



The Effectiveness of Digital Transformation in Improving Institutional Performance in Higher Education Institutions

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Abstract

The present study aimed to shed light on the effectiveness of digital transformation in improving institutional performance in higher education institutions. The study employed the descriptive methodology by drawing on a set of books and prior studies related to the current topic. Based on this, the study reached a number of findings, the most important of which is that digital transformation represents a fundamental pillar for developing institutional performance within higher education institutions. Its impact is not limited to improving the quality of educational and administrative services, but extends to enhancing the efficiency of decision-making, raising the level of governance, and facilitating access to information, which collectively contributes to building a more effective and responsive university environment in the face of change.

The findings also showed that the success of digital transformation is linked to a set of factors, most notably: the availability of digital infrastructure, the awareness and preparedness of academic and administrative staff, leadership support, and the adoption of a culture of institutional change. Accordingly, the study recommended the following: strengthening digital infrastructure in higher education institutions by providing advanced equipment, secure high speed connectivity, and regularly updating software; and developing the digital competencies of academic and administrative staff through specialized training programmes aimed at improving their ability to use modern technologies and their applications in institutional work.

Keywords: Digital Transformation, Institutional Performance, Higher Education, Digital Infrastructure, Quality of Educational Services, Institutional Challenges, Systematic Literature Review.

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Introduction

In light of the continuous acceleration of technological advancement, digital transformation in higher education institutions has become an urgent necessity imposed by rapidly changing global variables in the fields of knowledge and education. Digital transformation refers to the use of modern digital technologies in the various dimensions of the educational and administrative process in a way that contributes to enhancing institutional efficiency, improving the quality of educational outputs, and providing a more advanced and effective learning experience.

In recent years, higher education institutions have undergone fundamental transformations as a result of this technological development, which has rendered digital transformation a core element in the development of education and its alignment with international standards (Al Umairi & Muhdar, 2025).

Higher education is considered one of the sectors most capable of benefiting from digital transformation, as it offers opportunities to facilitate access to knowledge, support self directed learning, and create flexible and interactive learning environments that contribute to developing students' skills and their ability to adapt to the changing requirements of the labour market (Abdel Moati et al., 2025). Digital transformation tools also contribute to enhancing interaction between students and faculty members, building active learning communities, and improving academic performance through diversifying teaching methods and developing educational content (Aljanazrah, 2022).

The impact of digital transformation is not confined to the educational process alone, but extends to improving the institutional performance of higher education institutions through integrating technology into academic administration, curriculum development, accelerating work procedures, and facilitating access to information, thereby supporting decision making efficiency and raising the competitive capacity of educational institutions (Abu Khreis & Muftah, 2023).

The success of this transformation requires a clear strategic vision and effective cooperation among the various stakeholders, including university administrations, faculty members and students, to ensure the achievement and sustainability of the goals of digital transformation (Al Halawani, 2024).

Accordingly, this study seeks to shed light on the effectiveness of digital transformation in improving institutional performance in higher education institutions by analysing relevant literature and prior studies, in a way that contributes to deepening the scientific understanding of this topic and clarifying its various dimensions..

Theoretical Framework

Digital Transformation

Digital transformation in higher education institutions constitutes a vital means of responding to rapid changes in the knowledge environment and modern technologies. This transformation requires the continuous development of digital infrastructure, including updating technological systems and implementing advanced digital tools to support educational and administrative processes.

The effectiveness of this transformation depends on the institution's ability to adopt modern technological tools, train its staff in their optimal use, and establish policies and procedures that enable rapid adaptation to digital developments (Mousa, 2025).

Digital transformation improves institutional performance by enhancing operational efficiency, providing more flexible educational resources, and facilitating communication between students, faculty members, and administration, thus improving the quality and effectiveness of education (Makhlouf, 2022).

The use of technologies such as elearning and artificial intelligence also enables the customization of learning experiences to meet the specific needs of each student, leading to higher levels of academic performance and more effective achievement of learning outcomes. Moreover, digital transformation facilitates continuous evaluation and monitoring of institutional performance through performance measurement and analytics tools that support data driven strategic decisionmaking (AlKarki, 2022).

By investing resources in developing staff competencies and creating an appropriate digital environment, higher education institutions can enhance their position and achieve their vision of providing high quality higher education that keeps pace with the requirements of the digital age. This, in turn, strengthens their ability to compete and continually evolve, making digital transformation a fundamental pillar for achieving effective institutional performance and excellence in higher education.

The Importance of Digital Transformation

Digital transformation is of critical importance in improving the effectiveness of institutional performance in higher education institutions, as it aims to modernise their methods and curricula to meet the demands of the digital age.

This transformation represents a starting point for improving operational efficiency and providing a more interactive and flexible learning environment, thereby enhancing education quality and meeting the needs of students and faculty members more effectively. Through the application of digital technologies, institutions can overcome traditional constraints and improve their capacity to deliver diverse and easily accessible educational content, while enabling more accurate and transparent performance evaluation (AlHarbi & AlRabghi, 2025).

Digital transformation also contributes to better resource management and cost reduction, and facilitates decisionmaking by providing accurate data and analytics that help identify strengths and weaknesses and take corrective measures in a timely manner. Furthermore, digital transformation enables the expansion of access to education to larger numbers of students, improves opportunities for distance and blended learning, and creates a flexible environment that adapts to the pace of technological progress and meets the needs of the modern labour market.

This underscores the importance of investing in modern digital infrastructure and developing human capital as two essential elements for the success of digital transformation processes (Amal & Hashim, 2022).

Overall, the effectiveness achieved through digital transformation improves curricula and teaching methods, enhances the global competitiveness of educational institutions,

and prepares them to face future challenges with flexibility and innovation. This strengthens their status and their ability to achieve their academic mission with high efficiency.

Digital Transformation Strategies

Digital transformation strategies are a fundamental pillar in improving institutional performance in higher education institutions. These strategies require a comprehensive approach that includes the development and updating of digital infrastructure and the use of modern technological tools.

This begins with upgrading networks and technical infrastructure to ensure the efficient operation of digital applications and services, while guaranteeing data security and rapid response. Training human resources is also of critical importance, as developing the skills of educational institution staff in modern technologies is an essential means for improving their ability to manage digital transformation tools efficiently, which is positively reflected in overall institutional performance (Sultan & Hashim, 2022).

The implementation of digital transformation strategies is not confined to technical aspects; it also requires the adoption of an organisational culture that believes in the importance of innovation and continuous improvement, and encourages the formulation of effective policies that foster digital innovation and motivate employees to participate positively in new technological changes (Mahmoud, 2024).

In addition, digital transformation requires the development of clear plans for a future vision and the precise definition of objectives to ensure the achievement of desired outcomes, with the provision of necessary support for change initiatives and the management of resistance to change within institutions (Mayada, Abdullah & Salah, 2024).

Thus, the coordinated and well-designed application of digital transformation strategies contributes significantly to raising performance levels and improving the quality of education and services provided. It also enables institutions to adapt to global changes, making them more flexible and sustainable in the everchanging environment of higher education.

Success Factors of Digital Transformation in the University Environment

The world is witnessing a radical transformation in the methods of delivering education and managing academic institutions as a result of rapid digital developments affecting all sectors, especially higher education. In this context, digital transformation is no longer a mere technical option, but has become a prerequisite for achieving efficiency and institutional excellence.

Experiences of many universities worldwide have demonstrated that the success of digital transformation depends heavily on several key factors, starting with the presence of supportive institutional leadership. It is therefore important to highlight the most prominent of these factors due to their pivotal role in ensuring the sustainability of digital success in the university environment, which include:

- 1- **Leadership and Institutional Support:** Support from senior management is a crucial factor for the success of digital transformation, whether through adopting a clear vision or allocating necessary resources. Enlightened leadership faci-

tates the process of change and creates an environment conducive to innovation (AlKahtani & Ahmed, 2023).

- 2- **Availability of Technical Infrastructure:** This includes robust Internet networks, advanced information management systems, and highperformance computers and servers (UNESCO, 2022).
- 3- **Training of Human Resources:** Training faculty members and administrative staff on the use of digital tools is essential for effective implementation (AlHarthy, 2021).
- 4- **An Organisational Culture that Supports Change:** Establishing a flexible and open organisational culture improves the chances of adopting digital transformation (Bawaneh et al., 2020).
- 5- **Integration of Technology into Educational and Institutional Policies and Strategies:** The success of digital transformation is linked to integrating technology into academic and administrative plans, rather than its random or isolated use (OECD, 2021).

Failure Factors of Digital Transformation in the University Environment

Despite the strong momentum surrounding digital transformation projects in higher education institutions, reality reveals a wide gap between theoretical ambitions and practical application. Many universities – especially in developing countries – still struggle to achieve tangible results from the implementation of digital solutions, which raises pressing questions about the underlying reasons for this failure.

This is often due to a set of structural, cultural, and managerial challenges, such as the absence of strategic planning, resistance to change, and a lack of technical competencies. Among these factors are:

- 1- **Lack of Vision and Strategic Planning:** The absence of a clear digital transformation plan leads to implementation difficulties and conflicting objectives (Alshahrani & Ally, 2022).
- 2- **Resistance to Change by Individuals or Departments:** Rejection or reluctance to adopt digital technologies constitutes a major obstacle to successful transformation (Dwivedi et al., 2020).
- 3- **Insufficient Funding and Financial Support:** Limited budgets constrain the development of infrastructure or staff training (World Bank, 2023).
- 4- **Weak Integration between Digital Systems:** Institutions may fail to link different technological systems (e.g., student information systems with financial systems), leading to duplication of work or complicated procedures (AlMalki & Abdulkarim, 2022).
- 5- **Overemphasis on the Technical Dimension and Neglect of the Human Dimension:** Excessive focus on technology without corresponding attention to changes in organisational behaviour and management thinking leads to weak real impact of transformation (Eynon, 2021).

Accordingly, it becomes clear that digital transformation in the university environment is a strategic trajectory that cannot be ignored, especially in light of accelerating global changes and the growing reliance on technology in all aspects of life. Literature indicates that the factors of success and failure in this context do not stem from technology itself, but from the way this transformative process is managed within the institution.

On the one hand, genuine success in digital transformation is not achieved merely by purchasing systems or launching electronic platforms, but by integrating these tools within a clear institutional vision supported by enlightened leadership and an organisational culture open to change. Investment in staff training and longterm strategic planning are the primary drivers of this transformation. Institutions that view digital transformation as a means of improving quality and expanding access to knowledge are more capable of adaptation and innovation.

On the other hand, the greatest obstacle to digital transformation in universities is not just a lack of resources, but the “mental resistance to change”, which may arise from traditional administrations or faculty members unwilling to abandon conventional methods. Weak integration between digital systems and the absence of continuous evaluation of the effectiveness of digital applications also contribute to declining performance rather than its improvement.

In sum, digital transformation in universities is not simply a technical option, but a comprehensive cultural shift that requires rethinking management, teaching, and academic interaction models. Its success depends on the institution’s ability to balance technological infrastructure, human development, and smart governance.

The Impact of Digital Transformation on the Quality of Educational and Administrative Services

Digital transformation is one of the main factors contributing to the transformation of higher education institutions today. It is no longer merely a technical option, but a strategic necessity imposed by the need to improve the efficiency of academic and administrative services. Digital technologies such as Learning Management Systems (LMS) and egovernment platforms have driven the development of work mechanisms within universities by improving operational efficiency, facilitating access to data, and increasing transparency in procedures.

A study by Alshahrani (2023) indicated that the digitisation of administrative services helped reduce the time required to complete transactions, which in turn increased customer satisfaction, including students and staff, as a result of the shift to automation and the provision of digital services. Another study by AbuShanab and Haider (2024) revealed a clear positive relationship between institutions’ readiness for digital transformation and the improvement of overall performance. Universities that developed their digital infrastructure were better able to respond to challenges, particularly during crises such as the COVID19 pandemic, which enabled them to continue delivering their educational and administrative services efficiently.

Similarly, Salem (2021), in a study conducted on Egyptian universities, confirmed that the adoption of elearning tools contributed to improving the quality of education

by enhancing interaction and facilitating access to academic content. Students and faculty expressed satisfaction with this approach, especially in relation to self-directed study and the variety of assessment tools.

With regard to productivity, Kettunen (2020) analysed the role of digital transformation in improving the efficiency of managing educational programmes, particularly through the use of big data analytics tools. This enabled institutions to develop curricula and make more accurate and effective educational decisions.

From an administrative perspective, AlHalabi (2022) found that the transition to emangement systems helped universities reduce costs, simplify procedures, and achieve effective governance. This, in turn, improved the institution's image and strengthened public trust in it.

In light of the above, digital transformation can be regarded as a fundamental pillar for improving the quality of performance within higher education institutions at both academic and administrative levels, and for enhancing their ability to compete and adapt to rapid changes in the contemporary educational environment.

Challenges Facing Higher Education Institutions in Adopting Digital Transformation at the Institutional Level

Higher education institutions in the Arab world are increasingly attempting to adopt digital transformation as a strategic option to keep pace with global developments in the field of education. However, these institutions face a range of challenges that hinder this transformation.

Foremost among these challenges is weak technological infrastructure, as many universities still suffer from slow Internet networks, outdated technical equipment, and weak data management systems, all of which negatively affect digitisation processes and their sustainability (AlNasser, 2022).

The absence of a clear and comprehensive digital strategic vision is another fundamental constraint, as many decisionmakers lack integrated conceptions of how to activate digital transformation across the institution as a whole, rather than in isolated academic or administrative areas (AlKhalifi, 2024).

Furthermore, institutions experience internal resistance to change resulting from a traditional organisational culture that fears modernisation or views it as a threat to existing roles and functions, especially in the context of insufficient training and lack of adequate digital skills (AlJaafari, 2023). Financial constraints and weak funding also significantly affect the implementation of digital transformation projects, particularly in public universities that depend on limited or conditional budgets, thus restricting their ability to modernise systems, train staff and acquire advanced software.

Additional challenges relate to the shortage of specialised technical and managerial competencies; the presence of an administrative team capable of managing and steering digital transformation according to a longterm, systematic vision remains weak in many cases. Universities also face challenges in change management and continuous

professional development of teaching staff, as digital transformation requires ongoing training to ensure that performance aligns with new technical requirements.

Moreover, there is often a low level of digital awareness among students themselves, which necessitates digital awareness and literacy campaigns to create a participatory learning environment based on modern technological tools.

Institutional Performance

Institutional performance is a form of work carried out within a system, and of cooperation among people to accomplish a specific objective. It is a necessity for survival and the continuity of existence. Institutional performance is defined as “an integrated system reflecting the outcomes of an organisation’s activities in light of its interaction with the elements of its internal and external environment,” and includes three dimensions (AlDajani, 2010):

- 1- The performance of individuals within their organisational units.
- 2- The performance of organisational units within the framework of the institution’s general policies.
- 3- The performance of the organisation within its economic, social and cultural environment.

Institutional performance is measured by assessing individual performance using a set of indicators through which performance is evaluated. There are several approaches to measuring individual performance; one of the most recent involves comparing individual performance against the objectives expected of and agreed upon with the individual, and determining whether his or her behaviour aligns with those objectives, leading to a clear identification of what has been achieved (AlMadhoun, 2014).

The importance of institutional work lies in its ability to move work from individuality to collectivity, from spontaneity to planning, from ambiguity to clarity, from limited resources to multiple resources, from limited impact to wide impact, and from a customary status to legal legitimacy (AlDajani, 2010).

The researcher notes that institutional performance reflects the forms and patterns of work within the organisation, and is measured by comparing individual performance with the objectives expected and agreed upon. It moves work from an informal, spontaneous state to an organised one.

The Organisation and Institutional Performance

Institutional work is a form of cooperation and participation among people; however, institutional work today is no longer optional but has become necessary for survival, maintaining existence, competition and achieving excellence. It can even be said that individual work has almost ceased to exist in contemporary settings.

From this, the nature of the relationship between the organisation and institutional performance can be inferred. The organisation is the framework or social system and the rational coordinating structure for the activities of a group of people connected by interrelated and overlapping relationships who seek to achieve common goals and

are organised by a specific structure into different administrative units. Through the organisation, work moves from an individual to a collective form, from spontaneity to planning, from ambiguity to clarity, from limited resources to multiplicity of resources, and from limited impact to broad impact (AlMadhoun, 2014).

The researcher observes that all institutions pay close attention to institutional performance, as it reflects a positive image of the institution in the local community and in the face of competing institutions. Through institutional performance, the organisation gains a competitive advantage in its field of operation.

Analysis of Institutional Performance

Analysing institutional performance is fundamental for improving the effectiveness of higher education institutions and achieving their strategic objectives.

Assessing performance requires determining the extent to which the institution achieves its goals and enhances its competitive capabilities in a changing and evolving environment. This is accomplished by adopting key performance indicators that reflect progress in multiple areas, such as the quality of education, student satisfaction, and resource efficiency. Performance measurement relies on objective and transparent evaluation tools, including periodic reports, satisfaction surveys, and digital data analytics generated by intelligent systems (Nasr et al., 2023).

The use of modern measurement tools helps provide accurate insights that enable the identification of strengths and their reinforcement, as well as identifying areas of weakness and taking appropriate corrective measures. Educational institutions conduct continuous analysis of their performance through periodic reviews, enabling them to adapt and respond quickly to new challenges and to support decisionmaking based on reliable data (AlHalawani, 2024).

Performance analysis also contributes to determining the effectiveness of implementing digital strategies and strengthens institutions' ability to achieve operational efficiency and high levels of academic and administrative performance (Sultan & Hashim, 2022).

Based on performance analysis results, sustainable development plans can be formulated that focus on improving quality and continuously developing institutional performance, thereby enhancing the status of educational institutions in society and keeping pace with contemporary developments in the digital field.

Key Performance Indicators

Key Performance Indicators (KPIs) are an essential tool for measuring the effectiveness of digital transformation in improving institutional performance in higher education institutions.

These indicators encompass quantitative and qualitative criteria that allow the assessment of the extent to which predetermined objectives have been achieved, the identification of strengths and weaknesses, and the effective steering of future strategies. Among the most prominent performance indicators used in this context are: the

rate of deployment and use of digital transformation technologies; the degree of satisfaction among students and faculty members with the digital services provided; the extent of improved operational efficiency and cost reduction; and the enhancement of teaching and learning quality through reliance on modern tools and technologies (AbdelAal, 2022).

Other indicators include student success and graduation rates, innovation in educational programme offerings, the degree to which institutional strategic goals are achieved, and the level of integration among the institution's different digital systems. Performance evaluation relies on the periodic collection and analysis of data using effective measurement tools such as surveys and digital reports to monitor progress and the attainment of desired results.

Key Performance Indicators are a true mirror of the effectiveness of digital transformation in strengthening the institution's capabilities, developing its educational and administrative environment, and achieving high levels of sustainability and flexibility that enable it to compete and survive in a rapidly changing environment (Al-Omari, 2023).

The continuous definition and adjustment of these indicators contribute to comprehensive performance improvement and enhance institutions' ability to adapt to technological developments and market changes while ensuring adherence to the highest standards of quality and excellence (Sultan & Hashim, 2022).

Thus, ongoing evaluation and improvement based on key performance indicators enables institutions to stay on the path of innovation and development, and to provide a stimulating learning environment that raises performance levels and achieves strategic objectives in an effective and holistic manner.

Digital transformation is one of the fundamental factors contributing to enhancing institutional performance efficiency within higher education institutions by developing technological infrastructure and facilitating administrative and academic workflows.

Almuraqab et al. (2022) showed that the adoption of digital technologies in universities improves internal coordination, accelerates decisionmaking, and provides more effective electronic services for both students and employees. In another study, AbuShanab and AlTarawneh (2023) demonstrated that implementing digital transformation positively affects the quality of education and services provided, provided it takes place within a clear strategic framework that includes capacitybuilding for human resources and the provision of necessary institutional support.

Thus, the effectiveness of digital transformation cannot be separated from the organisational readiness of the institution and its ability to manage change and adopt modern tools with flexibility and efficiency.

Review of Previous Studies

Arab Studies

Bahach (2024) confirmed the pivotal role of digital transformation in modernising Algerian higher education institutions through the introduction of digital platforms

such as Progress, ASJP, SNDL and PNST, which contributed to improving the quality of the educational process, the level of scientific research, and the pedagogical performance of faculty members.

Baghdadi (2024) focused on the reality of digital transformation in Palestinian universities and its relationship with sustainable development, using a mixed-method approach (a questionnaire administered to 342 academics and interviews with 6 administrators in three universities). The study showed a high level of both digital reality and sustainable development, with a strong correlation between them and statistically significant differences according to academic rank, qualification and digital training.

Hafidhi (2023) addressed the importance of digitisation for the quality of higher education in Algerian universities, using the descriptive analytical method to review the impact of information technology on productivity at multiple levels, while pointing out research problems in the Arab world such as lack of funding and weak infrastructure.

Fannour & Cheheb (2023) highlighted forms of digitisation in higher education in Algeria and the challenges of distance education, relying on the descriptive analytical method. They confirmed the contribution of platforms such as Moodle and Zoom to improving academic performance, alongside challenges such as poor infrastructure and difficulties of adaptation.

Shreer (2023) revealed a “high” level of digital transformation in public higher education institutions in southern governorates of Palestine from the perspective of faculty members (sample of 123), with no statistically significant differences attributable to gender, experience or academic rank.

Foreign Studies

Aljanazrah et al. (2022) examined the challenges of digital transformation during crises (such as COVID19) from students’ and faculty members’ perspectives, focusing on weak infrastructure and readiness for online education.

Avdeeva et al. (2022) explored digital literacy among students in the context of digital transformation, noting a strong relationship between outofschool digital competence and weak performance within school.

Karimova (2022) proposed a model for developing functional reading skills while taking regional specificities into account in the context of digital transformation, highlighting the need to raise digital skills.

Commentary on Previous Studies and the Research Gap

The review of previous studies (Arab and foreign) shows a general consensus on the importance of digital transformation as a strategic option for improving the quality of higher education and institutional performance, with a common focus on the role of digital infrastructure as a critical success factor and the contribution of digital transformation to enhancing the skills of students and faculty (Bahach, 2024; Aljanazrah et al., 2022; Karimova, 2022). Arab studies highlighted local challenges such as weak infrastructure and funding shortages (Hafidhi, 2023; Fannour & Cheheb, 2023), while foreign studies emphasised digital competencies and cultural/human aspects (Avdeeva et al., 2022).

Main similarities:

- Predominant reliance on the descriptive/analytical method.
- Emphasis on success factors (leadership, training, organisational culture) and challenges (resistance, lack of resources).

Differences:

- Arab studies focus on local contexts (Algeria and Palestine) and infrastructure and policy challenges.
- Foreign studies discuss individual competencies and wider global effects.

Research Gap:

Despite the richness of existing studies, most lack a comprehensive systematic review that combines the Arab and international contexts and critically analyses “effectiveness” in an integrated manner (studies are largely descriptive or casebased). They also do not offer a critical synthesis that identifies common factors across contexts and proposes operational recommendations tailored to the Arab setting.

Distinctiveness of the Current Study:

The present study adopts a systematic literature review (2019–2025) drawing on Arabic and foreign sources, with indepth critical analysis to extract influencing factors, gaps, and operational recommendations for Arab higher education institutions. This helps bridge part of the gap in understanding the comprehensive and sustainable effectiveness of digital transformation.

Problem Statement and Research Questions

Digital transformation is a vital element in improving the quality of open education in higher education institutions, as it contributes to providing flexible and inclusive learning environments through modern technology, as indicated by Bahach (2024). Digital education facilitates easy access to educational resources and provides personalised learning experiences that match the varied needs of learners. Through digital transformation strategies, higher education institutions can develop innovative and interactive curricula, thus enhancing learning quality and educational effectiveness, as shown in Hafidhi’s (2023) study.

In light of the rapid development in information and communication technologies, higher education institutions are increasingly required to keep pace with digital transformation and employ it in various aspects of academic and administrative work. Despite efforts made in this context, many institutions still face challenges in activating digital transformation in ways that positively reflect on their institutional performance, whether in terms of operational efficiency, service quality, or decisionmaking capacity.

Accordingly, the main research problem can be expressed in the following overarching question:

What is the effectiveness of digital transformation in improving institutional performance in higher education institutions?

From this main question, the following subquestions emerge:

- 1- What factors contribute to the success or failure of digital transformation in the university environment?
- 2- To what extent does digital transformation reflect on the quality of educational and administrative services?
- 3- How does digital transformation affect decisionmaking efficiency within higher education institutions?
- 4- What challenges do higher education institutions face in adopting digital transformation at the institutional level?

Research Objectives

This study aims to identify the following:

- 1- The effectiveness of digital transformation in improving institutional performance in higher education institutions.
- 2- The factors that contribute to the success or failure of digital transformation in the university environment.
- 3- The extent to which digital transformation is reflected in the quality of educational and administrative services.
- 4- The impact of digital transformation on decisionmaking efficiency within higher education institutions.
- 5- The challenges that higher education institutions face in adopting digital transformation at the institutional level.

Methodology

The current study employed the **analytical critical method** through conducting a **Systematic Literature Review (SLR)** of scientific literature related to digital transformation and its impact on improving institutional performance in higher education institutions.

Data sources consisted of refereed Arabic and foreign studies and research, in order to ensure recency of content and its relevance to contemporary digital developments.

The following criteria were used for selecting studies:

- Direct relevance of the study to digital transformation or institutional performance.
- Clarity of the scientific methodology used.
- Publication in peerreviewed scientific journals or credible bodies.

The content of the selected studies was subjected to critical and comparative analysis with the aim of extracting general trends, identifying factors influencing the effectiveness of digital transformation, and revealing areas of convergence, divergence and research gaps, ultimately building an analytical framework that supports the findings of the present study.

Significance of the Study

The significance of this study lies in the fact that it addresses one of the modern innovations-digital transformation-and links it with one of the key organisational variables, namely the improvement of open education, which in turn positively affects the educational process and institutional performance.

This study is also among the few that have examined the relationship between digital transformation and institutional performance, thus enriching the Arabic library with an additional contribution on relatively recent topics. Furthermore, the study will provide a set of recommendations that benefit university administrators in changing some teaching methods in ways that ensure a high level of educational proficiency.

Definitions of Key Terms

Digital Transformation:

“The process of transitioning from traditional education to a gradual shift that relies on educational technologies and artificial intelligence applications to achieve educational goals” (AlUmairi & Muhdar, 2025, p. 20).

Institutional Performance:

Measured by the degree of efficiency and effectiveness with which an institution achieves its objectives. It includes service quality, human resource efficiency, communication effectiveness, beneficiary satisfaction, and the institution’s ability to adapt to change. Educational institutions are complex environments that require precise performance indicators linked to governance, scientific research and education quality (Hamza, 2021).

Discussion of Findings

In light of the study’s findings, it is evident that digital transformation is not merely a supportive technical tool in higher education institutions, but a comprehensive strategic framework that contributes to reshaping institutional performance in all its dimensions.

The results showed that the effectiveness of digital transformation is closely linked to the availability of appropriate digital infrastructure, the presence of academic and administrative staff who are aware of their digital roles, and leadership support that provides an organisational environment conducive to change. This reflects what recent literature has indicated: that the success of digital transformation requires the convergence of technical, human and organisational factors.

The results also revealed that digital transformation contributes to improving the quality of educational and administrative services by increasing operational efficiency, reducing routine procedures, and enhancing the speed and accuracy of transaction completion, which positively affects beneficiary satisfaction within the institution. This positive effect can be explained by the ability of digital systems to organise data and facilitate access to it, thereby supporting the continuity of institutional work and reducing time and resource wastage.

The findings further demonstrated that digital transformation plays a pivotal role in enhancing decisionmaking efficiency by providing accurate and upto date data, as well as analytical tools that contribute to interpreting institutional performance indicators in a more objective manner. This aspect is one of the most important dimensions of digital transformation, as it shifts administrative decisions from being based primarily on personal experience to being grounded in data, in line with global trends in the management of higher education institutions.

Despite these positive effects, the study also uncovered a set of challenges that limit the full realisation of the benefits of digital transformation. These include inadequate funding for digital infrastructure, limited qualified staff, organisational resistance to change, and disparities in digital readiness among higher education institutions. These challenges indicate that digital transformation cannot succeed without longterm strategic planning, human empowerment, and the adoption of an organisational culture supportive of change.

The study concluded that digital transformation is one of the decisive factors in improving institutional performance in higher education institutions, not only by developing educational and administrative services, but also by achieving a qualitative shift in work methods, decisionmaking mechanisms, and the level of institutional governance. It showed that the effectiveness of this transformation depends on the degree of integration between digital infrastructure, qualified human resources, leadership support, and a culture of change.

The study also highlighted that, although the challenges facing digital transformation are numerous, they do not diminish its importance; rather, they underscore the need for holistic strategies that ensure its sustainability and its adaptation to future changes. Thus, digital transformation should not be viewed as a temporary technical project, but as a longterm strategic trajectory requiring continuous review of institutional policies and practices.

Recommendations

In light of the findings, the study recommends the following:

1- Allocating Dedicated Budgets for Digital Transformation

Allocate independent financial budgets for digital transformation within higher education institutions, directed specifically towards developing and continuously maintaining digital infrastructure.

2- Designing Mandatory Digital Training Programmes

Develop mandatory digital training programmes for faculty members and administrative staff, based on actual needs and with periodic evaluation of their outcomes.

3- Strengthening the Role of University Leadership

Enhance the role of university leadership in steering digital transformation through the adoption of digital leadership models and linking digital transformation to institutional performance indicators.

4- **Developing Clear Digital Policies and Strategies**

Prepare clear digital policies and strategies that include phased goals, performance indicators and risk management plans related to digital transformation.

5- **System Integration and Data Interoperability**

Standardise and integrate digital systems within the institution to reduce duplication, enhance efficiency of data exchange, and support institutional decisionmaking.

Suggestions for Future Research

- 1- Conduct a comparative study between public and private higher education institutions in Palestine to measure the level of digital readiness and its impact on institutional performance.
- 2- Examine the impact of digital transformation on student and faculty satisfaction with the quality of educational and administrative services.
- 3- Investigate the relationship between digital leadership and the success of institutional transformation in higher education institutions.
- 4- Conduct quantitative or qualitative field studies to measure the effectiveness of digital transformation using specific performance indicators.

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