

The Effect of Change Management on the Success of Implementing Digital Transformation at the University of Constantine 2

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Abstract

This study aimed to demonstrate the impact of change management through its dimensions (administrative dimension, technical dimension, human dimension) as an independent variable on the success of digital transformation implementation as a dependent variable, applied to a sample of 100 employees and professors at Constantine University 02. In order to describe and analyse the data related to the study, a set of statistical tools such as means, standard deviations, and multiple linear regression analysis were used to test the main hypothesis and the sub-hypotheses (accept/reject), using the Statistical Package for the Social Sciences (SPSS).

The study concluded that both the technical dimension and the human dimension have an impact on the success of digital transformation implementation, while no statistically significant impact of the administrative dimension on the success of digital transformation was observed. The study also concluded that there is an impact of change management in its various dimensions on the success of digital transformation implementation at the university under study.

Article info

Received

05/02/2026

Accepted

31/03/2026

Keyword:

- ✓ Change management
- ✓ Digital transformation
- ✓ Administrative dimension
- ✓ Technical dimension
- ✓ Human dimension

1. Introduction

In recent years, the higher education sector has witnessed fundamental transformations driven by rapid advancements in information and communication technology. Digital transformation has become a strategic direction aimed at reshaping the university's educational, research, and administrative functions. This transformation is no longer limited to the introduction of modern digital tools; rather, it represents a comprehensive institutional change process affecting infrastructure, organizational culture, teaching and learning methods, and leadership and management styles within the university (Twabu, 2025). This trend reflects universities' pursuit of building more flexible and innovative learning environments capable of responding to the demands of the knowledge society.

Recent literature indicates that digital transformation in higher education is a process of comprehensive redesign of operational and cultural models within an institution by integrating digital technologies into its various activities, with the aim of improving efficiency and creating added value (Vial, 2019). However, the success of this transformation is not solely dependent on the availability of technology, but rather largely on the institution's ability to create an integrated digital environment that supports the actual use of technology in the daily practices of faculty and staff, while developing their digital skills and fostering an organizational culture that supports innovation (Sun & Yoon, 2025).

In this context, numerous studies confirm that human and organizational factors are crucial to the success of digital transformation initiatives within universities. Technology adoption is influenced by individuals' acceptance of it, their confidence in their ability to use it, the extent to which they receive appropriate support and training, and the clarity of the strategic vision and support from senior management (Sun & Yoon, 2025). Universities, particularly in developing countries, also face multiple challenges in their digital transformation journey, including resistance to change, weak digital skills, and a lack of integrated digital strategies (Hassan , 2021).

This highlights the crucial role of change management in supporting digital transformation. It is a structured methodology designed to prepare individuals, teams, and organizations for the transition from their current state to a more advanced future state through planning, communication, participation, and minimizing resistance to change (Phillips & Klein , 2023). Research has shown that a significant percentage of digital transformation projects falter or fail due to neglect of organizational and human aspects. This makes effective change management a critical factor in preparing the organizational culture to embrace and adopt digital innovations (Al Maazmi , Piya, & Araci, 2024). Furthermore, the absence of effective change management can reduce digital transformation projects to mere superficial technological updates with no real impact on practices or the quality of university performance (Twabu, 2025).

In this context, Constantine 2 University stands out as a case study reflecting the trend among Algerian universities towards modernizing their educational and administrative processes in light of digital transformation. Accordingly, this research seeks to explore the impact of change management on the successful implementation of the digital transformation concept at the university, through a field study on a sample of staff and faculty members, as they are the key players in realizing this transformation.

1.1 Problem Statement

Despite efforts to adopt digital transformation at Constantine 2 University, a gap exists between the availability of digital infrastructure and technologies, on the one hand, and the ability to effectively utilize and sustain them, on the other. Preliminary observations indicate challenges related to acceptance of change, inadequate training, and weak engagement in transformation processes. This raises a key question about the human and organizational factors that may hinder or facilitate this transformation.

From the above, the research problem can be formulated through the following main question:

To what extent does change management affect the success of implementing digital transformation at the University of Constantine 2?

1.2 Study Objectives

- Analysis and evaluation of the overall impact of change management on the success of digital transformation implementation at Constantine 2 University.
- Measuring the impact of the administrative dimension of change management (represented by organised planning, clarification, support, follow-up, and evaluation) on the success of digital transformation implementation at the university.
- Evaluating the role of the technical aspect of change management (represented by updating work methods, providing resources and tools, considering organisational aspects, offering guidance, and testing new methods) in driving digital transformation and achieving its goals.
- Examining the impact of the human dimension of change management (represented by employee engagement, providing training, enhancing acceptance of change, addressing their concerns, and fostering collaboration) on the successful adoption and implementation of digital transformation initiatives.

1.3 Study Hypotheses

To answer the main question, we formulated the following hypothesis:

Change management affects the success of implementing digital transformation at the University of Constantine 2.

Based on this hypothesis, the following sub-hypotheses can be formulated:

- H1: The administrative dimension has a statistically significant impact on the successful implementation of digital transformation at the University of Constantine 2.
- H2 : The technical dimension has a statistically significant impact on the successful implementation of digital transformation at the University of Constantine 2.
- H3: The human dimension has a statistically significant impact on the successful implementation of digital transformation at the University of Constantine 2.

2. Literature Review

2.1 Digital Transformation

Digital transformation is a central focus in modern studies on the development of higher education institutions. It is viewed not merely as the adoption of technology, but as a strategic process aimed at a comprehensive transformation of academic and administrative systems within the university. According to the literature, digital transformation in higher education institutions is defined as the process of integrating digital technology into educational and administrative activities to improve institutional performance, enhance the quality of education, and achieve greater effectiveness and responsiveness to the needs of a changing digital society. It has been emphasized that digital transformation involves comprehensive strategies encompassing organization, processes, and digital technologies, and is not simply a matter of technological adoption (Benavides, Arango Serna , Tamayo Arias, Branch Bedoya, & Burgos, 2020) ; (Vial, 2019).

Studies show that digital transformation in higher education is based on several key elements, including digital infrastructure, an organizational culture that supports the effective use of information technology, and the development of digital skills for both faculty and students. Digital transformation is also linked to improved integration between digital technologies and traditional educational processes, contributing to a more interactive and innovative learning environment (Latif, Ashfaq, & Abbas, 2025).

Multiple applied studies have found that digital transformation positively impacts the quality of educational services and academic performance, contributing to improved student and faculty engagement with educational content and increased flexibility in the learning process (Dhawan, 2020). Similarly, digital transformation is viewed as a strategic approach to redesigning institutional processes and business models by integrating digital technologies, thereby enhancing efficiency and fostering sustainable competitiveness for organizations (Verhoef, Broekhuizen, & Bart, 2021).

The literature also confirms that digital transformation requires alignment between technology, strategy, and human resources. The true impact of digital technologies is only realized when they are integrated into organizational structures, corporate culture, and daily

work practices (Westerman, Bonnet, & McAfee, 2014). In this context, the ability of organizations to achieve a balance between improving their existing processes and exploring new digital opportunities becomes crucial. This is linked to the concept of digital duality, which enables organizations to combine operational efficiency and innovation simultaneously (Verhoef, Broekhuizen, & Bart, 2021)

In higher education institutions, this transformation is manifested in the development of flexible educational models, the use of digital learning platforms, and the enhancement of online interaction between students and faculty members, all of which contribute to improving the learning experience and the quality of educational outcomes. Digital transformation is viewed here as an ongoing institutional learning process that requires developing digital skills, reshaping organizational culture, and creating a supportive environment for innovation to ensure its sustainable impact on institutional performance. (Kane, Palmer, Phillips, Kiron, & Buckley, 2015).

Furthermore, digital transformation is a strategic factor for developing university services and improving the student and user experience, and is seen as one of the means by which universities can remain competitive in the context of globalization and the changing needs of the labour market. (Vial, 2019) (Benavides, Arango Serna, Tamayo Arias, Branch Bedoya, & Burgos, 2020).

Based on the above, it can be said that digital transformation in higher education institutions goes beyond simple technological use to an integrated process that affects organizational, educational, and cultural dimensions, making it a central variable in quality studies and institutional development.

2.2 Change Management

Change management is a fundamental concept in contemporary management thought, especially in organizational environments undergoing rapid transformations due to technological advancements and increasing competition. Change management is viewed as a structured process aimed at transitioning an organization from its current state to a more efficient and effective future state through planning, implementing, and monitoring change, while focusing on the accompanying human and organizational aspects (Burnes, 2004). Change is not limited to introducing new systems or structures; it also includes modifying values, behaviours, and organizational culture to ensure the sustainability of the transformation.

The literature confirms that the success of change initiatives depends largely on a clear vision and effective leadership. Leadership plays a pivotal role in guiding individuals toward accepting change and reducing their resistance to it by building a shared sense of the necessity of change and providing ongoing support to employees (Twabu, 2025). Effective communication is also a cornerstone of change management, as it helps clarify the goals,

rationale, and steps of the change, and reduces ambiguity and anxiety among employees . (Armenakis & Bedeian, 1999).

Furthermore, studies indicate that resistance to change is a natural response in individuals, often linked to a fear of instability or a perceived lack of competence in dealing with the new situation. This necessitates the adoption of supportive strategies such as training, participation, and motivation to foster acceptance of change (Oreg, Vakola, & Armenakis, 2011). From this perspective, capacity building and employee skills development are considered fundamental dimensions of change management, as they contribute to increased confidence in the ability to adapt to new requirements and strengthen commitment to change (Twabu, 2025)

Modern literature on the concept of change management has expanded to include leading complex transformations related to technology and digital transformation . It is considered a strategic process that addresses the interaction between human, organizational, and technological aspects within an organization. In this context, effective change management relies on transformational leadership, transparent communication, stakeholder engagement, and aligning organizational culture with the requirements of change. These factors enhance individual readiness and increase the likelihood of success for strategic initiatives (Twabu, 2025) . Furthermore, the gap between prevailing organizational values and the requirements of the new situation is a major reason for the failure of change efforts, highlighting the importance of the cultural dimension in managing transformations (Burnes, 2004).

Theoretically, classical change management models have provided explanatory and practical frameworks that remain relevant in contemporary environments. Lewin's model outlines three essential stages for successful change: preparing the organization for change, implementing the change, and then establishing new practices to ensure their sustainability. Meanwhile, ADKAR's model focuses on change at the individual level through building awareness, desire, knowledge, capability, and empowerment, reflecting the importance of the human dimension in the success of organizational transformations (Burnes, 2004). Kotter's model also highlights the pivotal role of leadership in creating a sense of urgency, building a coalition that supports change, and embedding new practices within the organizational culture (Twabu, 2025)

At the practical level, contemporary research indicates that change management is a crucial factor in the success of organizational modernization initiatives. It contributes to reducing employee resistance, enhancing their engagement, and improving the alignment of processes and structures with new strategic objectives. Furthermore, organizations that adopt systematic change management practices are better positioned to achieve sustainable results in development and transformation projects, given their reliance on continuous communication, capacity building, and periodic evaluation of progress (Oreg, Vakola, & Armenakis, 2011). This trend reflects the shift of change management from a supplementary activity to an

integrated strategic function that contributes to ensuring the sustainability of organizational performance in complex and rapidly changing environments.

Thus, change management can be viewed as an integrated framework combining leadership, communication, participation, support, and capacity building, with the aim of ensuring a smooth and effective transition to new organizational structures. This concept is particularly important in higher education institutions, which face increasing pressure to modernize and develop, making change management a crucial element in the success of strategic transformations such as digital transformation.

2.3 Change Management and Digital Transformation

Literature on the Relationship Between Change Management and Digital Transformation contemporary literature confirms that digital transformation represents a comprehensive organizational change process that transcends the technological dimension to encompass the reshaping of strategies, structures, and organizational culture, making change management a prerequisite for its success. Digital transformation also entails fundamental shifts in how value is created within organizations (Vial, 2019), necessitating changes in roles, processes, and mindsets. Similarly, one study demonstrated that strategic digital transformation requires a seamless alignment between technology, human resources, and organizational structure, reflecting a direct overlap with change management practices (Verhoef, Broekhuizen, & Bart, 2021).

Studies show that the failure of many digital transformation initiatives stems not from technological shortcomings, but from weak change management. (Westerman, Bonnet, & McAfee, 2014) emphasized that digitally leading organizations achieve success by combining investment in digital technologies with building leadership capable of guiding cultural and organizational change. Kotter's model also demonstrates that a lack of clear vision and weak employee engagement lead to resistance to change, which negatively impacts digital transformation projects (Twabu, 2025).

From a human capabilities perspective, the literature indicates that digital transformation requires developing digital skills and changing organizational mindsets. A study by (Kane, Palmer, Phillips, Kiron, & Buckley, 2015) demonstrated that organizations that invest in developing a supportive digital culture and training employees are better able to leverage digital technologies. This aligns with the ADKAR model, which emphasizes the importance of building awareness, desire, and capability among individuals as a fundamental prerequisite for successful organizational change (Twabu, 2025) .

On a practical level, recent studies have shown that integrating change management practices into digital transformation initiatives significantly improves organizational outcomes. A study by (Kane, Palmer, Phillips, Kiron, & Buckley, 2015) demonstrated that organizations adopting a comprehensive approach combining digital transformation and change management achieve higher levels of innovation and performance. Similarly, a study by

(Verhoef, Broekhuizen, & Bart, 2021) concluded that maturity in change management practices enhances an organization's ability to transform digital investments into a sustainable competitive advantage.

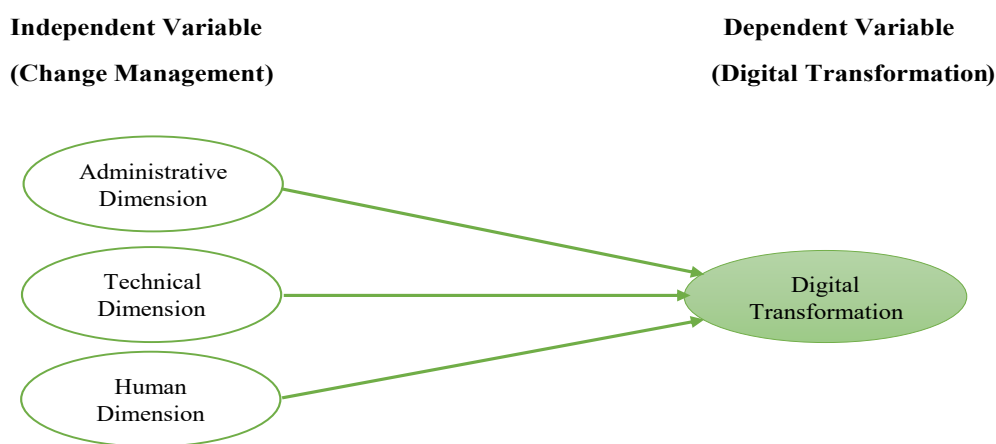
Therefore, it is clear that the relationship between change management and digital transformation is complementary and enabling. Change management provides the necessary leadership, behavioural, and cultural frameworks for embracing digital transformation, while digital transformation represents the practical arena in which the effectiveness of change management strategies is tested. The more comprehensive and mature change management practices are, the greater the likelihood of successful and sustainable digital transformation (Vial, 2019) (Verhoef, Broekhuizen, & Bart, 2021)

3. Methodology

3.1 Research Framework

Based on the literature related to the impact of change management on digital transformation, the study model illustrated in Figure 1 can be adopted:

Fig.1. Study model



Source: prepared by the author

3.2 Research Methods

According to the type of data collected and the study's objectives, a quantitative research approach was adopted to examine the impact of change management with its dimensions (the administrative dimension, the technical dimension, the human dimension), on digital transformation.

3.2.1 Population and Sample

The study population is defined as all employees and faculty members working at University of Constantine 2, as they are the primary actors in implementing organizational changes and interacting with the requirements of digital transformation, making them an appropriate source for assessing the state of change management and the level of digital transformation implementation within the university. Since the study falls within organizational research that focuses on analysing practices and processes at the institutional level as a whole rather than on individual characteristics of employees, data collection was limited to administrative and technical aspects without demographic characteristics, considering that the unit of analysis is the university institution and not individuals. Due to the difficulty of enumerating all members of the population, a non-random convenience sample of 100 employees and faculty members was used, selected based on ease of access while seeking to represent different occupational categories, with the aim of providing sufficient data to conduct statistical analyses related to the variables of change management and digital transformation and their dimensions.

3.2.2 Questionnaire Design

The questionnaire instrument used in this study was designed and revised based on several previous studies in the same field. It included two main variables, as shown in the following table:

Table 1. variables study

Variables	Dimensions	References
Change Management	Administrative Dimension ; Technical Dimension ; Human Dimension	(Vial, 2019), (Twabu, 2025), (Verhoef, Broekhuizen, & Bart, 2021).
Digital Transformation		(Vial, 2019), (Twabu, 2025), (Verhoef, Broekhuizen, & Bart, 2021).

Source: Data processed by the author based on SPSS

In this study, we used a five-point Likert scale to assess all measurement items across variables, organized as follows: 1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree.

4. Research Findings

This section presents and analyses the results obtained in light of the data collected from the research instrument. It aims to verify the instrument's reliability, describe the characteristics of the data, and then test the relationships among the variables under study. Accordingly, this section comprises three main parts: testing reliability using Cronbach's alpha, descriptive analysis, and inferential analysis and hypothesis testing.

4.1 Reliability of the Survey Instrument

Cronbach's alpha coefficient was used to verify the degree of reliability of the questionnaire instrument adopted in this study.

Table 2. Items Measuring the Reliability of the Survey Instrument

	Cronbach' s Alpha
Change Management	0,716
Administrative Dimension	0,80
Technical Dimension	0,916
Human Dimension	0,812
Digital Transformation	0.844

Source: Data processed by the author based on SPSS

As shown in Table 2, all Cronbach's alpha values exceeded the commonly accepted threshold of 0.70, reflecting a good degree of internal consistency and high reliability of the study instrument.

4.2 Descriptive Analysis of Study Variables

The study includes one independent variable (change management), which consists of three dimensions, and a dependent variable (digital transformation). The variables were described using their arithmetic means and standard deviations, as presented in the tables below.

Table 3. Means and Standard Deviations of the Administrative Dimension

Dimensions	Items	Mean	Standard Division	Degree
Administrative Dimension	Changes within the university are planned in an organized manner	3,57	0,781	High
	The administration explains the reasons behind the changes occurring in the work	3,42	0,90	High
	The administration supports developmental initiatives within the university	3,44	0,868	High
	The administration responds promptly to problems arising from change	3,33	0,899	High
	The results of changes are periodically evaluated by the administration	3,41	0,817	High

Source: Data processed by the author based on SPSS

The results of Table (3), which pertains to the descriptive analysis of the administrative dimension, show that all items received high ratings from the respondents. The item concerning systematic planning for change recorded the highest mean of 3.57 with a standard deviation of 0.781, reflecting a clear managerial orientation toward organizing change processes. The mean for the item related to management support for developmental initiatives

was 3.44, while the item concerning management's response to change problems recorded the lowest mean in this dimension at 3.33, indicating room for improving the speed and effectiveness of managerial response.

Table 4. Means and Standard Deviations of the Technical Dimension

Dimensions	Items	Mean	Standard Division	Degree
Technical Dimension	The university ensures that work methods are updated in line with modern developments	3,24	1,11	High
	Necessary tools and resources are provided when any change is implemented at work	3,14	1,154	High
	The administration takes organizational aspects into account when implementing any new system or method	3,24	1,111	High
	Guidelines are provided to help understand the requirements of new work processes	3,58	0,923	High
	New work methods are tested before being implemented broadly	3,16	0,981	High

Source: Data processed by the author based on SPSS

It is evident from Table 4 that the arithmetic means for the Technical Dimension ranged between 3.14 and 3.58. The item "providing guidance to understand the requirements of the new work" achieved the highest mean (3.58) with a standard deviation of 0.923, reflecting the university's attention to clarifying the technical aspects of change. In contrast, the item "providing tools and resources when implementing the change" recorded the lowest mean (3.14) with a relatively high standard deviation (1.154), indicating a disparity in respondents' opinions regarding the adequacy of technical resources.

Table 5. Means and Standard Deviations of the Human Dimension

Dimensions	Items	Mean	Standard Division	Degree
Human Dimension	Employees are involved when changes are introduced in the workplace	3,23	1,071	High
	I receive training that helps me adapt to the requirements of new work processes	3,29	1,027	High
	Most employees accept the changes that occur in the work environment	3,16	0,884	High
	The administration responds positively to employees' concerns regarding change	3,38	0,907	High
	There is cooperation among employees to ensure the success of changes	3,08	0,950	High

Source: Data processed by the author based on SPSS

The table 5 shows that the arithmetic means for the human dimension ranged between 3.08 and 3.38, with the item management's responsiveness to employees' concerns achieving a mean of 3.38, while the item cooperation among employees to ensure the success of change

recorded the lowest mean (3.08) with a standard deviation of 0.950, indicating that the participatory dimension among employees still needs further strengthening.

Table 6. Means and Standard Deviations of the Digital Transformation

Variable	Items	Mean	Standard Division	Degree
Digital Transformation	The university relies on digital systems to manage its operations	3,40	0,90	High
	Digital technologies contribute to speeding up work processes within the university	3,230	1,071	High
	The university provides digital services for students, faculty, and staff	3,160	0,884	High
	The use of technology has reduced reliance on paper-based transactions	3,380	0,907	High
	The digital systems used facilitate daily task performance	3,080	0,950	High
	Systems and software at the university are continuously updated	3,240	1,111	High
	The university's technical infrastructure is adequate	3,140	1,154	High
	I feel that digitalization has improved work quality within the university	3,140	1,154	High
	I prefer using digital systems over traditional methods	3,240	1,111	High
	I regularly use digital tools in performing my tasks	3,580	0,923	High
	I believe the university has made significant progress in digital transformation	3,160	0,981	High

Source: Data processed by the author based on SPSS

The results of Table 6 indicate that the level of digital transformation at the university is generally high, with mean values ranging from 3.08 to 3.58, all exceeding the hypothetical mean of 3. This reflects a generally positive perception among the sample members regarding the reality of digital transformation.

The statement “I regularly use digital tools in performing my tasks” recorded the highest mean score of 3.58 with a standard deviation of 0.923, indicating the widespread use of digital technologies in daily practices within the university, with a relatively high level of agreement among respondents.

In contrast, the statement “The digital systems used facilitate the performance of daily tasks” recorded the lowest mean score of 3.08 with a standard deviation of 0.95, suggesting room for improvement in the efficiency of some digital systems despite the overall positive evaluation.

Furthermore, the results show that the technical infrastructure received an average score of 3.14 with a standard deviation of 1.154, reflecting general acceptance with some variation in

opinions, which may be attributed to differences in equipment levels among colleges or administrative units.

4.3 Inferential Statistics and Hypothesis Testing

In order to test the main hypothesis and the sub-hypotheses, we conducted a multiple regression analysis between the independent variable with its dimensions (administrative dimension, technical dimension, human dimension) and digital transformation as the dependent variable. The results were as follows:

Table 7. Results of Multiple Regression Analysis Between Change Management Dimensions and Digital Transformation

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Erreur standard	Bêta		
(Constant)	-,103	,056		-1,838	,069
AD	,025	,020	,022	1,240	,218
HD	,373	,018	,376	21,249	,000
TD	,625	,012	,763	51,435	,000

Source: Data processed by the author based on SPSS

The table highlights the results of the partial hypothesis tests, which we present as follows:

- **H1: The administrative dimension has a statistically significant impact on the successful implementation of digital transformation at the University of Constantine 2.**

Regarding the administrative dimension, the analysis results showed that ($\beta=0.022$; $P=0.218<0.05$), which indicates that there is no statistically significant effect of this dimension on digital transformation. Accordingly, the first sub-hypothesis, which assumes the existence of an impact of the administrative dimension of change management on digital transformation at the studied university, is rejected. This result can be explained by the fact that administrative procedures related to planning, monitoring, and evaluation may be implemented in a formal or traditional manner without actually reflecting the level of digital activation within the university. This may also indicate that digital transformation in the university environment relies more on technical and human aspects, such as the availability of digital infrastructure and user efficiency, rather than solely on administrative aspects. This may also indicate a gap between administrative decisions related to change and the practical application of digital technologies in the workplace, which aligns with previous literature. Some studies have indicated that digital transformation is not achieved solely through managerial planning, but requires technological empowerment and the development of human capabilities (Westerman, Bonnet, & McAfee, 2014). emphasised the importance of building a supportive digital culture and developing employee skills to achieve the effectiveness of digital initiatives, while (Vial, 2019) stressed that merely formally integrating managerial

practices is not enough to ensure the success of digital transformation, and this must be accompanied by actual empowerment of both technical and human aspects.

- **H2 : The technical dimension has a statistically significant impact on the successful implementation of digital transformation at the University of Constantine 2.**

The results of the technical dimension showed a strong positive and statistically significant impact on digital transformation, with ($\beta=0.763$; $P=0.000<0.05$). Accordingly, the second sub-hypothesis, which states that the technical dimension of change management has an impact on digital transformation, is accepted. This result can be explained by the fact that the technical aspects of change management, such as providing digital tools, updating systems, and ensuring appropriate technical infrastructure, play a fundamental role in facilitating the adoption of digital technologies within the university, thereby enhancing the effectiveness of digital transformation implementation. This interpretation aligns with previous literature that confirmed that digital transformation heavily relies on technical efficiency and the availability of appropriate digital resources. The study by (Vial, 2019) indicated that the strength of digital infrastructure and the integration of technical systems are two critical factors in the success of digital transformation. Applied studies have also confirmed that supporting technical infrastructure contributes to improving the performance of educational and administrative processes, and increases the institutions' ability to absorb digital changes quickly and efficiently (Kane, Palmer, Phillips, Kiron, & Buckley, 2015), (Verhoef, Broekhuizen, & Bart, 2021).

Based on this, the strong impact of the technological dimension in this study reflects the importance of investing in digital resources and tools as a fundamental element for the success of digital transformation in higher education institutions.

- **H3: The human dimension has a statistically significant impact on the successful implementation of digital transformation at the University of Constantine 2.**

Regarding the human dimension, the analysis results showed a significant positive impact on digital transformation, with ($\beta=0.376$; $P=0.000<0.05$). Accordingly, the third sub-hypothesis, which posits that the human dimension of change management positively affects digital transformation, is accepted. This result can be explained by the fact that individuals' skills, their adaptability to changes, and their level of response to training and support constitute essential elements for the success of digital transformation, as human empowerment enables the absorption and effective implementation of technological changes within the university. Previous literature emphasises the importance of the human aspect in change management, as a study by (Twabu, 2025) indicated that developing employees' skills and building awareness, desire, and capability among individuals are essential factors in reducing resistance to change and enhancing their participation. Studies have also shown that digital transformation does not succeed merely with the availability of technology, but rather depends on individuals' ability to comprehend and apply it in their daily work context (Kane, Palmer,

Phillips, Kiron, & Buckley, 2015), (Westerman, Bonnet, & McAfee, 2014). Accordingly, the positive impact of the human dimension in this study reflects that investing in the development of individuals' skills and enhancing their readiness for change is a fundamental pillar to ensure the sustainability of digital transformation in higher education institutions.

- **H: Change management affects the success of implementing digital transformation at the University of Constantine 2.**

The following table shows us the results of the ANOVA test.

Table 8. ANOVA test

Model	Sum of Squares	D F	Mean Squares	Calculated F Value	Significance Level
Regression	51.482	3	17.161	1861.174	0.000
Error	0.885	96	0.009		
Total	52.367	99			

Source: Data processed by the author based on SPSS

The results of the ANOVA analysis for the multiple regression model showed that the model as a whole is statistically significant, with a calculated F value of (1861.174) at a significance level (Sig = 0.000), which is less than the accepted significance level (0.05). This indicates that the independent variables collectively explain a significant portion of the variance in the dependent variable, confirming the validity and explanatory power of the regression model. The value of the regression sum of squares (51.482) compared to the error sum of squares (0.885) indicates that a very large proportion of the variance in the dependent variable can be explained by the independent variables included in the model.

Additionally, the correlation coefficient (R) showed a very strong correlation between change management and digital transformation, and the coefficient of determination (R^2) reached a value of (0.983), which means that about 98.3% of the variance in the dependent variable (digital transformation) can be explained by the independent variable (change management), reflecting the model's strength and high explanatory power.

5. Conclusion

Digital transformation and change management are among the key pillars in the development of higher education institutions, as they represent a strategic framework for modernising academic and administrative processes and keeping pace with technological advancements. The importance of studying the relationship between them is highlighted in universities that face ongoing challenges related to adapting to the changing digital environment and enhancing the quality of educational and administrative services. The research also emphasises that digital transformation is not merely the adoption of technology, but an integrative process that includes organisational structure, institutional culture, and human

capabilities, which makes change management a pivotal element to ensure the absorption of these transformations. From this perspective, the research constitutes a scientific contribution to understanding how to enable universities to successfully implement digital transformation, with a focus on the interaction of technical, human, and administrative aspects in an integrated manner.

5.1 Study Results

The study reached a set of results, which we present as follows:

- The study showed that digital transformation at the University of Constantine 2 is clearly influenced by change management practices, with varying levels of impact across dimensions (administrative dimension, technical dimension, human dimension).
- The study confirmed the positive impact of change management practices on the success of digital transformation implementation at the university in general. This means that change management is a pivotal factor that contributes to enabling the university to implement digital initiatives and achieve the expected benefits of digital transformation.
- The administrative dimension did not show a clear impact on the level of digital transformation within the university. This is attributed to the fact that the procedures related to planning, monitoring, and evaluation may be applied in a formal or traditional manner, without actually reflecting on the implementation of digital technologies in daily work. This indicates that the success of digital transformation relies more on technical and human aspects than solely on administrative procedures.
- The technical aspect has emerged as a key factor in enhancing digital transformation. The availability of appropriate digital tools, system updates, and ensuring suitable technical infrastructure directly contribute to facilitating the use of digital technology and maximising its benefits in educational and administrative processes.
 - The results also showed that individuals' skills and competencies, as well as their readiness to adapt to changes, constitute a fundamental supporting element for digital transformation. Building the capabilities of employees and training them to use digital technologies enhances the possibility of effectively implementing digital transformation and increases employees' commitment to executing the changes.
 - In general, the study shows that digital transformation is not achieved merely by having administrative plans and procedures; it requires the actual integration of digital technologies with the development of human capabilities and the creation of a supportive institutional environment to ensure the continuity and sustainability of its impact on university performance.

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