



The Role of Digital Transformation in Increasing Employee Efficiency at King Khalid Hospital in Al Majmaah

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Abstract

This study aimed to examine the role of digital transformation (organizational strategy, organizational culture, transformational leadership, human resources) in enhancing the job performance of employees at King Khalid Hospital in Al-Majma'ah. The researcher employed a descriptive analytical methodology, using a questionnaire as a tool to measure the opinions of the participants, totaling (132) employees from King Khalid Hospital in Al-



Majma'ah. The Statistical Package for Social Sciences (SPSS) software was utilized to analyze the collected data. The study results confirmed that digital transformation plays a significant role in enhancing job performance. It also found that the organization's strategy, organizational culture, transformational leadership, and human resources all contribute to enhancing job performance. Based on the study findings, the researcher recommends that decision-makers in the Hospital prioritize the importance of digital transformation, as it effectively contributes to improving the job performance of Hospital employees. They should work on developing programs to leverage technological advancements to serve beneficiaries faster and better, especially in areas related to job performance. Additionally, efforts should be made to encourage and train employees to acquire entirely new skills in data analysis, mobile technologies, and social communication. Furthermore, there should be a focus on retaining qualified human resources and talents while attracting new talents to the Hospital. Collaborative protocols should also be established with specialized entities to support digital transformation and provide the necessary resources for the Hospital needs.

Keywords: Digital Transformation, Job Performance, Employees at King Khalid Hospital in Al-Majma'ah

Introduction

The integration of digital technologies across various sectors is no longer a luxury or a distinctive feature of some global companies. Instead, it has become an essential necessity for all sectors, including education, operations, training, industry, commerce, and more. It is now the language of the era and a fundamental approach to conducting activities in various fields. Traditional practices cannot keep pace with the massive volume of data and information, nor can they meet the demands of the era and its rapid development. This necessitates modern mechanisms and strategies to manage, control, and maximize the use of information (Al-Sawwat & Al-Harbi, 2022).

In this context, institutions must embrace digital transformation and develop the necessary plans to advance. Many institutions suffer from the lack of digital technology adoption, insufficient expertise, and a shortage of specialized functional cadres that can contribute to their technological and digital growth. This negatively impacts their products and services, particularly as nations strive for digital excellence to satisfy customers, achieve effectiveness, and contribute to the knowledge society. Consequently, this research aims to explore the role of digital transformation in enhancing employee efficiency (Hammad, 2020).

Numerous researchers assert that social and digital development is one of the most significant and effective contributors to improving employee performance in all countries, especially developing ones. Digital development is considered a fundamental starting point for increasing the productivity of various organizations. In light of the rapid changes brought about by digital advancement, stakeholders in various sectors have adopted digital



technologies to enhance decision-making and improve company performance. The accelerated growth and technological advancements in digital technologies have also brought about a radical change in the administrative processes within companies (Hammad, 2020).

All organizations aim to achieve a competitive edge by enhancing and developing employee performance, which can always be improved by completing tasks efficiently and effectively. Employee performance is a cornerstone of any organization, and it is inconceivable to imagine an organization without this element, given its pivotal role in organizational development. Hence, all economic or service organizations strive to employ every means possible to enhance employee efficiency. In recent years, there has been increasing interest in employee performance across organizations, jobs, and the diverse roles influencing institutional inputs and outputs. Employee performance is nurtured and preserved by developing innovative practices and solutions that enable employees to improve their performance (Rizq, 2022).

King Khalid Hospital strives to make full use of its human and material resources to fulfill its role in development and collaborate with other universities in Saudi Arabia to train and prepare scientific and practical cadres for the labor market and meet the nation's sustainable development needs. The hospital also aims to contribute to building an innovative knowledge system in the Kingdom by highlighting its scientific and practical role, providing a stimulating medical environment that combines distinguished practical staff, advanced scientific equipment, and modern curricula. Given the importance and stature of this hospital, it is essential to enhance employee efficiency. Thus, digital transformation was chosen as the focus of this study to boost employee efficiency (Safhi, 2023).

Study Problem

Under Saudi Arabia's Vision 2030, the government has worked diligently to implement digital transformation in all sectors. The aim of the Digital Transformation Program is to improve the necessary infrastructure and create a conducive environment for the public, private, and nonprofit sectors by achieving excellence in government performance, promoting digital transformation, contributing to the private sector's development, fostering economic partnerships, supporting social development, and ensuring the sustainability of vital resources (National Transformation Program, 2023).

Business organizations face numerous challenges hindering their success and development, such as reliance on paperwork, increased operational costs, delays in transaction completion, and errors that reduce the quality of products and services. These issues escalate production costs, create an unproductive organizational climate, hinder employee efficiency, and impede information sharing among employees, administrative levels, and organizational units. This calls for digital transformation to support and enhance employee efficiency in organizations (Al-Rawahneh, 2013).



From this perspective, the research problem can be summarized in the following question:
"What is the role of digital transformation in enhancing employee efficiency at King Khalid Hospital in Al-Majma'ah?"

Study Questions

The main research question generates the following sub-questions:

1. What is the effect of organizational strategy on enhancing employee efficiency at King Khalid Hospital in Al-Majma'ah, Saudi Arabia?
2. What is the impact of organizational culture on enhancing employee efficiency at King Khalid Hospital in Al-Majma'ah, Saudi Arabia?
3. What is the role of transformational leadership in enhancing employee efficiency at King Khalid Hospital in Al-Majma'ah, Saudi Arabia?
4. What is the effect of human resources on enhancing employee efficiency at King Khalid Hospital in Al-Majma'ah, Saudi Arabia?
5. Are there statistically significant differences in respondents' opinions regarding digital transformation and its impact on enhancing employee efficiency at King Khalid Hospital in Al-Majma'ah based on variables such as gender, age, educational qualification, and years of experience?

Study Objectives

The main objective of this study is to investigate the role of digital transformation in enhancing employee efficiency at King Khalid Hospital in Al-Majma'ah. This primary objective encompasses the following sub-objectives:

1. To explore the role of organizational strategy in enhancing employee efficiency at King Khalid Hospital in Al-Majma'ah, Saudi Arabia.
2. To assess the impact of organizational culture on enhancing employee efficiency at King Khalid Hospital in Al-Majma'ah, Saudi Arabia.
3. To examine the role of transformational leadership in enhancing employee efficiency at King Khalid Hospital in Al-Majma'ah, Saudi Arabia.
4. To evaluate the impact of human resources on enhancing employee efficiency at King Khalid Hospital in Al-Majma'ah, Saudi Arabia.
5. To identify statistically significant differences in respondents' perspectives on digital transformation and its influence on enhancing employee efficiency based on variables such as gender, age, educational qualification, and years of experience.



Study Significance

The significance of this study can be categorized as follows:

Theoretical Significance:

- **Enhancing theoretical understanding:** This study contributes to a better understanding of how digital transformation impacts employee efficiency in healthcare. It provides a theoretical framework to understand the relationship between technology and employee performance.
- **Guiding future research:** The findings of this study can inform future research on the impact of digital transformation in healthcare, highlighting potential research pathways.
- **Advancing management theory:** The study contributes to management theory by exploring the effects of digital transformation on organizational effectiveness and deepening our understanding of technological impacts on administrative processes.
- **Improving management and decision-making:** The findings can offer valuable insights for King Khalid Hospital's management regarding the benefits of digital transformation and its impact on employee efficiency, enabling evidence-based strategic decisions.
- **Enriching scientific knowledge:** This research can enhance the scientific understanding of digital transformation and its effect on operational efficiency, contributing to the administrative and healthcare literature and advancing relevant theories.

Practical Significance:

- **Improving care quality:** Digital transformation can enhance employee efficiency and improve patient care quality. By implementing digital technologies, healthcare staff can deliver services more efficiently and accurately.
- **Boosting productivity and streamlining operations:** Digital transformation can optimize hospital operations and increase productivity through digital health information systems and technologies that streamline workflows.
- **Providing data-driven care:** Digital transformation offers reliable and accurate patient data, enabling informed decision-making and personalized care.
- **Enhancing communication and coordination:** Digital technologies can improve communication and coordination among medical teams, facilitating quick and efficient information exchange and enhancing patient care.



- **Improving patient experience and satisfaction:** Digital transformation enables better patient experiences through faster information access and personalized care, boosting satisfaction and trust in the hospital.

Study Hypotheses

Main Hypothesis 1:

There is a statistically significant impact ($\alpha \leq 0.05$) of digital transformation on enhancing employee efficiency at King Khalid Hospital in Al-Majma'ah.

- Sub-hypotheses:
 1. Organizational strategy significantly impacts employee efficiency at King Khalid Hospital in Al-Majma'ah ($\alpha \leq 0.05$).
 2. Organizational culture significantly impacts employee efficiency at King Khalid Hospital in Al-Majma'ah ($\alpha \leq 0.05$).
 3. Transformational leadership significantly impacts employee efficiency at King Khalid Hospital in Al-Majma'ah ($\alpha \leq 0.05$).
 4. Human resources significantly impact employee efficiency at King Khalid Hospital in Al-Majma'ah ($\alpha \leq 0.05$).

Main Hypothesis 2:

There are statistically significant differences ($\alpha \leq 0.05$) in the responses of study participants regarding the impact of digital transformation on employee efficiency based on variables such as gender, age, educational qualification, and years of experience.

Study Scope

- **Subject Scope:** This study focuses on the impact of digital transformation dimensions on enhancing employee efficiency.
- **Human Scope:** The study targets a random sample of employees at King Khalid Hospital in Al-Majma'ah.
- **Geographical Scope:** King Khalid Hospital in Al-Majma'ah.

Study Terminology

- **Digital Transformation:** The process by which institutions shift to a business model centered on digital technologies and tools to create innovative services and products while increasing the value of their offerings (Chaniasa, 2019).
- **Dimensions of Digital Transformation (Mohammad, 2019):**



1. **Organizational Strategy:** Decisions focusing on the organization's relationship with its external environment.
 2. **Organizational Culture:** Shared concepts, values, and principles prevalent among employees within the organization.
 3. **Transformational Leadership:** A leadership style focused on understanding employee needs and aspirations, promoting capacity-building, and adapting to changes.
 4. **Human Resources:** All employees within the organization, each performing various job tasks that collectively contribute to achieving organizational goals.
- **Employee Performance Development:** Applying modern techniques and best practices in employee tasks to meet customer needs (Hammad, 2020).

lecture review

Farouk (2023): The Role of Digital Transformation Strategy in Developing Human Resources Management Functions: Application in Egyptian Public Banks. This study explored the challenges faced by HR management in public institutions in Egypt, particularly the difficulty of achieving institutional objectives through traditional HR practices. It examined how digital transformation strategies enhance HR functions, focusing on recruitment, training, and payroll management. Data was collected from 120 managerial-level employees in public banks using a descriptive analytical method. Results indicated a positive correlation between digital transformation and HR practices, improving accuracy, access to information, and strategic planning in training and career management.

Al-Rashed (2023): The Role of Digital Transformation in Private Tourism Hospitality Facilities in Riyadh. This study analyzed the impact of digital transformation on enhancing investment in private hospitality facilities in Riyadh. It highlighted government efforts through digital programs and initiatives to support individuals in the tourism market. The sample included 100 employees in hospitality facilities, and the study used a descriptive analytical approach. Findings revealed that digital tools improved product quality, diversity, and competitiveness, contributing to increased tourist satisfaction and economic growth. The study projected 100 million tourists by 2030 as part of Saudi Vision 2030.

Bin Lahrech (2023): The Impact of E-Management on Enhancing Job Performance in Al Baraka Bank in Algeria. This research focused on the effect of e-management on job performance at Al Baraka Bank. Using data from 32 employees and a descriptive analytical approach, the study found that e-management improved job performance by 72.9%.

Bakkar (2022): The Impact of Digital Transformation on Employee Performance in Jordanian Civil Courts during COVID-19. This study assessed the role of digital transformation—considering technology infrastructure, policies, skills, and funding—in



improving job performance in Jordanian civil courts. Data from 298 employees revealed significant positive effects of digital transformation on employee performance during the pandemic.

Saqqat and Abdul Rahman (2022): Digital Transformation in Government Institutions under Vision 2030—Case Study: Al Noor Hospital, Mecca. This study evaluated the strategic readiness for digital transformation at Al Noor Hospital, utilizing data from 52 employees. Results indicated proactive strategic planning to convert challenges into opportunities, aligning with broader efforts for training, awareness, and digital readiness.

Al-Azmi (2022): Digital Transformation and Service Quality for Kuwaiti Citizens. The study explored the relationship between digital transformation and service quality for Kuwaiti citizens. Using data from 340 participants, results confirmed a strong positive correlation between digital transformation dimensions and the quality of services provided.

Attia (2022): The Effect of Digital Transformation on Strategic Performance in Egyptian Industrial Companies. This research examined how digital transformation influenced strategic performance in Egyptian industrial firms listed on the stock exchange. Data from 255 employees revealed significant impacts of organizational culture, leadership, and human resources on strategic performance through digital transformation.

Salmi (2022): The Impact of Digital Transformation on HR Management in Algerian Public Institutions. Using data from 62 employees in Algerian public institutions, this study demonstrated a statistically significant positive impact of digital transformation on HR management, supporting sustainable development.

Habishi (2021): Digital Transformation and Performance in Yemeni Mobile Companies. This study analyzed digital transformation dimensions—such as technology, human resources, and database digitization—in Yemeni mobile companies. Data from 182 respondents indicated high levels of digital transformation and performance, though the overall impact was moderate.

Hammad (2020): Digital Transformation and Employee Development in the Egyptian Pharmaceutical Trading Company. Focusing on 318 employees, this study identified a statistically significant relationship between digital transformation and employee performance. It also highlighted gaps in strategic planning, leadership preparation, and digital infrastructure.

Othman (2020): Digital Transformation and Job Performance in Social Service Institutions. Using data from 85 employees, this study confirmed a positive relationship between digital transformation and job performance in social service institutions while identifying challenges such as training and technological readiness.



Hamdan (2020): The Impact of Smart Digital Environments on Government Sector Performance. This study assessed smart digital technologies in Egypt's Central Agency for Organization and Administration. Data from 300 employees showed improvements in service delivery and communication, though some processes required further enhancement.

Carla et al. (2020): Impact of Digital Transformation on Individual Performance in Peruvian Insurance Companies. Analyzing 158 employees across five Peruvian cities, this study found that digital customer service tools positively affected task and contextual performance but had no impact on counterproductive behaviors.

Sadek & Youssef (2022): The Impact of Digital Transformation on Guest Loyalty in Marsa Alam Hotels. This study examined how digital transformation practices influenced customer loyalty in four-star hotels. Using data from 384 guests, findings showed significant improvements in brand awareness, customer experience, and competitiveness in the tourism sector.

Study Methodology

Definition of Study Method

The research methodology is defined as "a method of effectively organizing a set of diverse ideas aimed at uncovering the truth of a phenomenon" (Obeidat et al., 2020). Based on the study's objectives, the researcher employed the **descriptive-analytical method**, which involves "analyzing sufficient and accurate information about a specific phenomenon over a known period to derive scientific results interpreted objectively in line with actual data" (Al-Ash'ari, 2016).

Research Population and Sample

The research population included **all employees working at King Khalid Hospital in Al-Majma'ah** during 2024, totaling **200 employees**. The sample size was calculated using **Richard Geiger's formula**:

$$n = \frac{\left(\frac{z}{d}\right)^2 \times (0.50)^2}{1 + \frac{1}{N} \left[\left(\frac{z}{d}\right)^2 \times (0.50)^2 - 1\right]}$$

Where:

- **n**: Sample size
- **N**: Population size



- **Z:** Standard score for a 95% confidence level (1.96)
- **d:** Margin of error (0.05)

The calculated sample size was **132 employees**, representing approximately **66%** of the total population.

Tools and Techniques

The research questionnaire consisted of two main sections:

1. **Demographic Data:** Information about the employees of King Khalid Hospital, including gender, age, education level, and years of experience.
2. **Main Questionnaire Statements:** Comprising **28 items** across two main axes:
 - **Axis 1: Digital Transformation** (16 items across four dimensions):
 - Organizational Strategy (4 items)
 - Organizational Culture (4 items)
 - Transformational Leadership (4 items)
 - Human Resources (4 items)
 - **Axis 2: Enhancing Employee Efficiency** (12 items).

Statistical Measures and Questionnaire Validation

Five-Point Likert Scale

To interpret the data, the range of the Likert scale was calculated:

$\text{Range} = (\text{Max Value} - \text{Min Value}) / 5 = 4 / 5 = 0.8$
 $\text{Range} = (\text{Max Value} - \text{Min Value}) / 5 = 4 / 5 = 0.8$ The distribution was as follows:

Table (3-1) Arithmetic averages of the research questionnaire scale

Agreement Level	Score	Range		Level
Strongly Agree	5	4.21	5	Very High
Agree	4	3.41	4.20	High
Neutral	3	2.61	3.40	Medium
Disagree	2	1.81	2.60	Low
Strongly Disagree	1	1	1.80	Very Low



Instrument Validity

Apparent Validity

Apparent validity assesses the general appearance of the instrument, including the clarity, type, and objectivity of its statements, and whether they measure the intended constructs (Al-Khouli, 1998, p. 55). To verify the apparent validity of the research instrument, the researcher presented it to a panel of experts specializing in different fields. The panel reviewed its structure, content, and suitability for application. Following their feedback, necessary adjustments were made to the instrument's final version, confirming its apparent validity for field application.

Internal Consistency Validity

Internal consistency validity ensures that each statement within a dimension measures the same construct as the other statements. This type of validity helps identify and exclude invalid statements. The method relies on calculating internal correlations between the dimensions of the instrument and generating correlation matrices to assess their coherence. High consistency levels indicate higher validity and reliability of the scale (Salama, 2002, p. 187).

The internal consistency of the statements was calculated using **Pearson's correlation coefficient** between each statement's score and the total score for the corresponding dimension. Additionally, correlations were calculated between the dimensions and their total scores using the **SPSS** statistical package. The analysis was conducted as follows:

Table (3-2): The value of the correlation coefficients between the score of each statement of the first axis and the total score of the dimension to which it belongs

Dimension	No.	Statement	Correlation with Dimension	Significance Level
Organizational Strategy	1.	The hospital has a clear and documented vision for digital transformation.	0.869**	0.000
	2.	The hospital's policies contribute to implementing the strategic digital transformation plan.	0.916**	0.000
	3.	The hospital's strategy is periodically reviewed to align with digital transformation.	0.894**	0.000
	4.	There is alignment between the digital transformation strategy and the hospital's	0.862**	0.000



		vision and objectives.		
Organizational Culture	1.	Hospital management promotes employee participation in digital transformation processes.	0.883**	0.000
	2.	The hospital ensures employees acquire necessary skills for digital transformation.	0.904**	0.000
	3.	The hospital is committed to improving service quality.	0.920**	0.000
Transformational Leadership	1.	The hospital fosters a culture of innovation in service delivery.	0.888**	0.000
	2.	Employees are encouraged to share the vision of digital transformation.	0.879**	0.000
	3.	Hospital leadership motivates employees to achieve digital transformation goals.	0.909**	0.000
	4.	Employees are empowered to improve performance.	0.885**	0.000
Human Resources	1.	The hospital ensures employee skills align with digital transformation requirements.	0.902**	0.000
	2.	The hospital aligns HR planning with digital transformation processes.	0.851**	0.000
	3.	The hospital provides training tailored to digital transformation needs.	0.900**	0.000
	4.	Recruitment processes are aligned with job requirements.	0.892**	0.000

** Correlation is significant at the 0.01 level.

From the table, it is evident that the correlation coefficients between the mean score of each statement under **Axis 1: Digital Transformation** and the total mean score for its respective dimension range between **0.837 and 0.920**. All correlations are statistically significant at the **0.01 level**, indicating a high degree of validity for the statements in this axis and their suitability for field application.

The correlation coefficients between the mean scores of the four dimensions of **Axis 1** and the total mean score for the axis were calculated, as shown in the table below:



Table (3-3): Correlation Coefficients Between the Dimensions of Axis 1 and Total Axis Score

No.	Dimension	Correlation with Total Axis Score	Significance Level
1	Organizational Strategy	0.914**	0.000
2	Organizational Culture	0.941**	0.000
3	Transformational Leadership	0.949**	0.000
4	Human Resources	0.926**	0.000

** Correlation is significant at the **0.01 level**.

From the table, it is clear that the correlation coefficients between the mean score of each dimension under **Axis 1: Digital Transformation** and the total mean score for the axis range between **0.914 and 0.949**. All correlations are statistically significant at the **0.01 level**, indicating that the dimensions of this axis exhibit a high degree of validity and are suitable for field application.

Table (3-4) illustrates the internal consistency, as measured by **Pearson's correlation coefficients**, between each statement under **Axis 2: Enhancing Employee Efficiency** at King Khalid Hospital in Al-Majma'ah and the total score for this axis.

Table (3-4): Pearson Correlation Coefficients for Statements in Axis 2 (Enhancing Employee Efficiency)

No.	Statement	Correlation	Significance Level
1.	I organize my tasks and responsibilities effectively.	0.795**	0.000
2.	I complete all my job duties within the specified time.	0.807**	0.000
3.	I compare my achievements with planned goals and programs.	0.788**	0.000
4.	I coordinate with others to perform my job duties.	0.811**	0.000
5.	I plan my work before execution.	0.816**	0.000
6.	I strive to achieve the hospital's general	0.842**	0.000



	objectives in performing my duties.		
7.	Receiving incentives improves my job performance.	0.807**	0.000
8.	I continuously work on improving my skills and abilities.	0.807**	0.000
9.	I handle interpersonal interactions with tact and skill.	0.839**	0.000
10.	I correct my mistakes while performing my work.	0.838**	0.000
11.	I successfully make important decisions.	0.776**	0.000
12.	I use modern technologies in performing my work.	0.636**	0.000

** Correlation is significant at the **0.01 level**.

From the previous table, the correlation coefficients between the mean score of each statement under **Axis 2: Enhancing Employee Efficiency** and the total mean score for the axis ranged between **0.636 and 0.842**. All correlations were statistically significant at the **0.01 level**, indicating a high degree of validity for the statements in this axis and confirming their suitability for field application.

Reliability of the Research Instrument

The reliability of the questionnaire refers to its ability to produce consistent results when distributed multiple times under the same conditions. In other words, reliability ensures the stability of the questionnaire’s results over repeated applications to the same sample within a specified period (Al-Qamsh, 2000).

The researcher evaluated the reliability of the questionnaire using **Cronbach's Alpha Coefficient**, as shown in **Table (3-5)**.

Table (3-5): Cronbach's Alpha Coefficient for the Reliability of the Research Instrument

No.	Axis/Dimension	Number of Statements	Cronbach's Alpha	Reliability (%)
1	Organizational Strategy	4	0.908	%90.8
	Organizational Culture	4	0.920	%92.0
	Transformational Leadership	4	0.916	%91.6



	Human Resources	4	0.890	%89.0
Axis 1: Digital Transformation		16	0.969	%96.9
Axis 2: Enhancing Employee Efficiency		12	0.946	%94.6
Overall Axis		28	0.974	%97.4

The results in **Table (3-5)** indicate that the reliability scores are appropriate, ranging between **89.0% and 92.0%** for the dimensions of **Axis 1: Digital Transformation**. The overall reliability score for all items in Axis 1 is **96.9%**, while for **Axis 2: Enhancing Employee Efficiency**, it is **94.6%**. The overall reliability for the entire questionnaire is **97.4%**, reflecting excellent reliability, confirming the stability of the instrument and its suitability for field application.

Characteristics of the Sample

This study includes a set of independent variables related to the professional and personal characteristics of the participants, such as **gender, age, educational level, and years of experience**. The sample distribution is summarized in **Table (4-1)**:

Table (4-1): Sample Distribution by Demographic Characteristics (N = 296)

Variable	Category	Count	Percentage (%)
Gender	Male	111	83.8%
	Female	21	16.2%
Age	Below 30 years	18	13.9%
	30–40 years	61	45.9%
	41–50 years	45	33.8%
	Above 51 years	8	6.4%
Education Level	Bachelor’s Degree	87	66.2%
	Master’s Degree	30	22.6%
	Doctorate	15	11.1%



Years of Experience	Less than 5 years	53	40.2%
	5–10 years	40	30.4%
	More than 10 years	39	29.4%

It is evident from the previous table (4-1) that the distribution of research sample characteristics with respect to the gender variable shows that the sample included **111 male employees (83.8%)**, constituting the majority of the sample, while the remaining **21 employees (16.2%)** are female.

Regarding the age variable, the table indicates that there are **61 respondents aged between 30 to 40 years (45.9%)**, **45 respondents aged between 41 to 50 years (33.8%)**, **18 respondents aged below 30 years (13.9%)**, and **8 respondents aged over 51 years (6.4%)** of the sample.

As for the educational level variable, the table reveals that **87 respondents (66.2%)** hold a Bachelor’s degree, **30 respondents (22.6%)** have a Master’s degree, and there are **15 respondents (11.1%)** with a Doctorate degree.

Concerning the years of experience variable, the table shows that approximately one-third of the sample, **53 respondents (40.2%)**, have less than 5 years of experience, **40 respondents (30.4%)** have between 5 to less than 10 years of experience, and **39 respondents (29.4%)** have more than 10 years of experience. Subsequent figures further illustrate these distributions.

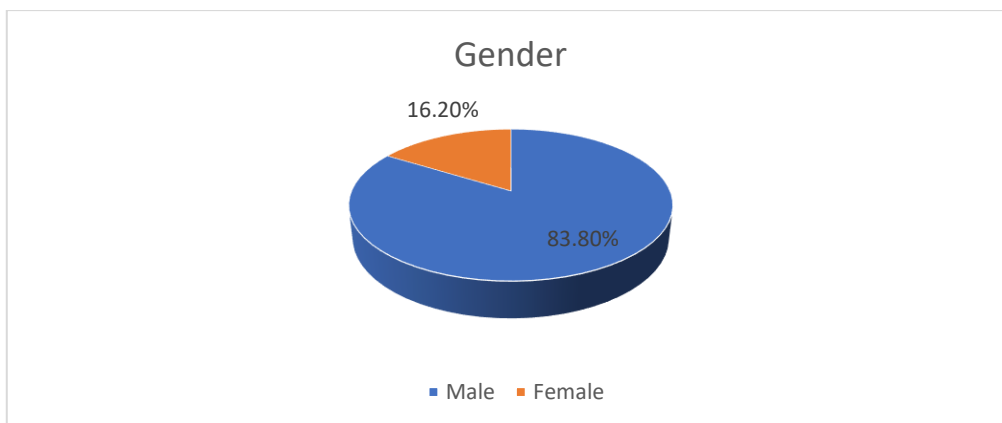


Figure (4-1): Distribution of the Research Sample According to the Gender Variable

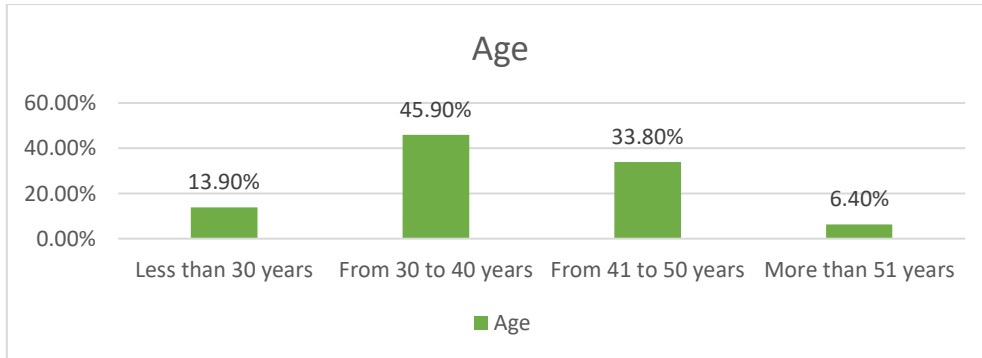


Figure (4-2): Distribution of the Research Sample According to the Age Variable

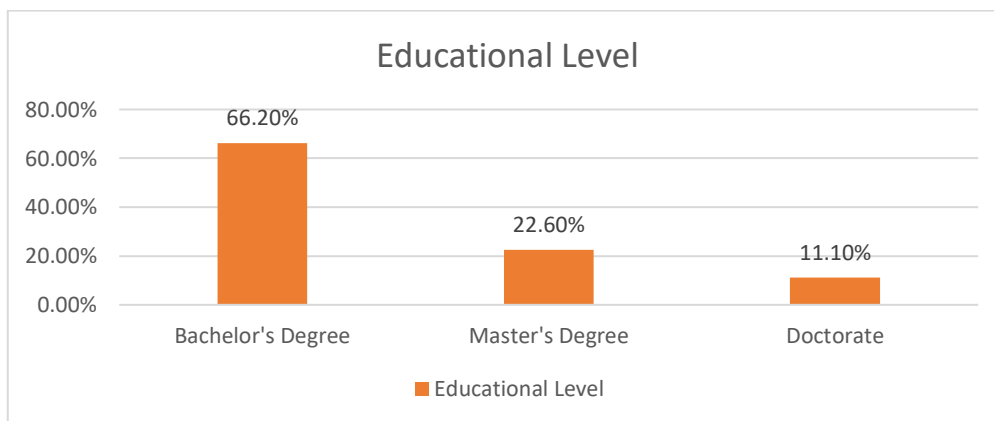


Figure (4-3): Distribution of the Research Sample According to the Educational Level Variable

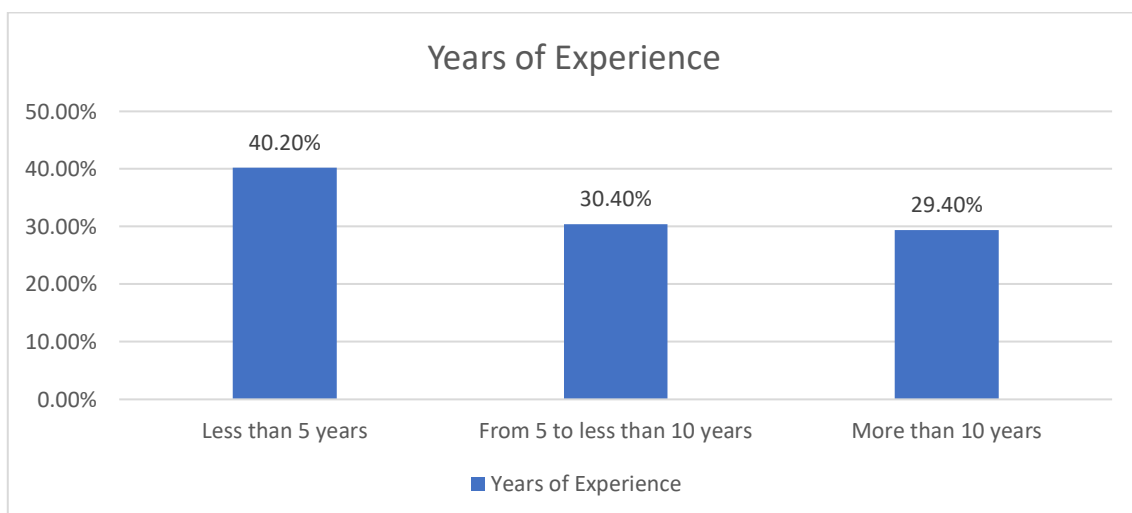


Figure (4-4): Distribution of the Research Sample According to the Years of Experience Variable



Results Related to the Research Questions and Hypotheses:

Analysis and Interpretation of the First Question and Hypothesis:

Research Question:

Is there a statistically significant effect at the level ($\alpha \leq 0.05$) of the organization's strategy on improving employee efficiency at King Khalid Hospital in Al-Majma'ah?

Sub-Hypothesis 1: There is a statistically significant effect at the level ($\alpha \leq 0.05$) of the organization's strategy on improving employee efficiency at King Khalid Hospital in Al-Majma'ah.

To test this hypothesis, the researcher employed the simple linear regression test, as detailed in Tables (4-2), (4-3), and (4-4).

Table (4-2): Model Summary of the Effect of the Organization's Strategy on Improving Employee Efficiency

Correlation Coefficient (R)	Coefficient of Determination (R ²)	Adjusted R ²	Standard Error
0.729	0.532	0.530	0.391

The results in the table indicate that the linear correlation coefficient (R) is 0.729, suggesting a strong positive correlation between the organization's strategy and employee efficiency. The determination coefficient (R²) of 0.532 indicates that the organization's strategy accounts for 53.2% of the variation in improving employee efficiency at King Khalid Hospital in Al-Majma'ah. The associated ANOVA table (Table 4-3) confirms the suitability of the regression model to describe the relationship between the two variables:

Table (4-3): Simple Linear Regression Test for the Effect of the Organization's Strategy on Improving Employee Efficiency

Sum of Squares	Sum of Squares	Sum of Squares	Sum of Squares	Sum of Squares	Sum of Squares
Regression	51.016	1	51.016	333.993	0.000
Residual	44.907	130	0.153		
Total	95.922	131			

The table shows that the significance level (p-value) for the effect of the organization's strategy on employee efficiency is 0.000, which is less than 0.05. This indicates a statistically significant effect of the organization's strategy on employee efficiency. The regression equation is presented in Table 4-4:



Table (4-4): Linear Regression Model for the Effect of the Organization’s Strategy on Improving Employee Efficiency

Coefficients	β Value	Standard Error	Mean of β	T Value	Significance Level
Constant Coefficient) β_0(	1.649	0.156	0.729	10.547	0.000
Regression Coefficient) β_1(	0.637	0.035		18.275	0.000

The preceding table illustrates that the constant in the regression equation is $a=1.649$ and the slope coefficient is $b=0.637$. The positive value of b confirms that the effect is positive, indicating a direct relationship between the organization’s strategy and employee efficiency at King Khalid Hospital in Al-Majma’ah. Consequently, the regression equation can be expressed as follows:

$$\hat{y} = 1.649 + 0.637 x$$

Figure (4-5) demonstrates

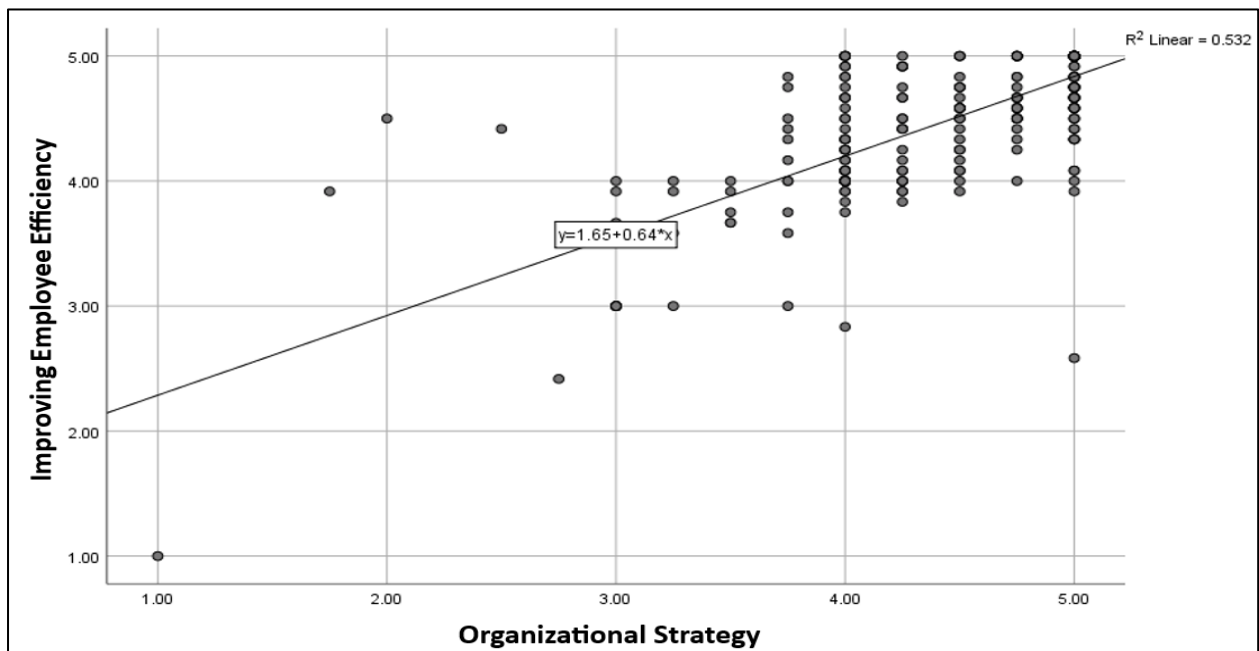


Figure (4-5): Simple Linear Regression Test for the Impact of Organizational Strategy on Improving Employee Efficiency



Figure (4-5) illustrates that strategic planning has an impact on enhancing employee efficiency at King Khalid Hospital in Al-Majma'ah. This indicates a positive relationship between the two variables, thereby confirming the validity of the first sub-hypothesis.

Analysis and Interpretation Related to the Second Research Question and Its Hypothesis: *Is there a statistically significant effect at the ($\alpha \leq 0.05$) level of organizational culture on improving employee efficiency at King Khalid Hospital in Al-Majma'ah?*

Second Sub-Hypothesis: There is a statistically significant effect at the ($\alpha \leq 0.05$) level of organizational culture on improving employee efficiency at King Khalid Hospital in Al-Majma'ah.

To test this hypothesis, the researcher employed the simple linear regression test, as shown in Tables (4-5), (4-6), and (4-7).

Table (4-5): Model Summary of the Impact of Organizational Culture on Enhancing Employee Efficiency

Correlation Coefficient (R)	Coefficient of Determination (R ²)	Adjusted R ²	Standard Error
0.746	0.557	0.555	0.380

It is evident from the previous table that the linear correlation coefficient reached (0.746), indicating a strong positive correlation between organizational culture and the improvement of employee efficiency at King Khalid Hospital in Al-Majma'ah.

The coefficient of determination (R²) was (0.557), which indicates that organizational culture accounts for (55.7%) of the variance in the enhancement of employee efficiency at King Khalid Hospital in Al-Majma'ah. Furthermore, the accompanying ANOVA table for the linear regression analysis highlights the adequacy of the linear model representing the relationship between the two variables, based on the following results:

Table (4-6): Simple Linear Regression Test for the Impact of Organizational Culture on Improving Employee Efficiency

Sum of Squares	Sum of Squares	Sum of Squares	Sum of Squares	Sum of Squares	Sum of Squares
Regression	53.425	1	53.425	369.604	0.000
Residual	42.497	130	0.145		
Total	95.922	131			

The table shows that the significance level for the impact of organizational culture on improving employee efficiency at King Khalid Hospital in Al-Majma'ah is (0.000), which is less than (0.05).



This indicates a statistically significant effect of organizational culture on enhancing employee efficiency at King Khalid Hospital in Al-Majma'ah. As for the regression line equation, the following table provides details:

Table (4-7): Simple Linear Regression Model for the Impact of Organizational Culture on Improving Employee Efficiency

Coefficients	β Value	Standard Error	Mean of β	T Value	Significance Level
Constant Coefficient) β_0(	1.745	0.144	0.746	12.136	0.000
Regression Coefficient) β_1(	0.623	0.032		19.225	0.000

From the previous table, it is evident that the constant in the regression equation is ($a = 1.745$), and the slope is ($b = 0.623$).

The positive value of the slope confirms that the effect is positive and that there is a direct relationship between organizational culture and the improvement of employee efficiency at King Khalid Hospital in Al-Majma'ah.

Thus, the regression equation takes the form:

$$\hat{y} = 1.745 + 0.623 x$$

This relationship is visually represented in **Figure (4-6)**.

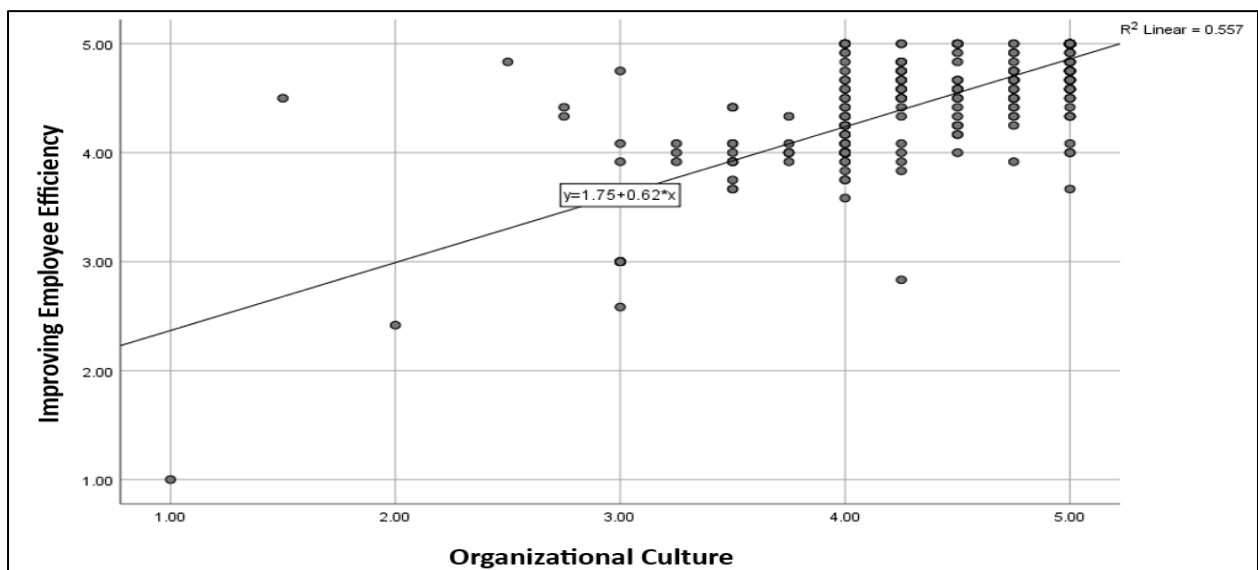


Figure (4-6): Simple Linear Regression Test for the Impact of Organizational Culture on Improving Employee Efficiency



Figure (4-6) demonstrates that there is an impact of organizational culture on enhancing employee efficiency at King Khalid Hospital in Al-Majma'ah. This indicates a positive relationship between the two variables, confirming the validity of the second sub-hypothesis.

Analysis and Interpretation Related to the Third Research Question and Its Hypothesis:

Is there a statistically significant effect at the ($\alpha \leq 0.05$) level of transformational leadership on improving employee efficiency at King Khalid Hospital in Al-Majma'ah?

Third Sub-Hypothesis:

There is a statistically significant effect at the ($\alpha \leq 0.05$) level of transformational leadership on improving employee efficiency at King Khalid Hospital in Al-Majma'ah.

To test this hypothesis, the researcher employed the simple linear regression test. The results are presented in Tables (4-8), (4-9), and (4-10).

Table (4-8): Model Summary for the Impact of Transformational Leadership on Improving Employee Efficiency

Correlation Coefficient (R)	Coefficient of Determination (R ²)	Adjusted R ²	Standard Error
0.729	0.532	0.530	0.391

The previous table shows that the linear correlation coefficient reached (0.729), indicating a strong positive correlation between transformational leadership and the improvement of employee efficiency at King Khalid Hospital in Al-Majma'ah.

The coefficient of determination (R²) was (0.532), which indicates that transformational leadership accounts for (53.2%) of the variance in the enhancement of employee efficiency at King Khalid Hospital in Al-Majma'ah. Furthermore, the accompanying ANOVA table for the linear regression analysis highlights the adequacy of the linear model representing the relationship between the two variables, based on the following results:

Table (4-9): Simple Linear Regression Test for the Impact of Transformational Leadership on Improving Employee Efficiency

Sum of Squares	Sum of Squares	Sum of Squares	Sum of Squares	Sum of Squares	Sum of Squares
Regression	50.996	1	50.996	333.726	0.000
Residual	44.926	130	0.153		
Total	95.922	131			

The table indicates that the significance level for the impact of transformational leadership on improving employee efficiency at King Khalid Hospital in Al-Majma'ah is (0.000), which is less than (0.05).



This confirms the presence of a statistically significant effect of transformational leadership on enhancing employee efficiency at King Khalid Hospital in Al-Majma'ah. As for the regression line equation, the following table provides details:

Table (4-10): Simple Linear Regression Model for the Impact of Transformational Leadership on Improving Employee Efficiency

Coefficients	β Value	Standard Error	Mean of β	T Value	Significance Level
Constant Coefficient) β_0(	1.860	0.145	0.729	12.817	0.000
Regression Coefficient) β_1(	0.600	0.033		18.268	0.000

From the previous table, it is evident that the constant in the regression equation is ($a = 1.860$), and the slope is ($b = 0.600$).

The positive value of the slope confirms that the effect is positive and that there is a direct relationship between transformational leadership and the improvement of employee efficiency at King Khalid Hospital in Al-Majma'ah. Thus, the regression equation takes the form:

$$\hat{y} = 1.860 + 0.600 x$$

This relationship is visually represented in Figure (4-7).

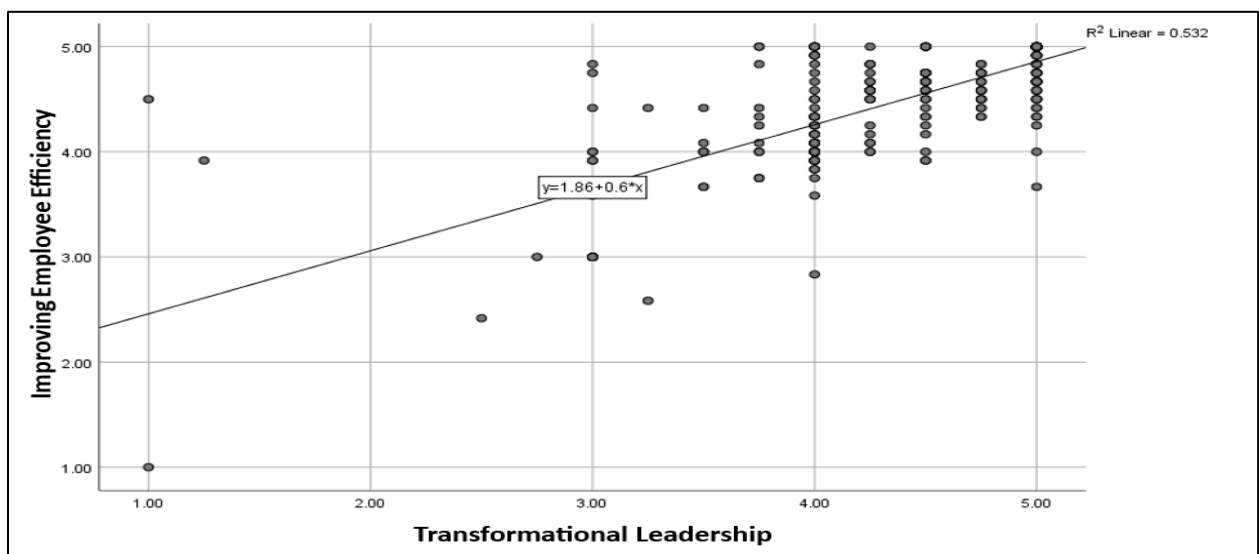


Figure (4-7): Simple Linear Regression Test for the Impact of Transformational Leadership on Improving Employee Efficiency



Figure (4-7) demonstrates that there is an impact of transformational leadership on enhancing employee efficiency at King Khalid Hospital in Al-Majma'ah. This indicates a positive relationship between the two variables, confirming the validity of the third sub-hypothesis.

Analysis and Interpretation Related to the Fourth Research Question and Its Hypothesis:

Is there a statistically significant effect at the ($\alpha \leq 0.05$) level of human resources on improving employee efficiency at King Khalid Hospital in Al-Majma'ah?

Fourth Sub-Hypothesis:

There is a statistically significant effect at the ($\alpha \leq 0.05$) level of human resources on improving employee efficiency at King Khalid Hospital in Al-Majma'ah.

To test this hypothesis, the researcher employed the simple linear regression test. The results are presented in Tables (4-11), (4-12), and (4-13).

Table (4-11): Model Summary for the Impact of Human Resources on Improving Employee Efficiency

Correlation Coefficient (R)	Coefficient of Determination (R ²)	Adjusted R ²	Standard Error
0.699	0.489	0.487	0.408

The previous table shows that the linear correlation coefficient reached (0.699), indicating a strong positive correlation between human resources and the improvement of employee efficiency at King Khalid Hospital in Al-Majma'ah.

The coefficient of determination (R²) was (0.489), which indicates that human resources account for (48.9%) of the variance in the enhancement of employee efficiency at King Khalid Hospital in Al-Majma'ah. Furthermore, the accompanying ANOVA table for the linear regression analysis highlights the adequacy of the linear model representing the relationship between the two variables, based on the following results:

Table (4-12): Simple Linear Regression Test for the Impact of Human Resources on Improving Employee Efficiency

Sum of Squares	Sum of Squares	Sum of Squares	Sum of Squares	Sum of Squares	Sum of Squares
Regression	46.871	1	46.871	280.935	0.000
Residual	49.051	130	0.167		
Total	95.922	131			



The table indicates that the significance level for the impact of human resources on improving employee efficiency at King Khalid Hospital in Al-Majma'ah is (0.000), which is less than (0.05).

This confirms the presence of a statistically significant effect of human resources on enhancing employee efficiency at King Khalid Hospital in Al-Majma'ah. As for the regression line equation, the following table provides details:

Table (4-13): Simple Linear Regression Model for the Impact of Human Resources on Improving Employee Efficiency

Coefficients	β Value	Standard Error	Mean of β	T Value	Significance Level
Constant Coefficient) β_0(	1.941	0.153	0.699	12.674	0.000
Regression Coefficient) β_1(	0.581	0.035		16.761	0.000

From the previous table, it is evident that the constant in the regression equation is (a = 1.941), and the slope is (b = 0.581).

The positive value of the slope confirms that the effect is positive and that there is a direct relationship between human resources and the improvement of employee efficiency at King Khalid Hospital in Al-Majma'ah. Thus, the regression equation takes the form:

$$\hat{y} = 1.941 + 0.581 x$$

This relationship is visually represented in Figure (4-8).

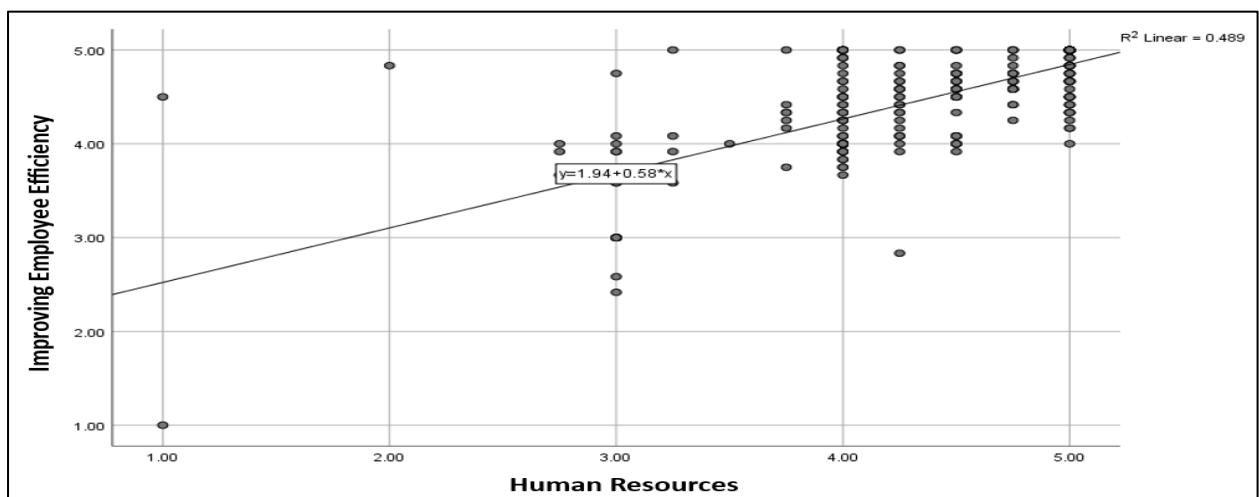


Figure (4-8): Simple Linear Regression Test for the Impact of Human Resources on



Improving Employee Efficiency

Figure (4-8) demonstrates that there is an impact of human resources on enhancing employee efficiency at King Khalid Hospital in Al-Majma'ah. This indicates a positive relationship between the two variables, confirming the validity of the fourth sub-hypothesis.

Analysis and Interpretation Related to the Main Research Question and Hypothesis:

Is there a statistically significant effect at the ($\alpha \leq 0.05$) level of digital transformation on improving employee efficiency at King Khalid Hospital in Al-Majma'ah?

Main Sub-Hypothesis:

There is a statistically significant effect at the ($\alpha \leq 0.05$) level of digital transformation on improving employee efficiency at King Khalid Hospital in Al-Majma'ah.

To test this hypothesis, the researcher employed the simple linear regression test. The results are presented in Tables (4-14), (4-15), and (4-16).

Table (4-14): Model Summary for the Impact of Digital Transformation on Improving Employee Efficiency

Correlation Coefficient (R)	Coefficient of Determination (R ²)	Adjusted R ²	Standard Error
0.778	0.605	0.604	0.359

The previous table shows that the linear correlation coefficient reached (0.778), indicating a strong positive correlation between digital transformation and the improvement of employee efficiency at King Khalid Hospital in Al-Majma'ah.

The coefficient of determination (R²) was (0.605), which indicates that digital transformation accounts for (60.5%) of the variance in the enhancement of employee efficiency at King Khalid Hospital in Al-Majma'ah. Furthermore, the accompanying ANOVA table for the linear regression analysis highlights the adequacy of the linear model representing the relationship between the two variables, based on the following results:

Table (4-15): Simple Linear Regression Test for the Impact of Digital Transformation on Improving Employee Efficiency

Sum of Squares	Sum of Squares	Sum of Squares	Sum of Squares	Sum of Squares	Sum of Squares
Regression	58.063	1	58.063	450.898	0.000
Residual	37.859	130	0.129		
Total	95.922	131			



The table indicates that the significance level for the impact of digital transformation on improving employee efficiency at King Khalid Hospital in Al-Majma'ah is (0.000), which is less than (0.05).

This confirms the presence of a statistically significant effect of digital transformation on enhancing employee efficiency at King Khalid Hospital in Al-Majma'ah. As for the regression line equation, the following table provides details:

Table (4-16): Simple Linear Regression Model for the Impact of Digital Transformation on Improving Employee Efficiency

Coefficients	β Value	Standard Error	Mean of β	T Value	Significance Level
Constant Coefficient) β_0(	1.403	0.146	0.778	9.592	0.000
Regression Coefficient) β_1(	0.701	0.033		21.234	0.000

regression equation is (a = 1.403), and the slope is (b = 0.701).

The positive value of the slope confirms that the effect is positive and that there is a direct relationship between digital transformation and the improvement of employee efficiency at King Khalid Hospital in Al-Majma'ah. Thus, the regression equation takes the form:

$$\hat{y} = 1.403 + 0.701 x$$

This relationship is visually represented in Figure (4-9).

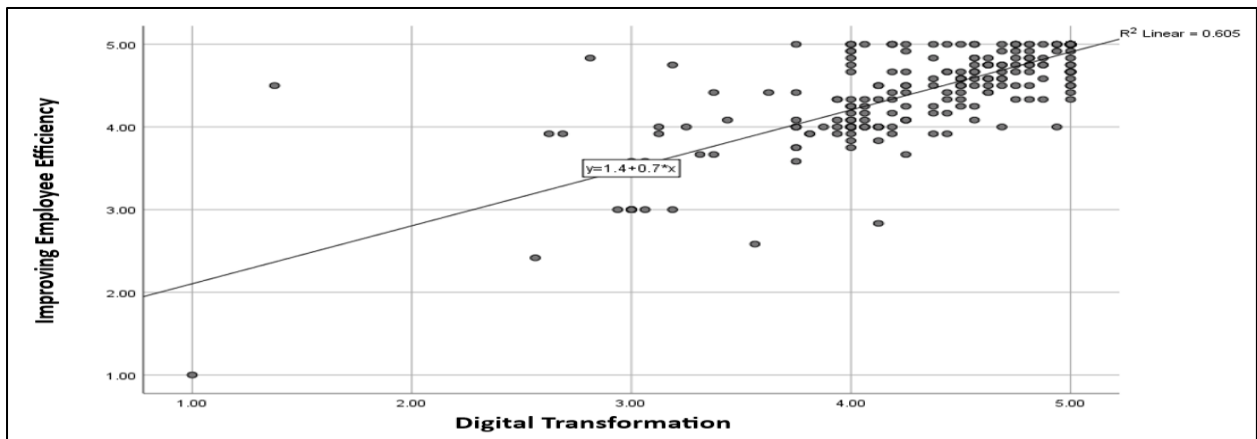


Figure (4-9): Simple Linear Regression Test for the Impact of Digital Transformation on Improving Employee Efficiency



Figure (4-9) demonstrates that there is an impact of digital transformation on enhancing employee efficiency at King Khalid Hospital in Al-Majma'ah. This indicates a positive relationship between the two variables, confirming the validity of the main sub-hypothesis.

Summary of Research Results

The research results showed that the majority of the sample were male, representing (83.8%) of the participants, equivalent to (111) individuals. Additionally, (45.9%) of the participants, or (61) individuals, were aged between 30–40 years. Furthermore, more than two-thirds of the sample held a bachelor's degree, accounting for (66.2%) or (87) participants, and (40.2%) or (53) individuals had less than 5 years of experience.

The findings revealed statistically significant impacts of the following:

1. Organizational strategy on improving employee efficiency at King Khalid Hospital in Al-Majma'ah.
2. Transformational leadership on improving employee efficiency.
3. Organizational culture on improving employee efficiency.
4. Human resources on improving employee efficiency.

In general, the research confirmed that digital transformation had a statistically significant effect at the ($\alpha \leq 0.05$) level on improving employee efficiency at King Khalid Hospital in Al-Majma'ah.

Connection Between the Current Study and Previous Studies

This study aligns with most previous Arab and foreign studies in terms of methodology, objectives, tools, and key findings.

The current study aimed to examine the impact of digital transformation, through its dimensions (organizational strategy, organizational culture, transformational leadership, human resources), on improving employee efficiency at King Khalid Hospital in Al-Majma'ah.

The study matched prior research (Hammad, 2020; Othman, 2020; Bakkar, 2022; Hamdan, 2020) in addressing both the independent and dependent variables. It also aligned with studies such as Farouq (2023), Al-Rashed (2023), Saqqat & Abdulrahman (2022), Al-Azmi (2022), and Salmi (2022) regarding the study of digital transformation across its various dimensions, though differences were noted in the dependent variable.

In studying employee efficiency as a dependent variable, this research aligns with Othman (2020).



The results confirmed the effect of digital transformation on improving employee efficiency, consistent with findings from Hammad (2020), Othman (2020), Bakkar (2022), Hamdan (2020), and Lahoul (2015). Furthermore, the current study aligns with prior research in recommending further studies on the impact of digital transformation on improving employee efficiency and other variables, though it differed in the specific dimensions of digital transformation explored.

The current study is distinct in its focus on the workforce at King Khalid Hospital in Al-Majma'ah, as previous studies examined different populations and contexts. Additionally, it uniquely combined the dimensions of digital transformation and employee efficiency in a single study population.

Conclusion

The research addressed the impact of digital transformation on improving employee efficiency from the perspective of staff at King Khalid Hospital in Al-Majma'ah. The study confirmed that the hospital has a favorable environment for digital transformation, encompassing strategic planning, an organizational culture among staff, transformational leadership, and sufficient human resources to advance and develop the hospital.

The results highlighted a significant overall effect of digital transformation on improving employee efficiency.

1. Digital transformation positively affects employee efficiency at King Khalid Hospital in Al-Majma'ah.
2. Organizational strategy positively affects employee efficiency.
3. Organizational culture positively affects employee efficiency.
4. Transformational leadership positively affects employee efficiency.
5. Human resources positively affect employee efficiency.

Recommendations

1. Hospital decision-makers should prioritize digital transformation for its effective role in enhancing employee efficiency.
2. Develop programs to leverage technological advancements for faster and better service delivery, especially in job performance areas.
3. Encourage and train employees to acquire new skills in data analysis, mobile technologies, and social communication.
4. Retain qualified personnel and attract new talent to the hospital.



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5. Establish collaboration protocols with specialized entities to support digital transformation and provide necessary resources.
6. Organize specialized workshops and seminars on digital transformation applications and tools.
7. Ensure administrative leadership at the highest levels provides support for achieving digital transformation.
8. Transition from rigid organizational structures to flexible, networked, and virtual organizations.
9. Enhance and modernize the hospital's digital infrastructure, particularly communication networks and internet services, and facilitate their deployment within the hospital.
10. Create a database for storing employee records, enabling the transition from traditional to digital systems.