	High
2	I dedicate time to listen to others	4.0338	0.5764	80.68	High
3	I assist new employees	4.0811	0.6651	81.62	High
4	I always avoid exaggerating issues	4.1622	0.6807	83.24	High
5	I care about others' problems	3.6959	0.7618	73.92	High
6	I volunteer to improve my work	4.1149	0.6854	82.30	High
7	I adapt to organizational changes	3.9797	0.6543	79.59	High
8	I focus on positive aspects of work	4.1824	0.6065	83.65	High
9	I can perform tasks without a supervisor	3.7568	0.8541	75.14	High
10	I participate in activities	3.8784	0.7086	77.57	High
11	I avoid raising trivial problems at work	4.1554	0.8549	83.11	High
12	I empathize with others	3.9122	0.7184	78.24	High
13	I follow up on my work until results are achieved	4.2568	0.6713	85.14	Very High
14	I respect senior colleagues	4.5405	0.6103	90.81	Very High
15	I complete tasks on time	4.2568	0.6913	85.14	Very High
	<i>Overall Mean</i>	4.0775	0.4085	81.55	High

It can be noted from the data presented in Table 8 that all items within this dimension fall into the high and very high levels. This is reflected in the overall arithmetic mean, which reached (4.0775), indicating that the level of contextual performance was high. This result contrasts with what was stated in the study problem, based on official reports indicating a deficiency in contextual performance. This discrepancy may be attributed to differences in the measurement and evaluation methods used by official bodies compared to those adopted in the field study through the research instrument and respondents' answers.

Results of the Third Question: Are there statistically significant differences in the level of contextual performance attributable to the variables (gender, workplace)? To achieve this objective, an independent samples t-test (T-test) was conducted, and the results were as follows:

a) Differences by Gender

Table 9 T-test Results for Contextual Performance by Gender

Dimension	Gender	N	Mean	Std. Dev.	df	T	Sig.
Contextual Performance	Male	92	4.0732	0.4101	146	1.163	0.871 (NS)
	Female	56	4.0846	0.4093			

Table 9 shows the arithmetic means, standard deviations, and t-values to identify differences in the level of contextual performance according to gender. It is worth noting from Table 9 that the calculated t-value is smaller than the tabulated value. Additionally, the significance values are greater than the significance level (0.05). This indicates that there are no statistically significant differences in the level of contextual performance attributable to gender among the study sample.

**Interpretation:**

- The calculated T-value (1.163) is less than the critical value.
- p-value (0.871) > 0.05, indicating no statistically significant differences in contextual performance due to gender.

b) Differences by Workplace

Table 10 shows the arithmetic means, standard deviations, and t-values to identify differences in the level of contextual performance according to workplace. It can be observed from Table 10 that the calculated t-value is smaller than the tabulated value, and the significance values are greater than the significance level (0.05). This indicates that there are no statistically significant differences in the level of contextual performance attributable to workplace among the study sample.

Table 10 T-test Results for Contextual Performance by Workplace

Dimension	University	N	Mean	Std. Dev.	df	T	Sig.
Contextual Performance	Fezzan	74	4.0144	0.4243	146	1.895	0.060 (NS)
	Sirte	74	4.1405	0.3846			

Interpretation:

- The calculated T-value (1.895) is less than the critical value.
- p-value (0.060) > 0.05, indicating no statistically significant differences in contextual performance due to workplace.

Inferential Analysis

This section addresses the testing of the study hypotheses. Since the data did not follow a normal distribution, simple linear regression analysis was used to determine the effect of digital transformation on contextual performance at the Universities of Fezzan and Sirte.

Table 11 Predictive Ability of Digital Transformation Dimensions on the Level of Contextual Performance

Dependent Variable	Independent Variable	R	R ²	F	Sig.	B0	B1	Beta	T	Sig.
Contextual Performance	Digital Transformation	0.311	0.096	15.590	0.000	3.235	0.246	0.311	2.368	0.000

Simple Regression Analysis

The validity of the previous results can be further verified by conducting a simple linear regression analysis of digital transformation (with its combined dimensions) on contextual performance at the Universities of Fezzan and Sirte, as follows:

Hypothesis: There is no statistically significant effect of digital transformation on the level of contextual performance at the Universities of Fezzan and Sirte. To test this hypothesis, simple linear regression was used to determine the effect between the two variables. The results can be seen in Table 11.

To examine the effect between the level of contextual performance and the explanatory variable (digital transformation), simple linear regression was used, where digital transformation was treated as the independent variable and contextual performance as the dependent variable. The results showed that the regression model is statistically significant, as indicated by the F-value of (15.590) with a significance level



of (0.000), which is less than the significance level (0.05). This indicates that digital transformation has a limited effect on the level of contextual performance. The results also showed that the correlation coefficient was ($R = 0.311$), indicating a weak to moderate positive correlation between digital transformation and contextual performance. Furthermore, the results indicate that the explanatory variable accounts for (9.6%) of the variance in the level of contextual performance, as shown by the coefficient of determination (R^2). This means that approximately 90.4% of the variance in contextual performance is attributable to other factors beyond digital transformation. Accordingly, the null hypothesis stating that “there is no statistically significant effect of digital transformation on the level of contextual performance at the Universities of Fezzan and Sirte” is rejected.

Interpretation:

- $F = 15.590$, $p = 0.000 < 0.05$, indicating the regression model is statistically significant.
- $R = 0.311$, showing a weak to moderate positive correlation between digital transformation and contextual performance.
- $R^2 = 0.096$, meaning that digital transformation explains 9.6% of the variance in contextual performance; the remaining 90.4% is due to other factors.

V. CONCLUSION

The hypothesis stating that digital transformation has no significant effect on contextual performance is rejected. Digital transformation positively affects contextual performance, albeit to a limited extent.

Discussion and Recommendations

The findings of this study reinforce and extend prior research on the relationships between digital transformation and contextual performance. In doing so, the study provides important comparisons with previous literature. The positive relationship between digital transformation and job performance is consistent with earlier studies, such as Shwede et al. (2023). Similarly, the findings of Paola et al. (2024) indicated that organizational policy performance can improve significantly through support for digital transformation. The study by Khuc and Nguyen (2025) also demonstrated an effect of digital transformation on employee performance. Likewise, Ibrahim (2022) found a positive relationship between digital transformation and job performance, highlighting employee readiness as a mediating factor, which contributed to a deeper understanding of the link between digital transformation and performance. Furthermore, Paola et al. (2024) reported that institutions that consistently adopted digital transformation tools effectively utilized agile technologies, big data, and various technological means, benefiting 90% of employees. The findings from Ilham et al. (2026) reveal that digital transformation has a significant positive effect on both organizational agility and business performance. In addition, Yildiz et al. (2025) showed that employees' competence in understanding the meaning of work acts as a mediator between digital transformation and job performance, indicating that higher employee competence strengthens the impact of digital transformation on performance levels. Thuy et al. (2023) also confirmed that employee readiness is among the most important factors in digital transformation. Accordingly, both job performance and employee competence can be considered significantly influenced by digital technologies. Therefore, organizations should strive to develop their employees in alignment with their vision and mission through training programs. Since employee performance is vital for achieving strategic organizational goals, employee motivation appears essential for ensuring sustainability. The introduction of new digital technologies is also likely not only to change employee performance but to alter employee behavior as well.



On the other hand, Purwanto et al. (2023) found that digital transformation does not directly affect performance and that increasing digital transformation does not necessarily lead to improved performance. Serna et al. (2025) indicated that digital transformation enhances productivity and efficiency across various work domains; however, its impact varies depending on the level of digital competencies, organizational motivation, and the technological infrastructure available in each sector. Abdul et al. (2024) further emphasized the necessity of giving utmost attention to employees' digital needs during organizational digital transformation in order to ensure its success.

Based on the above discussion, it is evident that there is broad agreement among studies regarding the significant impact of digital transformation on employee performance. However, some studies concluded that digital transformation does not directly affect performance and that its impact varies according to several factors. In contrast, the findings of the present study indicate a limited effect of digital transformation on employee performance, as digital transformation was found to explain only 9.6% of the variance in contextual performance. Therefore, changes in contextual performance within Libyan universities may be attributed to other factors, such as organizational culture and job satisfaction, among others. This may also be due to the relatively low level of competence and skills among the study sample and the fear of adopting new digital tools.

A review of most previous studies highlights the important role of employee readiness in the digital transformation process, which is considered one of the most critical factors for achieving successful digital transformation and improved performance levels. Accordingly, the success of digital transformation does not begin with purchasing tools, but rather with genuine investment in human resource development and a shift in mindset toward digitalization. The low level of human resource competence in digital transformation represents a fundamental challenge, often resulting from a lack of skills, particularly technical skills, which hinders the effective utilization of modern technologies.

Based on these findings, it is recommended that the Libyan universities under study intensify investment in technology to improve performance levels and benefit from the experiences of universities that have achieved success in this field. In addition, they should focus on developing employees' skills, enhancing their technical competencies, and prioritizing training to improve their ability to use technology. It is also recommended to increase employee awareness and encourage positive attitudes toward digital transformation to strengthen readiness for digital change and improve job performance. Furthermore, digital culture among faculty members should be enhanced through continuous training on modern educational tools, the integration of technology into curricula, and the development of digital skills such as learning platforms and artificial intelligence. This would enable the creation of interactive learning environments and the transformation of traditional teaching methods into innovative digital approaches, thereby improving performance efficiency and enhancing the quality of teaching and learning.

Future Studies

Researchers are encouraged to conduct further studies to examine the impact of digital transformation on job satisfaction and the effect of artificial intelligence in enhancing contextual performance.

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