The Impact Of Digital Transformation On Change Management
(An Empirical Study On Iraqi Universities)

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Abstract:

This study aimed to assess the influence of Digital Transformation on Change Management in Iraqi universities in Diyala province. To achieve this, it pursued several objectives, including examining the state of Digital Transformation's presence in these institutions, evaluating the status of Change Management, and determining the extent of Digital Transformation's impact on Change Management. Employing a descriptive analytical approach, data were collected through a survey administered to employees.

The study's results highlight crucial findings. It reveals a significant interest in Change Management within the surveyed universities, with respondents recognizing the importance of this variable. Additionally, the study indicates a strong interest in Digital Transformation among these universities, with dimensions like 'Digital Transformation Strategy (DTS)' and 'Digital Technology (DT)' showing positive results. The research further uncovers a positive correlation between Digital Transformation and Change Management dimensions, suggesting that enhancing Digital Transformation efforts can lead to more effective Change Management. Notably, Digital Transformation was found to explain approximately 11.1% of the variation in Change Management, with substantial effects on specific dimensions. Based on these findings, the study recommends that Iraqi universities in Diyala focus on enhancing Change Management by ensuring that employees are well-informed about change objectives and actively involved in the change process.

Keywords: Digital Transformation, Change Management, Iraqi universities in Diyala province, Technology Adoption, Education Sector.

1. Introduction

In today's rapidly evolving digital era, organizations across various sectors are undergoing significant transformations to adapt to the ever-changing technological landscape.

In today's rapidly evolving digital era, organizations across various sectors are undergoing significant transformations to adapt to the ever-changing technological landscape. One domain that has been profoundly affected by this digital revolution is higher education. Universities worldwide are embracing digital transformation to enhance their operations, improve academic quality, and provide innovative learning experiences (Tan, et al., 2022). In Iraq, where universities play a vital role in shaping the nation's future, understanding the impact of digital transformation on change management becomes imperative.

Digital transformation refers to the integration of digital technologies into all aspects of an organization, fundamentally changing how it operates and delivers value. It encompasses a wide range of technological advancements, including cloud computing, artificial intelligence, data analytics, Internet of Things, and mobile applications. The adoption of these technologies has the potential to revolutionize traditional practices in higher education, leading to significant changes in teaching methodologies, research processes, administrative systems, and student engagement (Reis, et ai., 2018).

Change management, on the other hand, is the systematic approach to transitioning individuals, teams, and organizations from their current state to a desired future state. It involves planning, implementing, and monitoring changes to ensure successful adoption and minimize resistance (Phillips, & Klein, 2023). With the rapid digital transformation occurring in Iraqi universities, change management becomes a critical factor in maximizing the benefits and minimizing the challenges associated with this transition (Hassan, 2021).

The purpose of this empirical study is to investigate the impact of digital transformation on change management in Iraqi universities. By examining the experiences, challenges, and outcomes of digital transformation initiatives, this research aims to provide valuable insights into the strategies and approaches that effectively facilitate and manage change in the context of higher education in Iraq.

The study will employ a mixed-methods research design, combining qualitative and quantitative data collection and analysis techniques. Through surveys, interviews, and document analysis, data will be gathered from university administrators, faculty members, IT professionals, and students. This multi-stakeholder approach will enable a comprehensive understanding of the various perspectives on digital transformation and change management.

The anticipated outcomes of this research include identifying key drivers and barriers to successful digital transformation, understanding the role of leadership in managing change, assessing the impact of digital transformation on teaching and learning processes, evaluating the effectiveness of change management strategies, and providing recommendations for enhancing the digital transformation efforts in Iraqi universities.

Ultimately, this study seeks to contribute to the existing body of knowledge on the intersection of digital transformation and change management in higher education, with a specific focus on the Iraqi context. The findings of this research can inform university leaders, policymakers, and other stakeholders in developing strategies and policies that effectively leverage digital technologies to drive positive change and improve the quality of education in Iraq.

2. Previous Studies:

2.1 Studies in Digital Transformation:

- **Study (Liu, et al, 2023).** studies the ambidextrous nature of digital transformation (DT) from the standpoint of the whole firm. The authors define DT ambidexterity as the capability to utilize digital technology to simultaneously improve the efficiency of existing businesses (DT exploitation) and to promote business growth (DT exploration). Using annual reports of Chinese firms as a mining material, this paper deploys text mining and word frequency analysis to develop a data set of digital transformation to construct DT exploitation, DT exploration and DT ambidexterity, so that the authors can examine and compare their impact on business performance. This study's statistics show that observations in this research sample mainly manifest DT ambidexterity and DT exploitation, while DT exploration makes up the smallest proportion. The authors find that DT exploitation, DT exploration, and DT ambidexterity have positive, yet heterogeneous effects on business performance.

- **Study (Vendraminelli, et al, 2022).** aims to frame a design-driven approach to planning and implementing digital transformation. Drawing on design theories, the authors formulated a three-stage process (understanding the reality, defining the digital transformation strategy, and transforming the digital transformation strategy into digital projects). The framework provides a structure to manage digital transformation through strategy development and implementation. Furthermore, practitioners and companies can assess whether their digital transformation process is under control and reflect whether they are paying appropriate attention to each of the three identified stages. They can follow in the footsteps of EYEWEAR and adopt the proposed framework to design their company's digital transformation process.

- **Study (Abdulquadri, et al, 2021).** examine the status of the chatbot as a digital transformation tool to fundamentally change the business model, improve customer experience and advance financial inclusion in emerging markets. The study found that the majority of Nigerian banks now have chatbots that promote customer engagement and financial inclusion. WhatsApp was the most used platform. Chatbots are often described and presented with female gender identification. Chatbots were less responsive outside the pre-set path. While Nigeria is a multilingual country where English is the native language, none of the chatbots have used any of the Nigerian local languages. Brands need to re-evaluate their chatbots with regard to response, pre-set questions, verification, privacy. There are also possibilities to brand the chatbot and develop content creation strategies for appropriate engagement. Unlike English, incorporating African languages into chatbots is essential for digital transformation. Digital literacy and skills, particularly in STEM, must be supported to equip future developers and create more jobs.

2.2 Studies in Change Management:

- **Study (Barreiro-Gen, et al., 2023).** aims to provide insights into how ports have been addressing sustainability change forces and pressures. Twelve semi-structured interviews were conducted with top-level directors and sustainability managers, representing ports across Europe's maritime regions and a range of port types and sizes. The interviews were analysed using grounded theory's constant comparative analysis. The findings highlighted that the ports' success in their process to become more sustainable depends on how they take advantage of the thrust forces and reduce the

drag ones. The findings serve to develop the "ports' sustainability change management framework", with five stages: reactive, proactive, transactive, interactive, and sustainable port.

- **Study (Moosa, et al., 2022).** aims to illustrate an overarching pDigital Transformationure of the knowledge base on change management, including contributing authors, institutions and countries. The study also aims to elicit the intellectual structure of the knowledge base using science mapping. The authors engaged 1,457 published documents, generated from a SCOPUS search, to analyse research conducted in the area of change management. Bibliometric indicators such as authors, institutions and countries were used in the analysis. Additionally, science mapping analyses such as keyword co-occurrence and co-citation were also performed using VOSviewer. The findings indicated that scholarly work in the field of change management is on the rise. Furthermore, while the contribution from different regions of the world was observed, the most impactful scholarly works came from the West and Asia. Finally, it was found that research on change management could be classified into four schools of thought: engineering and information and communication technology (DIGITAL TRANSFORMATION) industry, organisational aspects of change, leadership aspects of change and human aspects of change.

- **Study (Zubac, et al., 2021).** aim of the study is to better understand the strategy and interface to change, the (sub) processes and perceptions that enable strategies to be successfully implemented and to effectively change organizations. The study sheds light on strategy and the interface to change in very different ways. Collectively, the study gives us insight into the activities, structural and organizational learning and cognitive mechanisms that are encouraged or deliberately created in organizations to allow their employees to successfully implement strategy and effect change, including achieving higher levels of horizontal alignment. Furthermore, they demonstrate the benefits associated with creating platforms and/or routines designed to overcome the knowledge deficiencies of decision makers while implementing or adjusting a strategy in a timely manner. We conclude our editorial by identifying some of the unanswered questions.

2.3 Studies in Digital Transformation and Change Management:

- **Study (Kala, 2023).** address this gap by investigating the influence of change management on the success of IT projects of DT. Additionally, the author examines the consequences on SMEs in the economic context of the Democratic Republic of the Congo (DRC). This study draws on a research model that elucidates aspects of the resource-based view (RBV) framework, notably the transformation of human resources based on change management. This model demonstrates the relationship between change management, DT and IT project success, which facilitates the performance and resilience of SMEs. To empirically validate and test the developed research model, we gathered 299 responses from SME managers in the DRC through cross-sectional data collection using a structured questionnaire. The author performed statistical analyses using variance-based structural equation modeling (PLS-SEM) with the help of SmartPLS 3.0. This paper reveals how SME managers can succeed in DT projects with the change management of human resources. Furthermore, it establishes that the success of IT projects of DT is an essential for enhancing the performance and resilience of SMEs in the DRC.

- **Study (Pacolli, 2021).** this study conducted a systematic literature analysis to review articles that discuss current trends in the Change Management and Digital Transformation discipline. The study

analyzes the impact of change management to digital transformation sustainability through a holistic approach, conventionally not given enough attention even though it may be found in every single research as a critical factor to digital transformation success. The study results propose a Change Management Framework composed of its three imperatives: Leadership, Communication, and Inclusion, which on the other hand induce strong foundations of a sustainable and resilient digital transformation in organizations. This paper synthesizes the presented research field's importance and provides insights for practitioners how to have their digital transformation initiatives succeed and retain sustainable.

2.4 Commentary on Previous Studies:

After reviewing the most important studies reached and related to the subject of the current study, and reviewing and analyzing the results of those studies can draw some conclusions on the aspects of agreement and the difference between the current study and previous studies and get out of the research gap, as follows:

▪ **Compatibility with previous studies:**

Through a review of previous studies, it is clear that they are similar to the current study in dealing with the issue of Digital Transformation and Change Management in different organizations and business sectors. Most of the previous studies emphasized the importance of these issues in business organizations in general.

▪ **Research Gap and Difference in the Current Study:**

A review of previous studies revealed that there is diversity in the applied fields, but there was a shortage and deficiency in dealing with Iraqi universities in Diyala province. So, the research gap is as follows:

- Deficiency in the study the Digital Transformation in Iraqi universities in Diyala province.

- Deficiency in the study of Change Management in Iraqi universities in Diyala province.

- Deficiency in the study the Digital Transformation and its impact on Change Management in Iraqi universities in Diyala province.

Therefore, the current study will address this deficiency by addressing the issue of Digital Transformation and its relationship to Change Management in Iraqi universities in Diyala province.

3. Study Problem:

The advent of the digital transformation era has ushered in unprecedented changes across diverse sectors of society, profoundly affecting the way organizations operate and interact with their stakeholders (Tan, et al., 2022). One of the sectors that has undergone a notable paradigm shift is education. In an age marked by technological innovation and digitalization, traditional modes of teaching, learning, and administrative processes in higher education have been substantially challenged (Heleta, & Jithoo, 2023).

Iraqi universities, like their counterparts around the world, find themselves standing at the crossroads of this digital revolution. They are grappling with the formidable task of navigating and adapting to the rapidly evolving digital landscape (Hassan, 2021). Embracing digital transformation is no longer merely an option but a necessity to stay relevant and competitive in the contemporary global knowledge economy.

The main problem in this study is how to overcome these challenges and invest Digital Transformation effectively in the Change Management in private universities in Iraq.

Therefore, this study seeks to answer the following questions:

- What is the strength of the Digital Transformation in Iraqi universities in Diyala province?
- What is the strength of Change Management in Iraqi universities in Diyala province?
- Does Digital Transformation affect Change Management at Iraqi universities in Diyala province?

4. Objectives of Study:

The study aims to achieve the following objectives:

- Standing on the strength of the Digital Transformation in Iraqi universities in Diyala province.
- Measuring Change Management of Iraqi universities in Diyala province.
- Determine the extent of the impact of Digital Transformation on Change Management in Iraqi universities in Diyala province.
- Presenting a number of recommendations and proposals to officials in Iraqi universities in Diyala province based on the findings of the study, which can be generalized and used in practical application.

5. Study hypotheses:

The main hypothesis of the study is: " There is a statistically significant impact of Digital Transformation on Change Management in Iraqi universities in Diyala province" This hypothesis leads to the following sub-hypotheses:

- There is a statistically significant effect of Employee Digital Skills (DS) on Change Management.
- There is a statistically significant impact of Digital Transformation Strategy (DTS) on Change Management.
- There is a statistically significant impact of Digital Technology (DT) on Change Management.

6. Study Significances:

The importance of the current study is due to its scientific and practical additions as follows:

- The importance of this study lies in an attempt to contribute to bridging the research gap of studies and research on the concept of Digital Transformation, specifically with regard to organizational practices that contribute to achieving Change Management, and the study is also a response to what many previous studies called for in conducting more studies and research on this Topics, and because of their great importance in enriching the academic library and scientific research centers, especially those interested in administrative studies. This study can also provide a database to help researchers and scholars to conduct more research in this field.
- The study deals with one of the modern administrative approaches (the Digital Transformation approach), which may have a major role in developing the competitiveness of companies.

Determining the expected benefits and advantages that result from the application of Digital Transformation mechanisms to increase competitiveness.

7. Study Variables:

7.1 Independent variable: Digital Transformation.

Digital transformation is defined as the process of moving government sectors or companies to a business model that relies on digital technologies to innovate products and services, to provide new revenue channels that increase the value of their products (Liu, et al, 2023).

Digital Transformation is the comprehensive overhaul of organizations through the integration of digital technologies. It redefines processes, products, and services to improve efficiency, innovation, and competitiveness. It encompasses cultural and strategic shifts beyond technology adoption. The goal is to thrive in a digital-driven world.

The Digital Transformation variable were measured through the following dimensions:

- **Employee Digital Skills (DS)**: These are the competencies and knowledge employees have to effectively use digital technologies and tools in their work, crucial for productivity and adaptability in today's tech-driven workplaces (Vendraminelli, et al, 2022).
- **Digital Transformation Strategy (DTS)**: A DTS is a structured plan that organizations create to strategically utilize digital technologies, setting objectives and outlining the path for digitalization across their operations, ultimately aiming to enhance competitiveness and efficiency in the digital era (Abdulquadri, et al, 2021).
- **Digital Technology (DT)**: DT encompasses a vast array of digital tools and systems, like computers and Digital Transformation Strategy (DTS), utilizing digital data to enhance processes and services across various industries. It's the driving force behind modern innovation and connectivity (Liu, et al, 2023).

7.2 Dependent Variable: Change Management.

Change is defined as the process of shifting from the current reality of an individual or organization to another desired reality within a specified period of time, by known methods and methods to achieve certain goals, it is a planned or unplanned response by humanitarian organizations to the pressures left by progress and technical development in materials and ideas (Haffar, et al., 2019).

Change Management is a systematic approach used by organizations to facilitate smooth transitions from current to future states. It involves planning, communication, and engagement strategies to minimize resistance and ensure successful implementation of changes. The process addresses both individual and organizational aspects to foster adaptation and acceptance. Its primary aim is to achieve effective change adoption and integration within the organization.

The Change Management variable were measured through the following dimensions:

- **Spread Awareness:** It means intentionally sharing information or educating people about a specific issue or cause through various methods like campaigns or social media to increase understanding and drive positive change or support for that cause, often related to social, health, or environmental issues (Zubac, et al., 2021).
- **Inspire Desire:** It's about triggering strong emotions or motivations in individuals to make them want or aspire to achieve something, often used in marketing to create attraction and drive consumer action Oboreh, et al, 2019).

- **Impart knowledge:** It's the process of sharing information, expertise, or skills from one source to another to educate or inform, often through teaching, training, or mentoring, with the aim of empowering individuals with new understanding or abilities.
- **Improve ability:** It's the process of enhancing one's skills or competencies in a specific area through practice, training, or education to become more proficient and effective in related tasks or responsibilities (Yue, et al., 2019).
- **Reinforce Changes:** It's the process of strengthening and making lasting alterations or modifications in processes, behaviors, or practices by providing ongoing support and incentives to ensure they become a permanent part of the system or routine, preventing a return to previous habits (Moosa, et al., 2022).

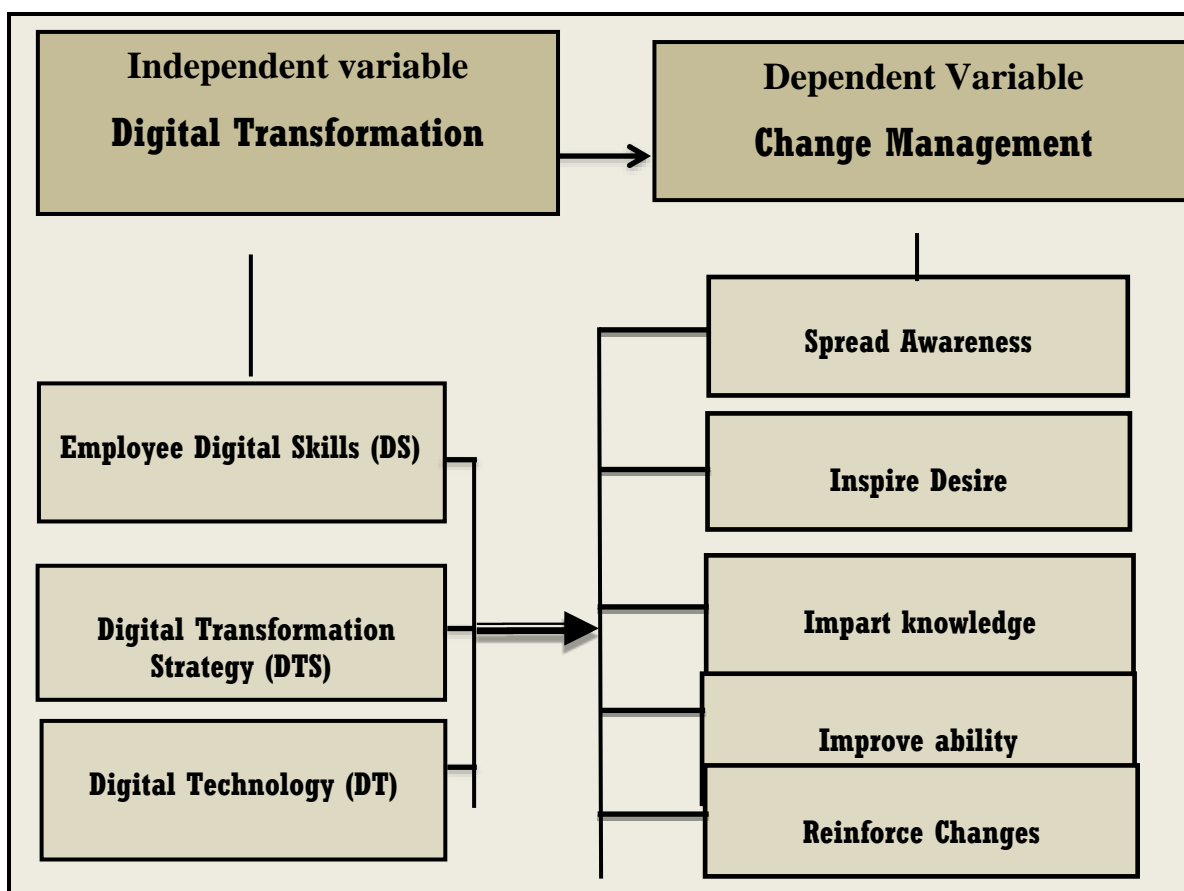The following form can be presented to represent the general framework of the study, as follows:

Figure (1): Model framework of the study.

8. Study Design:

Depending on the nature of the subject of the study and the information that must be obtained to reveal the effect of Digital Transformation (as an independent variable) on Change Management (as a dependent variable), and through the questions that the study seeks to answer, this study relied on the descriptive analytical approach, data were collected in the field through the survey list in the field study to test the validity of the assumptions on which the study was based. By obtaining this data from employees in Iraqi universities in Diyala province.

9. Study Procedures:

Two types of data were used to achieve this approach from the following sources:

9.1 Secondary Data:

It is the data obtained to build theoretical framework of the study, where it was relied on to identify theoretical background of the study, on the various references of books and articles and previous studies of academic theses of the relevant and published research, which dealt with the topics of Digital Transformation and Change Management.

9.2 Primary Data:

These data were collected in the field through the survey list in the field study to test the validity of the assumptions on which the study was based. By obtaining this data from Employees in the field of Iraqi universities in Diyala province.

10. Population and Sample Design:

The academic community in Diyala province, Iraq, comprises individuals working in administrative and academic positions at various universities. These universities include government-run institutions such as Diyala University, which encompasses thirteen faculties specializing in both scientific and humanities disciplines. It also houses several research and consultancy centers. Additionally, there is the Central Technical University.

In the private sector, there is Yarmouk University, which consists of seven departments: English Language Department, Law Department, Computer Science Department, Computer Technology Engineering Department, Medical Analysis Technology Department, Dentistry Department, and Pharmacy Department. Imam Jafar Al-Sadiq University and Al-Rafidain University College are also part of the academic landscape.

A stratified random sample was selected from the staff of both government and private universities in Diyala province. The sample size can be determined using the following equation (Abdul-Hameed, 2011: 119): [Please note that the equation is not provided in the original text, so I cannot provide the specific formula here (Sekaran, Bougie, 2010):

$$n = \frac{NP(1-P)x^2}{(N-1)d^2 + P(1-P)x^2}$$

whereas:

n: Sample size required.

N: Size of the study population.

P: The ratio of the community is equal to.

d^2 The percentage of error that can be exceeded and the maximum value is 0.05.

x^2 2: the value of the kai square with one degree of freedom = 3.841 at 95% confidence level or 5% significance level.

Table (1): Distribution of the Study Sample Among the Employees of Iraqi universities in Diyala province.

Universities Population and Sample	Administrative Jobs	Academic Jobs	Total	Sample	Response
Government Universities	2114	1157	3271	207	200
Private Universities	1173	1237	2410	152	150
Total	3287	2394	5681	359	350

Source: Compiled by the researcher based on data from the Iraqi Ministry of Higher Education and Scientific Research, 2020.

The questionnaire was distributed to the individuals within the study sample, resulting in 350 valid responses for statistical analysis. The sample was distributed among employees in administrative and academic positions at Iraqi universities in Diyala province. The following table illustrates the distribution of the study sample among respondents according to demographic variables, including gender, education level, job nature, and years of experience:

Table (2): Distribution of the Study Sample by Demographic Variables (n = 350)

Personal Variables			Frequency	Percentage (%)
Gender:	1-	Male	192	54.85
	2-	Female	158	45.15
Job Nature:	1-	Administrative	197	56.28
	2-	Academic	153	43.71
Gender:	1-	Less than High School	28	8.00
	2-	High School	59	16.85
	3-	University	195	55.71
	4-	Postgraduate Studies	68	19.42
Gender:	1-	Less than 5 years	101	28.85
	2-	to less than 10 years 5	187	53.42
	3-	years or more 10	62	17.71

As observed from the previous table (Table 10), the study included a vocabulary of 350 respondents who are employees at the studied universities. The table highlights the following key findings:

- Approximately 55% of the total sample consists of males, while approximately 45% are females.
- Roughly 56.2% of the total study sample work in administrative positions, and approximately 43.8% work in academic positions.

- Around 55.7% of the total study sample hold university-level qualifications, followed by approximately 19.4% of the sample holding postgraduate degrees such as doctorates, master's degrees, and postgraduate diplomas.
- Approximately 53.4% of the total study sample have been employed at the university for more than 5 years but less than 10 years, and about 28.8% of the sample have been employed for less than 5 years. This indicates diversity in the study's vocabulary, demonstrating that the sample is representative of the academic community.

11. Descriptive statistics

11.1 Digital Transformation variable:

The strength of the dimensions of the independent variable (Digital Transformation) was measured to assess their availability, and these dimensions were ranked in order of importance from the perspective of the study participants, as follows:

Table (3): Descriptive Statistics for the Digital Transformation Variable.

N	Phrases	Mean	Standard Deviation	Importance Ranking
1	We advance continuous learning in digital technologies	4.31	0.722	1
2	balance between general digital skills and specialized digital roles is adequate	3.46	1.084	4
3	We can assemble teams with the right mix of skills for each digital project	3.92	0.475	2
4	Employees are compound talents who understand both business and digitalization	3.62	0.924	3
5	organization provides employees with resources or opportunities to acquire the right digital skills for digital transformation	3.38	1.004	5
Employee Digital Skills (DS)		**3.74**	**0.585**	**third**
1	My company provides employees with resources or opportunities to acquire the right digital skills for digital transformation.	3.77	0.800	5
2	My company's digital transformation strategy can fundamentally change business processes.	4.15	0.534	3
3	My company's digital transformation strategy can improve employees experience and satisfaction.	4.23	0.697	1
4	My company's digital transformation strategy can improve innovation capabilities.	3.92	0.731	4
5	My company's digital transformation strategy can improve business decisions.	4.15	0.864	2
Digital Transformation Strategy (DTS)		**4.05**	**0.567**	**first**

N	Phrases	Mean	Standard Deviation	Importance Ranking
1	My company uses artificial intelligence	4.27	0.785	1
2	My company uses big data and data analytics	3.67	0.514	5
3	My company using IoT	4.08	0.785	2
4	My company uses social media (collaboration technology).	3.71	0.514	4
5	My company uses cybersecurity technologies.	4.02	0.703	3
Digital Technology (DT)		**3.95**	**0.660**	**second**
Overall Indicators		**3.91**	**0.604**	

From the previous table No. (3), we find that the most available dimensions of D.T. are respectively: The first (Digital Transformation Strategy (DTS) the Mean is (4.05) and a rate of (81%), The second (Digital Technology (DT) the Mean is (3.95) the rate is (79%), The third (Employee Digital Skills (DS) the Mean is (3.74) the rate is (74.8%).

Therefore, there is a high availability of D.T. dimensions, and opinions tend to agree, with the overall average of the dimensions being (3.91), with an agreement rate (79.2%).

11.2 Change Management variable:

The dimensions of the dependent variable (Change Management) were measured to assess their availability, and these dimensions were ranked in order of importance from the perspective of the study participants, as follows:

Table (4): Descriptive Statistics for the Change Management Variable.

N	Phrases	Mean	Standard Deviation	Importance Ranking
1	I understand the reasons for changing in the company.	4.00	0.962	2
2	I understand the difficulties in changing in the company.	4.23	0.422	1
3	I know how effective changing in the company.	3.85	0.950	3
4	I am aware of the goals of the changing in the company.	3.54	0.844	4
Spread Awareness		**3.90**	**0.670**	**third**
1	I am excited to be part of this change.	4.08	0.829	3
2	There are great opportunities for me in the change.	3.69	0.822	4
3	I support the implementation of digital transformation in the company.	4.38	0.487	1

N	Phrases	Mean	Standard Deviation	Importance Ranking
4	I will benefit from the change towards digital transformation.	4.23	0.576	2
Inspire Desire		**4.10**	**0.434**	**second**
1	I have the necessary skills to cope with the change.	4.31	0.462	1
2	I understand how my work relates to the change.	3.92	0.475	2
3	I have clarity on the change.	3.38	0.487	4
4	I have the necessary knowledge to cope with the change.	3.85	0.864	3
Impart knowledge		**3.87**	**0.412**	**fourth**
1	I can cope with the change.	4.46	0.499	1
2	I can positively contribute to the change.	4.15	0.361	3
3	I will be able to perform better due to the changes that are brought about.	4.00	0.555	4
4	I have the ability to perform at the level that the changes require.	4.23	0.576	2
Improve ability		**4.21**	**0.323**	**first**
1	My team members support the change.	3.31	0.822	
2	My manager supports the change.	4.31	0.722	
3	My uncertainties have been addressed.	2.77	0.974	
4	I will personally grow because of this change.	3.38	1.148	
Reinforce Changes		**3.44**	**0.652**	**Fifth**
Overall Indicators		**3.904**	**0.498**	

From the previous table No. (4), we find that the most available dimensions of Ch.M. are respectively: The first (Ability) the Mean is (4.21) and a rate of (84.23%), The second (Desire) the Mean is (4.10) the rate is (81.92%), The third (Awareness) the Mean is (3.90) the rate is (78.08%), the fourth (Knowledge) the Mean is (3.87) the rate is (77.31%), the fourth (Reinforcement) the Mean is (3.44) the rate is (68.85%).

Therefore, there is a high availability of Ch.M. dimensions, and opinions tend to agree, with the overall average of the dimensions being (3.90), with an agreement rate (78.08%).

12. Test the Hypotheses of the Study:

The objective of the study is to examine the validity of the main hypotheses of the study and its sub-hypotheses. These tests are the main objective of the study, through which the researcher seeks to know the essence, strength, and direction of this effect.

The main hypothesis: "There is a statistically significant impact of Digital Transformation on the Change Management in Iraqi universities in Diyala province". Several hypotheses emerge from this main hypothesis:

- **Testing the first subsidiary hypothesis:**

The one that states the following **" There is a statistically significant impact of Digital Transformation on Change Management among Iraqi universities in Diyala province".**

This hypothesis was divided into four sub-hypotheses, Multiple linear regression was used to find out the effect of the independent variable (Digital Transformation) on the mediator variable (Change Management), and then use the relationship to predict the value of one of the two variables in terms of the other variable. The regression analysis was used by (F&T) testing as follows:

Table (5): Results of a regression analysis of impact of Digital Transformation on Change Management.

N	Dimensions	(R²)	(F)	Coef (β)	(T)	p-value
1-	**Employee Digital Skills (DS).**	0.424	304.23	0.346	17.44	0.000
2-	**Digital Transformation Strategy (DTS).**	0.118	34.76	0.123	6.87	0.000
3-	**Digital Technology (DT).**	0.136	44.48	0.128	5.21	0.000
	Total	**0.111**	**51.77**	**0.232**	**7.19**	**0.000**

Statistical significance at level (0.01).

From the previous table No. (5), we find that at the level of significance (0.01) and degrees of freedom (414), the value of the (F) test indicates the quality of the relationship model and the validity of the dependence without errors, where the value of (F) was equal to (51.77), which is statistically significant at a significant level (0.01).

The value of the determination coefficient (R^2), which equals (0.111), indicates that the (Digital Transformation) variable explains the change in (Change Management) by approximately (11.1%), and the percentage of random errors represented in the accuracy of the units of measurement remains for the variables, where it (42.4%) explains Of the variation in the dimension (Employee Digital Skills (DS)), and (11.8%) of the variance is explained in the dimension (Digital Transformation Strategy (DTS)), and (13.6%) of the variance is explained in the dimension (Digital Technology (DT)), which indicates the role and impact of the dimensions of a variable (Digital Transformation) in the interpretation of the Change Management.

Sub-Hypothesis:

1. There is a statistically significant effect of Employee Digital Skills (DS) on Change Management.

Table (5) shows that there is a positive direct effect of Employee Digital Skills (DS) on Change Management, since (β=0.346, t=17.44, sig. 0.01, p >0.05) Therefore, the null hypothesis is rejected

and the alternative hypothesis is accepted, which indicates that the Employee Digital Skills (DS) has an effect on Change Management at ($\alpha \leq 0.01$).

2.There is a statistically significant impact of Digital Transformation Strategy (DTS) on Change Management

Table (5) shows that there is a positive direct effect of Digital Transformation Strategy (DTS) on Change Management, since (β =0.123, t=6.87, p <0.01) Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted, which indicates that the Digital Transformation Strategy (DTS) has an effect on Change Management at ($\alpha \leq 0.01$).

3.There is a statistically significant impact of Digital Technology (DT) on Change Management.

Table (5) shows that there is a positive direct effect of Digital Technology (DT) on Change Management, since (β =0.128, t=5.21, p <0.01) Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted, which indicates that the Digital Technology (DT) has an effect on Change Management at ($\alpha \leq 0.01$).

13. Discussion:

The study conducted by Liu et al. in 2023 delves into the ambidextrous nature of digital transformation (DT) within organizations, emphasizing a holistic perspective. The authors define DT ambidexterity as the capacity to leverage digital technology for both enhancing the efficiency of existing business operations (DT exploitation) and fostering business growth (DT exploration). Drawing from the annual reports of Chinese firms as their primary data source, this research employs text mining and word frequency analysis to compile a dataset related to digital transformation. This dataset is then used to construct measures for DT exploitation, DT exploration, and DT ambidexterity, enabling the authors to investigate and compare their impacts on business performance. Interestingly, the findings reveal that the dominant observations in the research sample are associated with DT ambidexterity and DT exploitation, with DT exploration representing the smallest proportion. Furthermore, the study uncovers that DT exploitation, DT exploration, and DT ambidexterity exert positive effects on business performance, although the nature and magnitude of these effects vary across organizations.

The study conducted by Vendraminelli et al. in 2022 introduces a design-driven approach to conceptualizing and executing digital transformation initiatives. Leveraging principles from design theories, the authors propose a three-stage process: firstly, "understanding the reality," followed by "defining the digital transformation strategy," and finally, "transforming the digital transformation strategy into digital projects." This framework provides a structured pathway for managing digital transformation, encompassing both the development of a strategic plan and its subsequent implementation. Additionally, it serves as a valuable tool for practitioners and organizations to evaluate the control and attention given to each of these three pivotal stages within their digital transformation journey. By adopting this framework, inspired by the EYEWEAR approach, companies can proactively shape and optimize their digital transformation processes, ensuring that they are in sync with their strategic objectives and market demands.

Abdulquadri et al.'s 2021 study explores the role of chatbots as a digital transformation tool within emerging markets, particularly in Nigeria. The study focuses on their potential to reshape business models, enhance customer experiences, and drive financial inclusion. One key finding is the

widespread adoption of chatbots among Nigerian banks, primarily utilizing WhatsApp as their preferred platform for customer engagement. Notably, these chatbots are often portrayed with female gender identification.

However, the study also highlights some limitations in chatbot performance, especially when deviating from preset paths. It raises concerns about language diversity, as Nigeria is a multilingual country with English as the native language. Surprisingly, none of the chatbots incorporated any of the Nigerian local languages into their interactions, which could limit their effectiveness.

To leverage chatbots effectively for digital transformation in Nigeria, the study suggests that brands should reevaluate their chatbot strategies, focusing on response quality, pre-set questions, verification processes, and privacy considerations. Moreover, there's a need to explore branding opportunities for chatbots and develop content creation strategies for more engaging interactions. Crucially, the study emphasizes the importance of incorporating African languages into chatbots to better serve the diverse population.

The study conducted by Barreiro-Gen et al. in 2023 delves into the strategies adopted by ports to address sustainability challenges and adapt to changing environmental and societal pressures. The research methodology involved conducting twelve semi-structured interviews with top-level directors and sustainability managers representing a diverse set of ports across Europe's maritime regions, encompassing a variety of port types and sizes. The data collected from these interviews underwent rigorous analysis utilizing grounded theory's constant comparative analysis approach.

The study's key findings revolve around the idea that the success of ports in their journey towards sustainability hinges on their ability to harness driving forces while minimizing restraining ones. These findings culminate in the development of the "ports' sustainability change management framework," comprising five distinct stages: reactive, proactive, transactive, interactive, and sustainable port. This framework provides a structured roadmap for ports to navigate the complex landscape of sustainability, offering a strategic approach to becoming more environmentally and socially responsible.

Moosa et al.'s 2022 study provides a comprehensive overview of the knowledge landscape in the realm of change management. The primary objectives of the research are to map out the key contributors, institutions, and countries involved in this field and to elucidate the intellectual structure of this knowledge base through science mapping.

The study draws from a substantial dataset of 1,457 published documents retrieved from a SCOPUS search. Bibliometric indicators, such as authorship, institutional affiliations, and countries of origin, were employed in the analysis. Additionally, science mapping techniques, including keyword co-occurrence and co-citation analyses using VOSviewer, were applied.

The findings of the study underscore the growing body of scholarly work in the domain of change management. Notably, contributions to this field were observed from various regions worldwide, with particularly impactful research originating from Western and Asian countries. Importantly, the research on change management was categorized into four distinct schools of thought: 1) engineering and information and communication technology (Digital Transformation) industry, 2) organizational aspects of change, 3) leadership aspects of change, and 4) human aspects of change.

Kala's study in 2023 bridges an important gap by investigating the critical influence of change management on the success of Information Technology (IT) projects within the context of Digital Transformation (DT). This research specifically focuses on the consequences and implications for Small and Medium-sized Enterprises (SMEs) operating within the economic landscape of the

Democratic Republic of the Congo (DRC). To underpin the study, a research model rooted in the principles of the resource-based view (RBV) framework, particularly the transformation of human resources through change management, is employed.

The research model effectively delineates the interconnected relationship between change management, DT, and the success of IT projects, all of which ultimately contribute to enhancing the performance and resilience of SMEs. Empirical validation and testing of this model were conducted through the collection of 299 responses from SME managers in the DRC using a structured questionnaire and cross-sectional data collection methods. To analyze the gathered data, the author employed variance-based structural equation modeling (PLS-SEM) with the assistance of SmartPLS 3.0.

Pacolli's 2021 study conducts a systematic literature analysis to scrutinize current trends within the Change Management and Digital Transformation discipline. This research goes beyond the conventional approach, aiming to shed light on the often overlooked but critical role of change management in ensuring the sustainability of digital transformation initiatives.

The study delves into the impact of change management on the sustainability of digital transformation through a holistic perspective, emphasizing its significance in every facet of digital transformation success. The findings of this research contribute to the development of a comprehensive Change Management Framework, comprising three essential imperatives: Leadership, Communication, and Inclusion. These imperatives, in turn, serve as the bedrock for fostering sustainable and resilient digital transformation within organizations.

In essence, Pacolli's study underscores the fundamental importance of effective change management in achieving and maintaining the sustainability of digital transformation efforts. It highlights the role of leadership, communication strategies, and inclusivity in this process, offering valuable insights for practitioners aiming to ensure the success and long-term viability of their digital transformation initiatives. This research provides a valuable roadmap for organizations seeking to navigate the intricate landscape of digital transformation, ultimately contributing to their adaptability and resilience in the face of evolving challenges and opportunities.

14. Conclusion:

The study's conclusion presents several key findings related to the impact of Digital Transformation on Change Management in Iraqi universities in Diyala province. These findings shed light on the level of interest and correlation between the two variables, as well as the extent to which Digital Transformation influences Change Management, the results are as follows:

The study indicates a significant interest in Change Management among Iraqi universities in Diyala province. Respondents' opinions generally align with the importance of this variable. Furthermore, the study identifies the dimensions of Change Management, with 'Ability' being the most emphasized (84.23%), followed by 'Desire' (81.92%), 'Awareness' (78.08%), 'Knowledge' (77.31%), and 'Reinforcement' (68.85%). This emphasizes the significance of addressing these dimensions when implementing change in educational institutions.

The study also finds a substantial interest in Digital Transformation among the surveyed universities. The dimensions of Digital Transformation show positive results, with 'Digital Transformation Strategy (DTS)' being the most prominent (80.92%), followed by 'Digital

Transformation Strategy (DTS)' (74.77%), and 'Digital Technology (DT)' (65.54%). This suggests that institutions are receptive to embracing digital advancements.

The study uncovers a positive correlation between all dimensions of Digital Transformation and Change Management, with a strong direct correlation at a statistically significant level. This means that as Digital Transformation efforts increase, the effectiveness of Change Management also improves.

The research shows that Digital Transformation significantly affects Change Management. Digital Transformation explains approximately 11.1% of the variation in Change Management. Furthermore, a significant portion of the variance in the dimensions of Digital Transformation, such as 'Employee Digital Skills' (42.4%), 'Digital Transformation Strategy (DTS)' (11.8%), and 'Digital Technology (DT)' (13.6%), is attributed to its impact on Change Management.

15. Practical Implications:

Based on the results obtained from the study, several recommendations can be formulated to address the research problem and leverage the findings:

- **Recommendations related to Digital Transformation:**

From the results of the study, it is clear that there is a high degree of interest in Digital Transformation in Iraqi universities in Diyala province. Accordingly, the following recommendations related to supporting and strengthening strengths can be presented as follows:

Table (6): Action plan to support Digital Transformation in Iraqi universities in Diyala province.

Result	Recommendation	Responsibility	Requirements	Range
The study found that interest in Employee Digital Skills was high	Companies provide employees with resources or opportunities to acquire digital skills appropriate for digital transformation	Corporate senior management and heads of departments and IT administrators	Qualified human resources	Continuously
	Working to balance general digital skills with specialized digital roles is sufficient			
	Work on preparing and developing talent employees who understand both business and digitalization			
The study found that interest in	Companies are interested in providing	Corporate senior management	Training programs	Continuously

Result	Recommendation	Responsibility	Requirements	Range
Digital Transformation Strategy was high	employees with resources or opportunities to acquire digital skills appropriate for digital transformation	and heads of departments and IT administrators	the information Qualified human resources Knowledge	
	Ensure that the companies' digital transformation strategy contributes to improving innovation capabilities.			
	Ensure that the companies' digital transformation strategy contributes to a fundamental change in business operations.			
The study found that interest in Digital Technology was high	That companies use artificial intelligence technology in digital transformation.	Corporate senior management and heads of departments and IT administrators	Training programs the information Qualified human resources Knowledge	Continuously
	That companies use social media (collaboration technology).			
	Ensuring that companies use big data and data analytics			

- **Recommendations related to Change Management:**

From the results of the study, it is clear that there is a high degree of interest in Change Management in Iraqi universities in Diyala province. Accordingly, the following recommendations related to supporting and strengthening strengths can be presented as follows:

Table (7): Action plan to support Change Management in Iraqi universities in Diyala province.

Result	Recommendation	Responsibility	Requirements	Range
The study found that Awareness in	Ensure that workers are aware of the objectives of change in companies.	The top management of the companies	Training programs the information	Continuously

Result	Recommendation	Responsibility	Requirements	Range
Change managements was high	Keenness to know the effectiveness of change in companies.	And management managers And department heads	Qualified human resources Knowledge	
	Work to understand the causes of change in companies.			
The study found that Desire in Change managements was high	That all workers have ample opportunities in the process of change.	The top management of the companies And management managers And department heads	Training programs the information Technology Qualified human resources Knowledge	Continuously
	Instill enthusiasm in employees so that they can be part of the change through their active participation.			
	Work to ensure that all workers benefit from the change towards digital transformation.			
The study found that Knowledge in Change managements was high	Ensure that employees have clarity about change.	The top management t of the companies And management managers And department heads	Training programs the information Qualified human resources Knowledge	Continuously
	Ensure that employees have the necessary knowledge to deal with change.			
	Work on employees' understanding of how their work relates to change.			
The study found that Ability in Change managements was high	Supporting the ability of workers to perform better due to the changes that have taken place.	The top management of the companies And management managers And department heads	Training programs the information Qualified human resources Knowledge	Continuously
	Develop the ability of employees to contribute positively to change.			
	Support the ability of employees to perform at the level required by the changes.			
The study found that Reinforcement	Ensure that all employee doubts are addressed to	The top management of the companies	Training programs the information	Continuously

Result	Recommendation	Responsibility	Requirements	Range
in Change managements was high	reduce resistance to change.	And management managers And department heads	Qualified human resources Knowledge	

16. Limitations and Recommendation for Future Research:

The current study has been defined in some respects, so it is suggested that work be done to complete the scientific application in this field with future studies for applicants for graduate studies programs in Iraq universities, here are some suggested topics related to the current study topics:

1. Long-Term Implications of Digital Transformation in Iraqi Universities.
2. Regional Variations in Digital Transformation Adoption: A Comparative Analysis in Iraq.
3. Exploring Stakeholder Perspectives on Digital Transformation in Higher Education.
4. The Role of Change Management in Enhancing Educational Outcomes.
5. Benchmarking Iraqi Universities Against International Digital Transformation Practices.
6. Emerging Technologies and Change Management in Higher Education.
7. Cultural Factors and Digital Transformation Implementation in Iraqi Universities.
8. Government Policies and Digital Transformation in Higher Education.
9. Effective Strategies for Change Management in Higher Education Institutions.
10. Faculty Perspectives on Digital Transformation in Iraqi Universities.

By pursuing these research directions, scholars and practitioners can further advance our understanding of the complex relationship between DIGITAL TRANSFORMATION and HRD, ultimately leading to more informed decision-making and enhanced HR practices in organizations.

17. List of References:

1. Abdulquadri, A., Mogaji, E., Kieu, T.A. & Nguyen, N.P. (2021), "Digital transformation in financial services provision: a Nigerian perspective to the adoption of chatbot", **Journal of Enterprising Communities: People and Places in the Global Economy**, Vol. 15 No. 2, pp. 258-281.
2. Barreiro-Gen, M., Lozano, R., Carpenter, A. and Bautista-Puig, N. (2023), "Analysing sustainability change management in government owned companies: experiences from European ports", **Social Responsibility Journal**, Vol. 19 No. 6, pp. 1037-1050. https://doi.org/10.1108/SRJ-04-2022-0165.
3. Haffar, Mohamed, Al-Karaghouli, Wafi, Ramdane, Djebarni, & Gbolahan, Gbadamosi, (2019), "The influence of individual readiness for change dimensions on quality management implementation in Algerian manufacturing organizations", **International Journal of Production Economics**, Vol. 207, P. 247-260.
4. Hassan, F.A. (2021). The Challenges Facing Iraqi Universities in the Digital Transformation Era: Analytical Study of the Opinions of a Sample of Iraqi Academics in the City of Amara. **Al-Qadisiyah Journal for Administrative and Economic Sciences**, 23(1), 98-118.
5. Heleta, S., & Jithoo, D. (2023). International research collaboration between South Africa and the rest of the world: An analysis of 2012–2021 trends. **Transformation in Higher Education**, 8. https://doi.org/10.4102/the.v8i0.246.

6. Kala Kamdjoug, J.R. (2023), "Change management and digital transformation project success in SMEs located in the Democratic Republic of the Congo", **Journal of Enterprise Information Management**, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/JEIM-09-2022-0340.

7. Liu, Q.-R., Liu, J.-M. and He, Z.-P. (2023), "Digital transformation ambidexterity and business performance", **Journal of Enterprise Information Management**, Vol. 36 No. 5, pp. 1402-1420. https://doi.org/10.1108/JEIM-08-2022-0280.

8. Moosa, V., Khalid, A.H. and Mohamed, A. (2022), "Intellectual landscape of research on change management: a bibliometric analysis", **Management Research Review**, Vol. 45 No. 8, pp. 1044-1059. https://doi.org/10.1108/MRR-04-2021-0256.

9. Oboreh, J.C., Nebolisa O., & Esione, U.O., (2019), "Change Management and Organizational Performance in Selected Manufacturing Companies in Anambra State, Nigeria", **The International Journal of Social Sciences and Humanities Invention**, Vol. 6, No. 5, P. 5437-5445.

10. Pacolli, Melinda. (2021), Importance of Change Management in Digital Transformation Sustainability, **IFAC-PapersOnLine,** Vol. 55, No. 39, pp. 276-280

11. Phillips, J., & Klein, J.D. (2023). Change Management: From Theory to Practice. **TechTrends**, 67, 189–197. https://doi.org/10.1007/s11528-022-00775-0.

12. Reis, J., Amorim, M., Melão, N., & Matos, P. (2018). Digital Transformation: A Literature Review and Guidelines for Future Research. In Á. Rocha et al. (Eds.), WorldCIST'18 2018, AISC 745, pp. 411-421, 2018. Springer International Publishing AG, part of Springer Nature. https://doi.org/10.1007/978-3-319-77703-0_41.

13. Tan, N.N., Ngan, H.T.T., Hai, N.S., Anh, L.H. (2022). The Impact of Digital Transformation on the Economic Growth of the Countries. In: Ngoc Thach, N., Ha, D.T., Trung, N.D., Kreinovich, V. (Eds.), Prediction and Causality in Econometrics and Related Topics. ECONVN 2021. **Studies in Computational Intelligence**, vol 983. Springer, Cham. https://doi.org/10.1007/978-3-030-77094-5_49, pp 670–680.

14. Vendraminelli, L., Macchion, L., Nosella, A. & Vinelli, A. (2022), "Design thinking: strategy for digital transformation", **Journal of Business Strategy**, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/JBS-01-2022-0009.

15. Yue, Cen April, Men, Linjuan Rita, & Ferguson, M., (2019), "Bridging transformational leadership, transparent communication, employee openness to Change: The mediating role of trust", **Public Relations Review**, Vol. 45, No. 3, Article 101779.

16. Zubac, A., Dasborough, M., Hughes, K., Jiang, Z., Kirkpatrick, S., Martinsons, M.G., Tucker, D. & Zwikael, O. (2021), "The strategy and change interface: understanding "enabling" processes and cognitions", **Management Decision**, Vol. 59 No. 3, pp. 481-505.