The Impact of Digital Transformation on Sustainable Development: The Mediating Role of Development of Human Resources Management Practices

"An Empirical Study on Private Hospitals in Lower Egypt"[1]

Dr. Aya Hussien Abugabel

Lecturer of Business Administration
Faculty of commerce, Tanta university

Ayaabugabel.88@gmail.com

ABSTRACT

This research aimed at examining the direct impact of digital transformation on sustainable development at the Private hospitals in the governorates of Lower Egypt and exploring whether development of HRM practices play a mediating role in this relationship. The research began with a literature review of digital transformation, sustainable development development of HRM practices followed by developing a conceptual framework and formulating four main hypotheses. A field study was then conducted using a sample of 384 employee working at all administrative levels (Top, Middle, executive) at the Private hospitals in the governorates of Lower Egypt and the number of completed questionnaires is 375. Collected data were analyzed using the Structural Equation Modeling. Statistical results revealed that all dimensions of the digital transformation (Building DT Strategy, Spreading DT Culture, Human Dimension, procedural Dimension, technical Dimension) have a statistically significant positive direct impact on dimensions of Sustainable development that can be measured by three dimensions (Economic, Social, Environmental) at the Private hospitals in the governorates of Lower Egypt. Regarding the direct impact of digital transformation dimensions on development of HRM practices (recruitment, selection, training &development, compensation system, performance management), it was found that all dimensions of digital transformation have a statistically significant positive direct impact on development of HRM practices. Moreover, Statistical results also revealed that development of HRM practices have statistically significant direct impact on sustainable development dimensions. Finally, regarding the mediation of development of HRM practices, findings showed that development of HRM practices play a mediating role in the relationship between digital transformation dimensions and sustainable development dimensions at the Private hospitals in the governorates of Lower Egypt.

Keywords: *Digital Transformation, development of HRM practices, sustainable development.*

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1. INTRODUCTION

Due to quick movements in technology, population and consumption patterns, there is an assent that the sustainable development is considered the only way to avoid the social and environmental disasters. Consequently, in 2015, the United Nations Member States committed to the Sustainable Development achievable 2030 Agenda that contains seventeen goals of sustainable development that reflect three dimensions for sustainable development (economic, social and environmental). Moreover, accomplishing the goals of sustainable development requires data and development of information technology that led to a phenomenon is called the digital transformation (Unctad, 2019).

Consequently, digital transformation supports the achievement of sustainable development through inclusive data collection and analyze it by the computational techniques to reveal patterns and trends on environment, human behaviors and experiences that help policy makers to monitor progress and establish the proper programs of development and dynamic improvement. As a consequence of rapid technological development and the speed of change and therefore forced transformation of business models and work design, organizations are faced with a need for a massive change and development of features and practices of human resources management (ElMassah & Mohieldin, 2020).

Hence, the present research aims to investigate the effect of digital transformation on sustainable development through development of HRM practices.

2. RESEARCH PROBLEM

Due to the global tendency achieving Sustainable Development Goals and the Egypt's commitment to achieving Sustainable Development Goals in its 2030 vision, as well as its endeavors to implementing digital transformation, it becomes essential to review the digital transformation initiatives in Egypt and their contribution in achieving Sustainable Development. Therefore, Regarding the role of digital transformation in enhancing the sustainable development, there is necessity for more theoretical and empirical researches about the digital transformation in different organizations for reaching more extended results.

After reviewing previous studies relevant to the digital transformation and sustainable development, the review identified that there isn't any study investigated the impact of digital transformation on sustainable development indirectly through development of HRM practices as a mediator variable. So, there is research gap that has been recommended for research.

Therefore, the present research will investigate the direct impact of digital transformation on sustainable development, and the indirect impact of digital transformation on sustainable development through development of HRM practices at Private hospitals in the governorates of Lower Egypt.

The health sector is selected as an empirical field generally for the following reasons:

a. This sector represents the research problem clearly, and it is an appropriate environment to apply the study because of the intrinsic effect of digital transformation in this strategic vital sector.

b. The health sector is one the most important service sectors as it is a basic requirement for most citizens and organizations in the light of the technological, economic and social development.

c. it is sector with special nature that differ from the rest of the sectors, it requires a high technological level, so it needs special attention and a certain study that enable the advancement of the sector to keep pace with modern development.

d. This sector is considered one of the most influential sectors in various sectors due to the association of most organizations with it.

Specifically, Private hospitals in the governorates of Lower Egypt is selected as an empirical field to this study. So, the researcher conducted an official Exploratory Study through access to research and reports about the health sector, as well as conducted a field Exploratory Study by interviewing number of officials and employees at the Private hospitals in the governorates of Lower Egypt (70) and The researcher was able through their answers to reach a range of negative phenomena can be summarized as follows:

a. Some hospitals suffer from Difficulty in identifying Priorities for implementing digital transformation mechanisms.

b. Some hospitals suffer from the lack of budgets allocated for the programs of digital transformation.

c. Some hospitals have Fear of information security risks as a result of using technological techniques.

d. Some hospitals suffer from shortage in the competencies and capabilities that are not scientifically and practically qualified for managing program of digital transformation and change within the hospital.

e. Some hospitals have deficiency in providing guidance and support frequently to the employees for spreading the culture of digital transformation.

f. Some hospitals suffer from the failure to fully apply quality systems and standards when providing health services.

g. Some hospitals do not have the ability to fully respond to the external successive changes and requirements.

Depending on what previously mentioned, research problem can be formulated in the following questions:

-What is the impact of digital transformation dimensions on sustainable development dimensions at the Private hospitals in the governorates of Lower Egypt?

- Does Development of HRM practices plays mediating role in this relationship?

3. RESEARCH OBJECTIVES

This research aimed at:

a. Investigating the impact of Digital transformation dimensions on sustainable development dimensions at Private hospitals in the governorates of Lower Egypt and determining the most important ones that affect on each dimension of sustainable development (Economic, Social, Environmental).

b. Investigating the impact of Digital transformation dimensions on development of HRM practices at Private hospitals in the governorates

of Lower Egypt and determining the most important one has effect on development of each practice of of HRM.

c. Investigating the impact of development of HRM practices on sustainable development dimensions at Private hospitals in the governorates of Lower Egypt.

d. Clarifying whether the development of HRM practices play a mediating role in the relationship between Digital transformation dimensions and sustainable development dimensions.

e. Come up with results and recommendations to convince leaders of Private hospitals in the governorates of Lower Egypt the influence of Digital transformation in enhancing sustainable development which positively impact on the capability of Private hospitals in the governorates of Lower Egypt for accomplishing its overall objectives effectively.

4. RESEARCH IMPORTANCE

This research derives its significance through the contributions expected to be provided at both the scientific and practical level.

At scientific level:

a. This research helps to fill the gap related to previous studies that can be found through studying the indirect impact of Digital transformation on sustainable development at Private hospitals in the governorates of Lower Egypt through development of HRM practices that didn't study before.

b. This research is dealing with three contemporary topics in today's knowledge – based economies, which are Digital transformation, sustainable development and development of HRM practices. This study will contribute to fine-tuning of these topics literature.

c. This research contributes to the development and deepening of academic research through its measurements and variables that can be relied upon to study the relationship between Digital transformation and sustainable development.

d. The researcher tried to aggregate the most important dimensions of digital transformation that may affect sustainable development through development of HRM practices.

e. Achieving sustainable development represent the focus of any organization because of its positive impact on productivity, facing competition and achieving the overall objectives of Private hospitals in the governorates of Lower Egypt.

At practical level:

a. Studying the direct and indirect impact of digital transformation on sustainable development will help Private hospitals in the governorates of Lower Egypt to improve its efficiency which in return has impact on the national economy because the health sector is one of the most important vital strategic service sector in Egypt.

b. The management of Private hospitals in the governorates of Lower Egypt should grasp the importance of implementing the digital transformation in Private hospitals. It is essential for leaders to know the dimensions of digital transformation that should be maximized and implemented to enhance the achievement of the overall goals and create value for Private hospitals in the governorates of Lower Egypt.

c. Direct the research to health sector as one of the most important strategic sectors related to economic development and growth and depend on strategic planning to achieve more success and become more competitive.

5. THEORETICAL BACKGROUND

This section provides a theoretical review of the study's three main concepts which are: Digital transformation, Development of HRM practices and sustainable development.

5.1 Digital Transformation

Because of the worldwide digital technology revolution and the transition to a recent phase of the industrial revolution, organizations are motivated to adopt and implement new policies that aim to transform the nature of many

activities, practices and processes. Based on this recent stage of high quality development featured by digitalization, many researchers began to focus more on digital transformation (Zhou, Wang, Fu, Liu & Guan, 2022).

The digital transformation can be considered as critical facet of the current revolutionary changes in the performance of modern economies. Business organizations became able to transform and develop their traditional business models into a modern digital model and enhance new skills and competencies for employees because of rapid development of digital technologies which include Big Data, Machine Learning (ML), Artificial Intelligence (AI), Internet-of-Things (IOT), Advanced Robotics, Cloud Computing, etc that help in improving overall organizational performance and achieving sustainable competitiveness (Zehir, Karaboğa & Başar, 2020).

The concept of digital transformation is widely used to describe different practices, activities and processes of digitalization throughout the diverse business organizations, but there is no assent concerning a united definition of digital transformation. AL Selma (2015) defined Digital transformation as the replacement of automated systems instead of Traditional human work especially in the areas of production of educational and training services that lead to changes in the structure of organizations and the formation of human resources whivh lead to increase the importance of intangibles intellectual assets in the formation of investments of modern organizations, and then in determining its market value.

Besides, Abdel Razek (2019) showed that digital transformation is considered process through which companies move to business models based on digital technologies to support the development and innovation of the offered products and services, in addition to providing new marketing channels and job opportunities that increase the value of the provided products, whether goods or services. Moreover, Feroz, Zo & Chiravuri (2021) mentioned that digital transformation can be considered as a process supported by digital technologies which make radical changes in organizations and also has a tremendous impact on organizational evaluation through IOT, cloud computing, huge data analysis, mobile phone technologies and artificial intelligence.

Based on many research and scientific studies, a set of dimensions of digital transformation were reached, represented in the following:

Building digital transformation strategy

Strategy means decisions that concern the organization's relationship with the external environment, where the conditions in which decisions are made are characterized by a part of lack of knowledge or uncertainty, so the burden of achieving the organization's adaptation to environmental changes falls on the management (Al-Mutref, 2020)

Building a long-term strategic plan is considered one of the first and main steps to achieve success for any program or plan or to make a vital change. Therefore, Top management is interested in providing support for building and implementation the vision of digital transformation by performing a group of procedures like developing the organizational structure, providing the sufficient financial provision and human resources eligible for it (Al-Mutref, 2020)

Spreading digital transformation culture

Al Faraj (2011) mentioned that the culture of any organization can be defined as set of foundations, values, and concepts that are common among the leaders of the organization and the old employees, and are transferred and taught to the new employees. This means that it consists of prevailing values that assist in creating integration between the parts of the organization.

Existence a strong and positive organizational culture related to digital transformation is essential for enhancing electronically sharing of skills, resources, knowledge, learning, development and adaptation of the organization as a whole for these new practices, and also plays an important role in encouraging its members and its clients to adopt these recent practices (Alam, 2022).

Human Dimension

The human element is considered one of the basic dimensions for achieving success of any system, program, or organization as a whole. Moreover, the human element is considered a major requirement for implementation of digital transformation through providing qualified and trained human

elements (cadres) have the ability to use digital technology in analyzing data to make effective decisions (Mahmoud, 2018).

Additionally, Strategic planning process for implementation the vision of digital transformation requires human competencies and scientific expertise based on conviction and full knowledge of the inevitability of the process of Change towards digital transformation (Alam, 2022).

Procedural Dimension

The digital transformation process requires developing safe procedural rules to securely store and use data by developing a strategy for security of Information that acts as guarantee controlling the privacy of data and information and ensuring its quality.Whereas, the organization is issuing rules and regulations that allows for easy digital transformation and meeting needs of work through the development of regulatory rules to prevent electronic theft and the violation of information privacy that is considered one of the procedural requirements for the digital transformation (Almoshi, 2016).

Technical Dimension

The digital transformation process requires the use of a system of specialized devices, operating systems, storage media and software that work through technical environments and information centers using all assets efficiently, and to ensure an appropriate level of service for the organization's personnel and customers, this requires a highly professional teams responsible for managing the technical system and network infrastructure (Al Hawal, 2019).

5.2 Development of HRM Practices

One of the essential components of a digital transformation strategy is human resources that assist organizations in accomplishing sustainable competitive advantage. Therefore, Organization are imposed to implement rapid development for HRM practices because of new technologies and digitalization of organizational processes (Horváth & Szabó, 2019). This evolution in practices demand developing procedures and adopting practices for a continuous appraisal of human resource competencies, introducing new forms of work organization and employment, and agile human resources processes (Götz & Jankowska, 2020).

Additionally, Digital transformation affects the nature of practices of Human resource management as it make excessive changes in operation methods, altering content and form of working environment as a whole, posing new challenges to the skills and knowledge of employees (Vial, 2021).This means that managers should not only comprehend attitudes of employees toward using new technologies, but also illustrate their behavioral patterns and psychological states when learning and implementing recent techniques and methods in order to accomplish required work efficiently and effectively throughout the new work environment and cooperate with an appropriate performance evaluation system and compensation incentive system to cope with new problems arising at the new environment (Johnson, Gueutal & Falbe, 2009).

In this research, by relying on the literature of HRM practices, HRM practices have been classified into five dimensions: recruitment, selection, training and development, compensation system and performance management.

Recruitment

E-recruitment is one of the most important aspects of digitization of employment, and this is done using digital technologies to attract candidates and carry out recruitment processes effectively and efficiently, for example, the organization uses the website of the database, search engines, vacancies platforms and search engines to advertise for positions through the Internet, so that job seekers send their applications electronically, and selection is made by the organization after examining the nominations (Galilah,2021).

Moreover, it means organizations seek to attract talents that have both digital skills and knowledge about the nature of business to be able to cope with the recent challenges and match the job demands of new positions because of the digital transformation and fierce competition in the market. Therefore, Business organizations should take strategic objectives as indicators for building talent standards, identify key positions and determine recruitment requirements through techniques like indicators identification systems and rating standards. Also, organizations should seek to fully combine the new recruitment platforms and tools in the Internet environment to satisfy the development needs of organizations precisely, quickly and efficiently and finally be able to build talent team and reserve

sufficient human resources for digital transformation (Schneider & Kokshagina, 2021).

Selection

The main purpose of selection process is to distinguish individuals on the basis of important characteristics. Because of digital technologies and changing environment, the speed of selection process becomes very essential. There are many formal selection tools available to measure applicants on the characteristics: Work Samples, Structured Interviews, Personality inventories, Situational Judgment Tests, and Cognitive Ability Tests. E-selection process is a paperless process where electronic documents and information can be quickly disseminated nationwide or worldwide in which Human resources management can also rely on recent software to do the preliminary evaluation for files of Candidates, thus, are not invited to the Company Headquarter and this facilitate the selection process (Galilah,2021).

E-selection process usually starts when the analysis of candidate's data helps in the decision making process. The next method would be that of online testing, due to which a vast pool of candidates is reduced to a smaller group. It helps in assessing the candidate's ability, critical thinking as well as self-assessment of their personality. After this, online interviews are conducted in some cases as a method of E-selection made easier (Zubair & Khan, 2019).

Training and development

Training and development provides employees with valuable skills, ideas and knowledge to be able to implement and perform practical work in a skilled pattern, comprising continued efforts and attempts designed to improve performance and skills of employee (Griffin & Pustay, 2020).

The effect of Digital transformation appears in the training function in the so-called e-training, which is defined as the use of the Internet in order to deliver information and to form and train human resources in a distinguished, scientific, administrative, training manner as it does not require adherence to the limits of time and space in the fastest time and at the lowest cost (Galilah, 2021).

E- training and learning programs means using virtual classrooms, online meetings and conferences, collaborating with other similar organizations online, and building online networks to improve efficiency, reduce costs and get access to innovative approaches Incorporating e-learning platforms is a tested method to improve the efficiency of existing employees as well as to attract potential talent (Banerjee, 2002). Also, this type of training and development aims at the necessity of employees' understanding to the environmental impact of their actions on the performance of companies as a whole (Hristov, Appolloni, Chirico, Cheng, 2021). Through which Employees are trained on how to deal with environmental problems both intellectually and emotionally by encouraging them to generate new ideas that are environmentally friendly and raising the eco-awareness level through using which aids the top management in the implementation of environmental strategies (Innocenti, Pilati & Peluso, 2011).

Compensation and Reward System

In the digital age of HR, payroll management systems are one of the firsts implemented. Electronic compensation systems used for facilitating the calculation of wages by relying on Payroll software whereas that these systems are efficient and capable of achieving the general goals of the organization. These basic tools not only offer leave management, documentation, process management and payment integration systems, but also help in linking vacation tracking with communication channels (Out-of-office emails). Besides, these tools assist in saving paper, costs, and efforts and also help in process of storing, managing, retrieving and integrated with overall human resources management solutions within minutes (Galilah, 2021).

E-compensation is intended to generate fair salaries culture within the corporation, based on complying with performance evaluation components and the measurement system. The purpose of this model is to provide greater salary incentives for employees who follow company guidelines and achieve results in accordance with clear instructions (Kumar, 2016).

Performance management

The purpose of assessment and performance management (PM) is to compare goals and outcomes to examine and evaluate employees' performance in relation to their duties and responsibilities. Employees

receive meaningful and constructive feedback on their contributions to environmental sustainability when PM is used for environmental issues. Feedback can help to prevent negative attitudes and reinforce positive conduct (Jermsittiparsert, 2021).

In the digital age of HR, Organization use various analytical tools to collect different, reliable and up-to-date information to be able to track performance and take relevant decisions. There are many programs and software for Performance and appraisal management such as Workforce Performance Management (WPM), Suite Systems, Success Factors and Talent Management Software. These programs assist in methodically document and organizing data about the performance of employee, then comparing with predefined targets and the results achieved along with the reimbursements, succession planning and other related HR systems (El-Khoury, 2017).

5.3 Sustainable Development

Sustainable development means attaining a balance between environmental protection and human economic development and between the present and future needs. It means equity in development and sectoral actions across space and time. It requires an integration of economic, social and environmental approaches towards development (Singh, 2014).

Awad & Elnady (2020) refered to sustainable development as a way for people to use resources without the resources running out. Moreover, Sustainable development can be defined as the best use of limited resources in a balanced manner so that there is no conflict between the desired development and the preservation of the environment in order to achieve a better life for current and future generations (Shaeban, 2021).

The 2030 Agenda for Sustainable Development underlines a global commitment to achieving sustainable development in its three dimensions– the environment, society and economy.

Economic dimension

The economic dimension of sustainable development refers to generating income and achieving economic stability for the members of society without deteriorating capital and resources, as a stable and sustainable economy is

achieved when it does not negatively affect the sustainability of natural, social and human societies (Chelan et al., 2018).

The goal of this dimension is that it is imperative to achieve prosperity, raise the standard of living, and achieve a better standard of life for all members of society. Prosperity and well-being of the standard of living is achieved through the constant pursuit of providing various commodities and services that satisfy the needs and desires of all members of the entire society at reasonable prices. For achieving a better standard of life, appropriate raw materials should be provided, in addition to providing financial resources and highly qualified, specialized and effectively trained human resources in the meaningful investment process (Lunis, 2011).

Social dimension

It relates to the human aspect of sustainability, addresses issues related to the quality of life, and prompts decision makers to consider the potential social consequences of their decisions (Hussain, Ajmal, Gunasekaran & Khan, 2018).

This dimension includes the total processes, goals, social and human relations that link and support the relationships among individuals within society in general and within organizations in particular. Achieving the social dimension depends on investing in human resources, which in turn depends mainly on the rational policies followed in the organization, effective and appropriate work methods and policies in society, and the level or degree of maturity and awareness available to individuals within organizations, which is reflected in society as a whole (Lunis, 2011).

Environmental dimension

The environmental dimension as a sustainable system that preserves fixed assets of natural resources, avoids excessive depletion of renewable and non-renewable resources, and promotes the assets of basic activities to achieve comprehensive sustainable development (Ali, 2015).

The environmental dimension is centered on the necessity of preserving the good environment represented in the mineral, animal and fish wealth... etc., which helps the continuity of life in addition to working on addressing the various environmental and climatic shifts that threaten the lives of individuals such as (pollution, drought, global warming... etc.), hence the

role of organizations in preserving the environment and applying new concepts to support the environment for the benefit of society, such as green human resource management, green marketing and manufacturing (Lunis, 2011).

6. CONCEPTUAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

This study is dealing with three contemporary interesting topics in today's world; Digital transformation, sustainable development and development of human resources Management practices. Some of the previous studies that dealt with these topics were presented in this section.

6.1 Studies show relationship between digital transformation and sustainable development

A study which was conducted to investigate the impact of digital transformation on contributing the achievement of sustainable development in Russian banking system in the context of digital economy development was Tsindeliani et al., (2019) attempted to determine the role of digital transformation in enhancing sustainable development. The findings asserted on the significant and positive effect of all dimensions of digital transformation (Building DT Strategy, Spreading DT Culture, Human Dimension, and Technical & Procedural Dimension) on achieving sustainable development goals.

ElMassaha & Mohieldin (2020) attempted to explore the impact of digital transformation which was measured by (e-governance and big data initiatives) on achievement of Sustainable Development Goals (SDGs). By using a sample of seven countries from different parts of the world (Cambodia, Colombia, Egypt, Ghana, Kenya, the Philippines and Tunisia). The results for the main hypothesis showed that all dimensions of digital transformation had direct positive significant impact on enhancing sustainable development.

Shaeban study's (2021) aimed to identify the impact of digital transformation that can be measured by the following dimensions (digital foundations - innovation - digital business - digital government - digital citizen) on sustainable development by applying on number of Arab countries especially in light of the Corona pandemic (Covid 19). The

results revealed that there is a significant positive impact of all dimensions of digital transformation on sustainable development.

Amr (2021) conducted a study to investigate the impact of digital transformation (Services, management and digital trade) on sustainable development. The study used Egypt as a model. Results indicated that there was a significant impact of all dimensions of digital transformation on achieving sustainable development.

Elgohary (2022) conducted a study to explore how digital transformation which was measured by (Human resources, transformational leadership, organizational culture) had effect on sustainable development by applying on Egypt as a model. The findings of this study indicated that all the dimensions of digital transformation were the significant drivers that had positive impact on enhancing sustainable development.

Nayal, Raut, Yadav, Priyadarshinee& Narkhede (2022) conducted a study to identify the impact of supply chain collaboration and coordination (SCC) and digital transformation (DIT) as independent variables (technological environment, electronic management, E-HR, electronic organizational communication) on sustainable development strategy as a dependent variable. This study used structural equation modeling(SEM) to analyze data collected from 361 respondents of the automotive industry in India. Results indicated that all dimensions of digital transformation had significant positive impact on achieving the goals of sustainable development.

From the studies that are mentioned previously, the researcher derived the first main hypotheses that can be formulated as follows:

***H1**: Digital transformation dimensions have a statistically significant direct impact on sustainable development dimensions. .

6.2 Studies show relationship between Digital Transformation and HRM practices development

Another study was conducted to investigate the impact of Digital transformation on Human Resources Management practices in two unrelated public sectors(The Université des Mascareignes and two public post offices located in north and the eastern part of Mauritius), Kumar (2016) attempted to determine the role of digital transformation in developing practices of

human resources management by using a sample of 30 respondents were chosen: 20 from the university comprising 8 lecturers, 6 administrative staff and 6 students while in the postal department, 4 employees mainly clerical and administrative (postmaster level). The practical results showed that there is the significant and positive correlation between digital transformation and HRM practices. Moreover, the findings asserted on the significant and positive effect of all dimensions of digital transformation on all dimensions of Human resources management (Recruitment and selection, training and development, and performance appraisal, compensation, performance management)

Jayabalan, Makhbul, Subramaniam & Ramly (2021)presented a theoretical and applied framework that examined the relationship between Digital transformation and human resources management development, From the perspective of the digital transformation, the researcher examined the effect of digital transformation (Building DT Strategy, Spreading DT Culture, Human Dimension, and Technical &Procedural Dimension) on human resources management development that can be measured by the following dimensions (Recruitment and selection, training and development, and performance appraisal and compensation), Depending upon data collected from 203 respondents were selected for an online survey among employees in the automotive manufacturing industry in Pekan, Pahang. The researcher found that all dimensions of Digital transformation had a significant positive impact on developing practices of human resources management.

Barišić, Barišić & Miloloža (2021) were interested in analyzing the impact of digital transformation which measured by (Strategy, organizational culture, Transformational leadership, and human resources) on human resources management practices (Recruitment and selection, training and development, and performance appraisal and compensation). Depending on Qualitative analysis, the findings showed that digital transformation acts as critical motivator for developing HRM practices as the application of digital technologies, the ways of hiring and selecting employees have changed. The digital transformation has conditioned radical changes in the organization of work, but also the functioning of the organization at all levels.

A study which was conducted to explore the effect of digital transformation on enhancing human resources management practices at Union Bank of India was Singh (2021). Depending on a sample of all employees at Union

Bank of India. The results showed that all dimensions of digital transformation have significant positive impact on developing practices of HRM (Recruitment and selection, training and development, and performance appraisal and compensation).

In study of Zhou et al., (2022), a model was proposed to demonstrate the positive effects of digital transformation on developing practices of HRM (talent management, performance and compensation management, labor relation, recruiting, training and development programs). In general terms, based on a sample of employees working in companies of Chemical Technology in China, results showed that there were positive significant effects of all dimensions of digital transformation (Technological environment, electronic management, electronic HRM, electronic organizational communication) on improving the practices of HRM.

Al Haziazil, Muthuraman, Al Yahyaei, & Al Balushi (2022) were interested in analyzing the impact of digital transformation which measured by (Technological environment, electronic management, E - government) on HRM practices as dependent variable. Depending on the analysis of data collected from number of employees working in various companies at public sectors in middle east region. The results showed that all dimensions of digital transformation had positive significant impact on development of HRM practices that can be measured by (recruiting, selection, compensation, performance management, and training and development programs).

Mahdy (2022) conducted a study to empirically examine the impact of Digital transformation (Strategy, organizational culture, Transformational leadership, and human resources) on improving the performance of human resource management practices in economic organizations in general and service organizations in particular which can be measured by (recruiting, selection, compensation, performance management, and training and development programs) in Al-Jazayir. The study involved a total of 50 employees at all administrative levels at the National Retirement Fund Agency of Saida department. After statistically analyzing valid questionnaires, findings indicated that all dimensions of digital transformation had direct significant positive effect on developing the practices of human resources management.

From the studies that are mentioned previously, the researcher derived the second main hypotheses that can be formulated as follows:

***H2:** Digital transformation dimensions have a statistically significant direct impact on development of HRM practices. .

6.3 Studies that show relationship between Development of HRM Practices and Sustainable Development:

The purpose of Bombiak & Marciniuk-Kluska (2018) was to investigate the impact of practices of human resources management on sustainable development. By depending on sample of employees working in young Polish enterprises. Results showed that all practices of HRM (recruiting, selection, compensation, performance management, and training and development programs) had a direct significant positive impact on all dimensions of sustainable development (economic, social and environmental)

The purpose of Rasool, Samma, Wang, Zhao & Zhang (2019) was to investigate the relationship between the practices of HRM and the accomplishment of sustainable development through organizational innovation (OI) as a mediating variable. By depending on 365 employees at 20 Shanghai branches of five Chinese banks. Results showed that all practices of human resources management (employee staffing, staff development, performance management, and compensation and benefits) had direct positive impact on all dimensions of sustainable development (economic, social and environmental). Moreover, all practices of HRM had an indirect positive impact on achieving sustainable development through organizational innovation.

Zubair and Khan 's study (2019) aimed at examining the direct impact of development of HRM practices on sustainable development as a dependent variable. In Pakistan, the study depended on qualitative analysis to show the nature of this relationship. The findings showed that changes in HRM practices contribute in achieving all dimensions of sustainable development (economic, social and environmental sustainability).

Liu et al., (2022) conducted a study to examine how the development of HRM practices had an impact on sustainable development. This study was applied on sample of 231 Top-level executives (general managers, HR managers) at Pakistani hi-tech manufacturing organizations. The results of

this study showed that all practices of human resources management (recruitment and selection, training, involvement, performance management and Pay & Reward) had a significant positive impact on all dimensions of sustainable development (economic, social and environmental sustainability)

Elsawy (2022) was interested in analyzing the effect of Development of HRM practices that can be measured by (Recruitment and selection, training and development, and performance appraisal and compensation) on achieving sustainable development which was measured in terms of (economic, social and environmental sustainability). The study was applied on 400 employee working in UAE industrial sector includes organizations that specialize in beverages; food products; tobacco products; apparel; textiles; leather goods and related products, etc…. After executing the statistical analysis to test hypotheses, the research concluded that there was significant positive impact of all practices of HRM development on enhancing the accomplishment of sustainable development.

Taha & Taha (2022) empirically studied the impact of HRM practices (managing the environment of human resources, human resources acquisition and preparation, human resources assessment and development and human resources compensation) on achieving sustainable development (economic, social and environmental sustainability) by using sample of 23 Jordanian banks listed at the ASE from 2014 to 2019. Depending upon the analysis of data collected, the results showed that development of HRM practices had a positive impact on sustainable development within the banking sector.

From the studies that are mentioned previously, the researcher derived the third main hypotheses that can be formulated as follows:

***H3**: Development of Practices of HRM have a statistically significant direct impact on sustainable development dimensions.

Based on what has been mentioned before in the previous studies, the fourth main hypotheses will be formulated as follows:

***H4:** Digital transformation dimensions have a statistically significant indirect impact on sustainable development dimensions through development of HRM practices.

Comments on Previous Studies

According to what has been mentioned before in the previous studies, it has been noted that:

- All studies have highlighted the importance of Digital transformation as one of the most influential factors in the different aspects of the work of the organization.
- There aren't previous studies investigated the mediating role of development of HRM practices in the relationship between all dimensions of digital transformation and sustainable development dimensions.
- There aren't previous studies investigated the impact of all these dimensions of digital transformation (Building DT Strategy, Spreading DT Culture, Human Dimension, Procedural Dimension, Procedural Dimension) on sustainable development dimensions (economic, social, environmental) at Private hospitals in the governorates of Lower Egypt.

The following figure illustrates the proposed relationships between research variables:

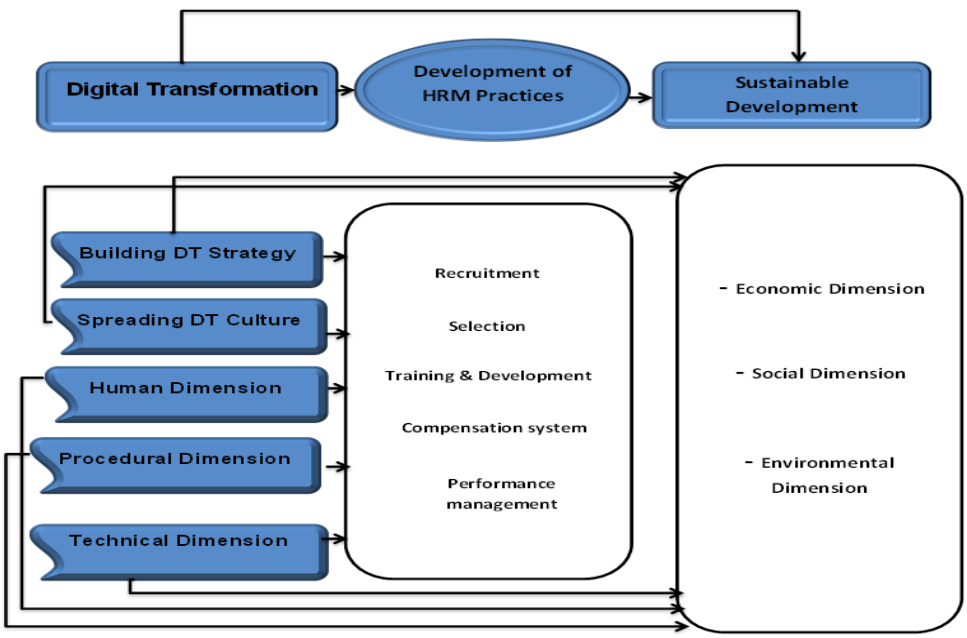

Figure 1: Research variables and proposed relationships

7. RESEARCH METHODOLOGY

7.1 Research Variables and Measures

Table 1: Research variables and Measures

Independent Variable	
Digital transformation	It will be measured using a set of statements related to: • Building DT Strategy • Spreading DT culture • Human Dimension • Procedural Dimension • Technical Dimension {this measure was used by many researchers (Sadovskya et al., 2019; Jayabalan et al., 2021; Shedid, 2021; Magdy, Mahar, & Al-Azab, 2021; Alam, 2022)
Mediating Variable	
Development of HRM Practices	It will be measured using a set of statements related to: • Recruitment. • Selection • Training and Development • Compensation System. • Performance management This measure was used by many researchers (Barisic et al., 2021 ; Mahdy, 2022 ; Al Haziazil et al., 2022)

Dependent variable	
Sustainable development	It will have measured using a set of statements related to: • Economic dimension • Social dimension • Environmental dimension {This measure was used by many researchers (Zubair & Khan, 2019 ; El Sawy., 2022 ;Taha & Taha, 2022)

7.2 Research Approach

This research depends upon the deductive approach

7.3 Techniques of Data Collection

Office Technique

This technique aims at collecting secondary data from sources such as books, references, reports, periodicals and previous studies that related to research variables (Digital Transformation, Sustainable development and Development of HRM Practices) for constructing the theoretical framework of the study.

Field Technique

This technique aims at collecting primary data by using questionnaire prepared for the purposes of the current study. This questionnaire will directed to the sample selected randomly (employees at all levels (top, middle, executive) at Private hospitals in the governorates of Lower Egypt.

7.4 Questionnaire Design

A questionnaire has been designed to be used for collecting the study's primary data. Prior to designing the questionnaire, an intensive study of relevant literature was undertaken in order to identify the existing measures of related constructs. The measurement items of this study were developed by adopting measures that had been validated in previous studies and modifying them to fit the Egyptian environment.

The researcher developed 56 items to measure the constructs of this study. 30 Items were used to measure the Digital transformation dimensions: 8 items were used to measure Building DT strategy, 6 items were used to measure Spreading DT culture, 5 items were used to measure Human Dimension, 3 items to measure procedural Dimension and 8 items were used to measure Technical Dimension. Regarding the Development of HRM Practices, 17 items were used to measure this construct, 4 items to measure Recruitment, 3 items to measure selection, 4 items to measure Training and development, 3 items to measure compensation system and 3 items to measure Performance management. With respect to Sustainable development, 9 items were used to measure it, 3 items to measure Economic dimension, 3 items to measure Social dimension and 3 items to measure Environmental dimension. A six-point Likert scale was used to measure the respondents' opinions in which 0= "does not occur" and 5= "always occurs".

7.5 Limitations of Study

This research is applied on the Private hospitals in the governorates of Lower Egypt.

This research will focus on a sample of employees at all levels (top, middle, executive) at the Private hospitals in the governorates of Lower Egypt since they are the most capable ones to assess the situation of hospital.

7.6 Research Population and Sample Selection

This research will focus on employees that are working at all levels (top, middle, executive) at the Private hospitals in the governorates of Lower Egypt, the total population size of the present research is 41747 employees. The following table shows the total number of employees that are working at all levels (top, middle, executive) at the Private hospitals in the governorates of Lower Egypt.

Table 2: Numerical Statistics for the total number of population size at the Private hospitals in the governorates of Lower Egypt

NO	Governorate	No. of private hospital	Total no. of employees at all levels (Top, Middle, Executive)
1	Cairo	262	15225
2	Gharbiya	60	2413
3	Menoufia	44	2489
4	Dakahlia	135	2381
5	Galubeiah	41	1514
6	Sharqiih	46	3035
7	Beheira	39	1362
8	Kafr Al sheikh	27	803
9	Damietta	12	377
10	Alexandria	104	10637
11	Ismailia	36	315
12	Port Said	12	564
13	Suez	14	632
	Total	832	41747

Calculate sample size had been used to determine the overall sample size of employees that are working at all levels (top, middle, executive) at the Private hospitals in the governorates of Lower Egypt. By applying the previous method on the total size of population research, the researcher reached that the total size of sample (n*) is 384 at the Private hospitals in the governorates of Lower Egypt.

In addition to, the sample was distributed by using class random sample method proportionately in all researched organizations according to the following equation (Abd elsalam,1996)

The sample size at particular class= Total sample size x size of the class/ population size.

The following table shows the size of research sample at the Private hospitals in the governorates of Lower Egypt:

Table 3: Numerical Statistics for the total number of sample size at the Private hospitals in the governorates of Lower Egypt

NO	Governorate	Total no. of employees at all levels(Top, Middle, Executive)
1	Cairo	140
2	Gharbiya	22
3	Menoufia	23
4	Dakahlia	22
5	Galubeiah	14
6	Sharqiih	28
7	Beheira	13
8	Kafr Al sheikh	7
9	Damietta	3
10	Alexandria	98
11	Ismailia	3
12	Port Said	5
13	Suez	6
Total		384

384 questionnaires had been distributed to collect the required data. The number of completed questionnaires that had been statistically analyzed were 375 questionnaires by the percentage 97%

7.7 Coding of Research Variables

Table 4: Coding of research variables

Research Variables	codes	Questionnaire Questions' Nos.
Independent variable		
Digital Transformation	X	1 → 30
Building DT Strategy	X1	1 → 8
Spreading DT Culture	X2	9 → 14
Human Dimension	X3	15 → 19
Procedural Dimension	X4	20 → 22
Procedural Dimension	X5	23 → 30
Mediating variable		
Development of HRM Practices	M	31 → 47
Recruitment	M1	31 → 34
Selection	M2	35 → 37
Training and Development	M3	38 → 41
Compensation System	M4	42 → 44
Performance Management	M5	45 → 47
Independent variable		
Sustainable Development	Y	48 → 56
Economic Dimension	Y1	48 → 50
Social Dimension	Y2	51 → 53
Environmental Dimension	Y3	54 → 56

7.8 Tools of Statistical Analysis

1- Cronbach's Alpha Test

Cronbach's Alpha is one of the most commonly used tests in the field of management to verify the reliability of the measures related to research variables and is considered appropriate and beneficial for evaluating the degree of internal consistency between the items that make up each variable.

2- Structural Equation Modeling (SEM)

Due to the multiplicity of relationships within the model proposed for the study and the existence of a number of independent variables, mediating and dependent variables, it will be more suitable to use Structural Equation Modeling (SEM) where this technique allows the researcher to conduct the following test:

- Path analysis: this analysis helps the researcher to achieve the following objectives:

1- Measuring the direct impact of Digital Transformation dimensions on Sustainable development dimensions at the Private hospitals in the governorates of Lower Egypt.

2- Measuring the direct impact of Digital Transformation dimensions on Development of HRM Practices at the Private hospitals in the governorates of Lower Egypt.

3- Measuring the direct impact of Development of HRM Practices on Sustainable development dimensions at the Private hospitals in the governorates of Lower Egypt.

4- Measuring the indirect impact of Digital Transformation dimensions on Sustainable development dimensions at the Private hospitals in the governorates of Lower Egypt through Development of HRM Practices.

The following section focuses on the results of statistical analysis for the field study which includes (the results of reliability and validity analysis, Descriptive statistics, the interpretation of the results of the Structural Equation Modeling, presenting the discussion of findings of the field study,

and finally presenting the most important vital recommendations and future research suggested by the researcher.

8. DATA ANALYSIS

8.1 Reliability and Validity Test for The Scales of the Reserch

The validity of the measures of research (Digital transformation, Development of HRM Practices, Sustainable development) was confirmed by using the confirmatory factor analysis (CFA) using (AmosV.21). According to this, the quality of conformity (model fit) is evaluated by set of indicators for model fit through which the model is accepted or rejected. The following table 5 shows the indicators of the model fit as follows:

Table 5: Indicators of CFA Test

Indicators of model fit	Obtained	Suggested
CMIN /DF	4.877	CMIN/DF ≤ 5
NFI (Normed of Fit Index)	0.918	NFI ≥ 0.9
IFI (Incremental Fit Index)	00934	IFI ≥ 0.9
TLI (Tucker- Lewis Index)	0.903	TLI ≥ 0.9
CFI (Compare Fit Index)	0.933	CFI ≥ 0.9
RMSEA (Root Mean Square Error Approximation)	0.127	0.8 ≥ RMSEA ≥ 0.05

Based on the previous table, the previous indices confirmed that the overall fit of the model to the data was good.

But which related to Convergent Validity, which means that the items of the scale that measure one concept have a strong positive correlation, where Anderson & Gerbing (1988) indicated that it is possible to verify this through four criteria, the first of which is the Factor Loading FL (the value of coefficient Weighted standard regression) for each of the variables measured ≥ 0.7 at a significance level ≤ 0.5, the second is that the average variance extracted AVE for each of the variables ≥ 0.5, the third is Construct Reliability ≥ 0.5 and finally FL (weighted standard regression coefficient for each of the measurement elements) should be more than

twice the standard error (S.E) corresponding to this element, Table (6) shows the results that were used to evaluate those standards.

Table 6: The results of Convergent Validity

Statements	F.L	C.R	S.E	Error	Value of estimated Error
x11	0.993	47.244	0.021	e1	0.09
x12	0.773	11.507	0.053	e2	0.296
x13	0.749	6.45	0.063	e3	0.430
x14	0.950	31.88	0.03	e4	0.065
x15	0.758	10.263	0.051	e5	0.272
x16	0.725	7.89	0.056	e6	0.338
x17	0.784	5.35	0.055	e7	0.331
x18	0.973	-	-	e8	0.037
x21	0.841	10.152	0.021	e9	0.195
x22	0.752	11.131	0.063	e10	0.220
x23	0.831	12.141	0.073	e11	0.119
x24	0.774	18.412	0.046	e12	0.210
x25	0.911	25.311	0.056	e13	0.115
x26	0.822	-	-	e14	0.112
x31	0.711	11.221	0.033	e15	0.411
x32	0.723	12.231	0.034	e16	0.321
x33	0.821	15.611	0.022	e17	0.211
x34	0.824	17.288	0.021	e18	0.144
x35	0.961	-	-	e19	0.112
x41	0.841	26.114	0.017	e20	0.371
x42	0.865	32.115	0.011	e21	0.221
x43	0.855	-	-	e22	0.211
x51	0.948	-	-	e23	0.202
x52	0.891	29.67	0.040	e24	0.338
x53	0.752	20.46	0.041	e25	0.358

Statements	F.L	C.R	S.E	Error	Value of estimated Error
x54	0.905	23.51	0.053	e26	0.386
x55	0.874	27.81	0.049	e27	0.447
x56	0.933	14.93	0.047	e28	0.377
x57	0.915	25.59	0.046	e29	0.256
x58	0.954	38.92	0.036	e30	0.221
m11	0.851	13.211	0.023	e31	0.232
m12	0.832	12.561	0.036	e32	0.214
m13	0.841	12.144	0.031	e33	0.115
m14	0.951	-	-	e34	0.112
m21	0.744	21.141	0.056	e35	0.112
m22	0.851	25.232	0.047	e36	0.122
m23	0.911	-	-	e37	0.101
m31	0.756	11.341	0.068	e38	0.141
m32	0.747	11.211	0.047	e39	0.152
m33	0.778	11.561	0.037	e40	0.131
m34	0.951	-	-	e41	0.123
m41	0.841	14.134	0.011	e42	0.271
m42	0.833	13.122	0.021	e43	0.314
m43	0.766	-	-	e44	0.211
m51	0.911	17.551	0.023	e45	0.117
m52	0.874	18.641	0.013	e46	0.112
m53	0.851	-	-	e47	0.110
y11	0.771	13.246	0.014	e48	0.158
y12	0.754	14.512	0.013	e49	0.147
y13	0.862	-	0.032	e50	0.123
y21	0.813	17.231	0.067	e51	0.231
y22	0.844	22.142	0.044	e52	0.154
y23	0.851	-	-	e53	0.111

Statements	F.L	C.R	S.E	Error	Value of estimated Error
y31	0.791	12.941	0.053	e54	0.167
y32	0.793	14.212	0.047	e55	0.147
y33	0.844	-	-	e56	0.131

Using the data mentioned in the previous table, the AVE value was calculated as well as the C.R value for each variable according to their calculation equations. Table (7) shows these values:

Table 7: Calculation of AVE and C.R.

Research variables	AVE	C.R
Building DT Strategy	0.834	0.967
Spreading DT culture	0.821	0.962
Human dimension	0.808	0.931
Procedural dimension	0.853	0.897
Technical dimension	0.896	0.952
Recruitment	0.868	0.947
Selection	0.835	0.949
Training & Development	0.808	0.950
Compensation System	0.813	0.882
Performance Management	0.878	0.954
Economic Dimension	0.795	0.931
Social Dimension	0.836	0.926
Environmental Dimension	0.809	0.930

Table No. (6) showed that the FL (weighted standard regression coefficient) for all variables is greater than 0.70 and at a level of significance less than 0.05, and the values of the loading coefficient FL for each of the measurement elements is greater than twice S.E, in Table No. (7), the results indicated the AVE (Average Variance Extracted) and C.R (Construct Reliability) values for all variables are greater than 0.50, which means that

the four criteria are identical with the values previously clarified, which reflects the convergent validity of the research variables.

But which related to the Discriminant Validity that indicates that the scale items that measure a particular theoretical concept differ from the scale items that measure another theoretical concept, Croweley & Fan (1997) showed that this can be verified through two criteria, the first of which is that the Cronbach's alpha coefficient for each variable should be higher than the coefficients of the correlation of this variable compared with other variables, and the second is the squared root of the average variance extracted (AVE) for the variable is also greater than the coefficients of the correlation of this variable with other variables, and the following table No. (8) showed the results used to evaluate these criteria:

Table 8a: Results of Discriminant Validity

Variables	Cronbach's Alpha	AVE
Building DT Strategy	0.811	0.834
Spreading DT culture	0.829	0.821
Human dimension	0.836	0.808
Procedural dimension	0.845	0.853
Technical dimension	0.856	0.896
Recruitment	0.877	0.868
Selection	0.873	0.835
Training & Development	0.838	0.808
Compensation System	0.821	0.813
Performance Management	0.842	0.878
Economic Dimension	0.853	0.795
Social Dimension	0.842	0.836
Environmental Dimension	0.853	0.809

Table 8b: Results of Discriminant Validity

Variables	X1	X2	X3	X4	X5	M1	M2	M3	M4	M5
M1	.512	.644	.510	.647	.555	1.00				
M2	.533	.598	.606	.524	.578	.567	1.00			
M3	.547	.631	.612	.606	.588	.612	.591	1.00		
M4	.533	.642	.532	.544	.561	.622	.577	.621	1.00	
M5	.611	.655	.614	.631	.547	.644	.587	.672	.652	1.00
Y3	.614	.701	.533	.622	.562	.631	.546	.653	.632	.621
Y2	.621	.632	.565	.617	.597	.522	.582	.687	.671	.651
Y1	.521	.544	.544	.611	.651	.514	.544	.674	.645	.645

It is noted from the previous table that Cronbach's alpha coefficient for each variable as well as the AVE values for each variable are higher than the correlation coefficients of each variable with the other variables, which reflects the discriminatory validity of the variables measures. In summary, according to the aforementioned tests, the scales used to measure the research variables are characterized by content validity (model fit), Convergent Validity, and Discriminant Validity.

8.2 Descriptive Statistics

Table 9: Results of Descriptive Statistics

Variables	Mean	Std. Deviation
X1	2.4500	.07181
X2	2.6500	.70711
X3	2.3522	.08071
X4	2.5210	.28284
X5	2.3500	.49497
M1	2.2581	.28284
M2	2.7100	.35355
M3	2.4000	.42426
M4	2.0500	.07341
M5	2.7500	.07221
Y1	2.7210	.14142
Y2	2.6500	.21213
Y3	2.5350	.07321

From the previous table, The results revealed that the mean scors for all variables of the research fall in the lower half of the scale with values of standard deviation lies between.07181 and.70711 where the means for all dimensions of digital transformation (building DT strategy, Spreading DT culture, Human Dimension, Procedural dimension and technical dimension) respectively are(2.4500,2.6500, 2.3522, 2.5210, 2.3500), and the means for all dimensions of HRM practices (Recruitment, Selection, training and development, compensation system, and performance management) respectively are (2.258, 2.7100, 2.4000, 2.0500, 2.7500), and finally the means for all dimensions of Sustainable Development (Economic, Social, Environmental) respectively are(2.7210, 2.6500, 2.5350)

8.3 Results of Structural Equation Modeling (Sem)

SEM analysis aims to answer the research questions which investigate the impact of Digital transformation dimensions on sustainable development dimensions at the Private hospitals in the governorates of Lower Egypt and whether development of HRM practices play a mediating role in this relationship.

*** Digital Transformation and Sustainable Development**

The first main hypothesis (H1) investigated the direct impact of dimensions of digital transformation on sustainable development dimensions at Private hospitals in the governorates of Lower Egypt; it has been formulated as follows:

H1: Digital Transformation dimensions have a statistically significant direct impact on sustainable development dimensions.

Table 10: SEM Results Related to the impact of Digital Transformation dimensions on sustainable development dimensions.

Independent variable	Sustainable development	SRW	T-value (CR)	P Value	Estimate	S.E	Rank
DT Strategy (X1)		0.210	4.384	0.000	0.114	0.026	1
DT Culture (X2)	Economic	0.120	2.531	0.011	0.206	0.082	4
Human Dimension (X3)		0.114	2.442	0.012	0.127	0.052	5
Procedural Dimension (X4)	Y1	0.153	2.662	0.008	0.140	0.053	3
Technical Dimension (X5)		0.191	3.346	0.001	0.087	0.026	2
DT Strategy (X1)		0.228	6.348	0.000	0.226	0.036	1
DT Culture (X2)	Social	0.121	2.650	0.014	0.117	0.044	5
Human Dimension (X3)		0.150	3.732	0.000	0.126	0.034	2
Procedural Dimension (X4)	Y2	0.141	3.407	0.000	0.097	0.029	3
Technical Dimension (X5)		0.132	2.652	0.013	0.122	0.046	4
DT Strategy (X1)		0.289	7.013	0.000	0.659	0.094	3
DT Culture (X2)	Environmental	0.359	5.608	0.000	0.655	0.117	1
Human Dimension (X3)		0.335	7.258	0.000	0.647	0.089	2
Procedural Dimension (X4)	Y3	0.277	5.817	0.000	0.439	0.076	4
Technical Dimension (X5)		0.215	4.215	0.000	0.517	0.123	5

Analysis results shown in table (10) revealed that

All dimensions of digital transformation respectively (Building DT Strategy, Technical Dimension, Procedural dimension, Spreading DT Culture, Human Dimension) have a statistically significant positive direct impacts on Economic dimension (Y1) at Private hospitals in the governorates of Lower Egypt (T-value = 4.384, 3.346, 2.662, 2.531and 2.442) (β = + 0.210, +0.191, +0.153, +0.120 and +0.114) with p lies between 0.000 and 0.012).

With respect to all dimensions of digital transformation respectively (Building DT Strategy, Human Dimension, Procedural dimension, Technical Dimension, and Spreading DT Culture) have a statistically significant positive direct impacts on Social dimension (Y2) at Private hospitals in the governorates of Lower Egypt (T-value = 6.348, 3.732, 3.407, 2.652 and 2.650 (β = +0.228, +0.150, +0.141, +0.132 and +0.121) with p lies between 0.000 and 0.013).

Regarding All dimensions of digital transformation respectively (Spreading ≤DT culture, Human Dimension, Building DT Strategy, Procedural dimension, and Technical Dimension) have a statistically significant positive direct impacts on Environmental dimension (Y3) at Private hospitals in the governorates of Lower Egypt (T-value = 5.608, 7.258, 7.013, 5.817 and 4.215 (β = +0.359, +0.335, +0.289, +0.277 and +0.215) with $p < 0.001$).

Finally, Previous results and analyses showed that the dimensions of digital transformation (Building DT strategy, Spreading DT culture, Human dimension, Procedural dimension, Technical dimension) have a statistically significant direct impact on sustainable development dimensions (economic, social, environmental) at Private hospitals in the governorates of Lower Egypt. Therefore, the first main hypothesis H1 is supported.

*** Digital transformation and Development of HRM Practices**

The second main hypothesis (H2) investigated the direct impact of digital transformation dimensions on development of HRM practices at Private hospitals in the governorates of Lower Egypt; it has been formulated as follows:

H2: Digital Transformation dimensions have a statistically significant direct impact on development of HRM Practices.

Table 11: SEM Results Related to the impact of dimensions of Digital transformation on development of HRM Practices.

Independent variable	development of HRM Practices	SRW	T-value (CR)	P Value	Estimate	S.E	Rank
DT Strategy (X1)	Recruitment M1	0.151	3.279	0.001	0.117	0.036	4
DT Culture (X2)		0.280	6.062	0.000	0.174	0.029	1
Human Dimension (X3)		0.198	4.295	0.000	0.130	0.030	3
Procedural Dimension (X4)		0.080	1.731	0.083	0.043	0.025	5
Technical Dimension (X5)		0.234	5.068	0.000	0.192	0.038	2
DT Strategy (X1)	Selection M2	0.098	2.492	0.013	0.094	0.038	5
DT Culture (X2)		0.370	9.121	0.000	0.284	0.031	1
Human Dimension (X3)		0.133	2.968	0.011	0.095	0.032	4
Procedural Dimension (X4)		0.189	4.865	0.000	0.126	0.026	2
Technical Dimension (X5)		0.188	4.692	0.000	0.190	0.041	3
DT Strategy (X1)	Training &development M3	0.126	3.225	0.001	0.129	0.040	5
DT Culture (X2)		0.484	13.279	0.000	0.427	0.032	1
Human Dimension (X3)		0.273	7.501	0.000	0.255	0.034	4
Procedural Dimension (X4)		0.307	8.431	0.000	0.236	0.028	3
Technical Dimension (X5)		0.314	8.608	0.000	0.366	0.042	2
DT Strategy (X1)	Compensation System M4	0.176	5.275	0.000	0.211	0.040	4
DT Culture (X2)		0.436	10.437	0.000	0.589	0.056	1
Human Dimension (X3)		0.169	4.057	0.000	0.242	0.060	5
Procedural Dimension (X4)		0.264	6.325	0.000	0.310	0.049	2
Technical Dimension (X5)		0.243	5.830	0.000	0.435	0.075	3
DT Strategy (X1)	Performance Management M5	0.121	3.223	0.001	0.095	0.029	5
DT Culture (X2)		0.506	13.455	0.000	0.318	0.024	1
Human Dimension (X3)		0.232	6.171	0.000	0.154	0.025	3
Procedural Dimension (X4)		0.183	4.876	0.000	0.100	0.021	4
Technical Dimension (X5)		0.337	8.969	0.000	0.280	0.031	2

Analysis of results as shown in table (11) revealed that

The analysis of the results showed that all dimensions of Digital transformation respectively (Spreading DT culture, Technical Dimension, Human dimension Building DT Strategy, and Procedural dimension) have a positive significant direct impact on Recruitment (M1) at Private hospitals in the governorates of Lower Egypt (T-value = 6.062, 5.068, 4.295, 3.279, 1.731), (β = +0.280, + 0.234, +0.198, + 0.151, + 0.080) with $p \leq 0.001$). Except Procedural dimension with p value is 0.083 is accepted because lies in the gray area according to social research $p < 0.1$ is considered accepted.

Regarding the dimensions of Digital transformation and its impact on selection(M2), results revealed that all dimensions of Digital transformation respectively (Spreading DT culture, Procedural dimension, Technical dimension, Human dimension, and Building DT strategy) have a statistically significant positive direct impact on selection(M2) at Private hospitals in the governorates of Lower Egypt (T-value = 9.121, 4.865, 4.692, 2.968, 2.492), (β = +0.370, +0.189, +0.188, +0.133, + 0.098) with p lies between 0.000 and 0.013).

With respect to all dimensions of Digital transformation respectively (Spreading DT culture, Technical dimension, Procedural dimension, Human dimension, and Building DT strategy) have a statistically significant positive direct impact on Training and development(M3) at Private hospitals in the governorates of Lower Egypt (T-value = 13.279, 8.608, 8.431, 7.501, 3.225) (β = +0.484, +0.314, +0.307, +0.273, +0.126 with $p \leq 0.001$.

Regarding the dimensions of Digital transformation and its impact on compensation system (M4), results revealed that all dimensions of Digital transformation respectively (Spreading DT culture, Procedural dimension, Technical dimension, Building DT strategy and Human dimension) have a statistically significant positive direct impact on compensation system at Private hospitals in the governorates of Lower Egypt (T-value = 10.437, 6.325, 5.830, 5.275, 4.057), (β = +0.436, +0.264, +0.243, +0.176, + 0.169) with $p < 0.001$).

Results showed that all dimensions of Digital transformation (Spreading DT culture, Technical dimension, Human dimension, Procedural dimension and Building DT strategy) have a statistically significant positive direct impact on performance management(M5) at Private hospitals in the governorates of

Lower Egypt (T-value = 13.455, 8.969, 6.171, 4.876, 3.223) (β = + 0.506, + 0.337, + 0.232, +0.183, + 0.121 with $p \leq 0.001$).

Finally, the previous results and analyses showed that the dimensions of digital transformation (Building DT strategy, Spreading DT culture, Human dimension, Procedural dimension, Technical dimension) have a statistically significant direct impact on development of all practices of HRM (Recruitment, selection, training and development, compensation system, performance management) at Private hospitals in the governorates of Lower Egypt. Therefore, the second main hypothesis H2 is supported.

*** Development of HRM practices and sustainable development**

The third main hypothesis (H3) investigated the direct impact of development of HRM practices on sustainable development dimensions at Private hospitals in the governorates of Lower Egypt; it has been formulated as follows:

H3: Development of HRM practices have a statistically significant direct impact on sustainable development dimensions.

Table 12: SEM Results Related to the impact of Development of HRM practices on sustainable development dimensions.

Independent variable	Sustainable development	SRW	T-value (CR)	P Value	Estimate	S.E	Rank
Recruitment (M1)	Economic	0.100	2.210	0.027	0.218	0.098	5
Selection (M2)		0.212	4.227	0.000	0.373	0.088	2
Training and development (M3)		0.397	7.458	0.000	0.608	0.082	1
Compensation system (M4)	Y1	0.167	3.590	0.000	0.167	0.046	4
Performance management (M5)		0.180	3.479	0.000	0.386	0.111	3
Recruitment (M1)	Social	0.115	2.748	0.006	0.147	0.053	5
Selection (M2)		0.195	4.231	0.000	0.203	0.048	4
Training and development (M3)		0.522	10.630	0.000	0.470	0.044	1
Compensation system(M4)	Y2	0.327	4.640	0.001	0.116	0.025	2
		0.214	4.488	0.013	0.270	0.060	3

Performance management (M5)							
Recruitment (M1)	Environmental Y3	0.107	2.027	0.010	0.225	0.111	5
Selection (M2)		0.234	4.411	0.000	0.558	0.127	1
Training and development (M3)		0.192	4.042	0.004	0.190	0.047	3
Compensation system(M4)		0.206	4.174	0.000	0.277	0.066	2
Performance management (M5)		0.134	2.440	0.015	0.388	0.159	4

Analysis results shown in table (12) revealed that:

The analysis of the results showed that all dimensions of HRM practices respectively (Training and development, Selection, Performance Management, Compensation system, Recruitment) have a positive significant direct impact on Economic dimension (Y1) at Private hospitals in the governorates of Lower Egypt (T-value = 7.458, 4.227, 3.479, 3.590, 2.210), (β = +0.397, +0.212, +0.180, +0.167, +0.100) with p lies between 0.000 and 0.027).

Moreover, the analysis of the results showed that all dimensions of HRM practices respectively (Training and development, Compensation system, Performance Management, Selection, and Recruitment) have a positive significant direct impact on Social dimension (Y2) at Private hospitals in the governorates of Lower Egypt (T-value = 10.630, 4.640, 4.488, 4.231, 2.748), (β= +0.522, +0.327, +0.214, +0.195, +0.115) with p lies between 0.000 and 0.013).

Besides, all dimensions of HRM practices respectively (Selection, Compensation system, Training and development, Performance Management and Recruitment) have a positive significant direct impact on environmental dimension (Y3) at Private hospitals in the governorates of Lower Egypt (T-value = 4.411, 4.174, 4.042, 2.440, 2.027), (β = +0.234, +0.206, +0.192, +0.134, +0.107) with p lies between 0.000 and 0.015).

Finally, the previous results and analyses showed that the Development of HRM practices (recruitment, selection, training and development, compensation system, performance management) have a statistically significant direct impact on sustainable development dimensions (economic,

social, environmental) at Private hospitals in the governorates of Lower Egypt. Therefore, the third main hypothesis H3is supported.

*Digital transformation, Development of HRM practices and sustainable development

The last main hypothesis (H4) studied the mediating role that Development of HRM practices play in the relationship between digital transformation dimensions and sustainable development dimensions at Private hospitals in the governorates of Lower Egypt; it has been formulated as follows:

H4: Digital transformation dimensions have a statistically significant indirect impact on sustainable development dimensions through the Development of HRM practices.

Table 13: Direct, Indirect and Total Effects Among Research Variables

(Economic Dimension- Social Dimension – Environmental Dimension)

Independent variable	Sustainable development	HRM Practices	Direct Effect	Indirect Effect	Total Effect
DT Strategy (X1)	Economic Y1	M	0.210***	0.147***	0.357***
DT Culture (X2)			0.120**	0.281***	0.401***
Human Dimension (X3)			0.114**	0.123***	0.237***
Procedural Dimension (X4)			0.153**	0.153***	0.306***
Technical Dimension (X5)			0.191***	0.178***	0.369***
DT Strategy (X1)	Social Y2	M	0.228***	0.151***	0.379***
DT Culture (X2)			0.121**	0.431***	0.552***
Human Dimension (X3)			0.150***	0.194***	0.344***
Procedural Dimension (X4)			0.141***	0.248***	0.389***
Technical Dimension (X5)			0.132***	0.268***	0.400***
DT Strategy (X1)	Environmental Y3	M	0.289***	0.164***	0.453***
DT Culture (X2)			0.359***	0.153***	0.512***
Human Dimension (X3)			0.335***	0.160***	0.495***
Procedural Dimension (X4)			0.277***	0.130***	0.407***
Technical Dimension (X5)			0.215***	0.104***	0.319***

*** P≤ 0.001, ** P≤ 0.01

From the statistical results shown in the previous table (13), it can be noted that all dimensions of digital transformation respectively (Spreading DT culture, Technical dimension, Procedural dimension, building DT strategy, and Human dimension) have a statistically significant positive indirect impact on economic dimension (Y1) through the Development of HRM practices at Private hospitals in the governorates of Lower Egypt (β = +0.281, +0.178, +0.153, +0.147, and +0.123 with $p < 0.001$).

According to the statistical results, the existence of development of HRM practices as a mediating variable between all dimensions of digital transformation and economic dimension, these indirect effects increase the standardized effect of all dimensions of digital transformation on economic dimension respectively (building DT strategy, Spreading DT culture, Human dimension, Procedural dimension, and Technical dimension)from 0.210 to 0.357, 0.120 to 0.401, 0.114 to 0.237, 0.153 to 0.306, and 0.191 to 0.369.

Moreover, all dimensions of digital transformation respectively (Spreading DT culture, Technical dimension, Procedural dimension, Human dimension, and building DT strategy) have a statistically significant positive indirect impact on Social dimension (Y2) through the Development of HRM practices at Private hospitals in the governorates of Lower Egypt (β = +0.431, +0.268, +0.248, +0.194, and +0.151 with $p < 0.001$).

According to the statistical results, the existence of development of HRM practices as a mediating variable between all dimensions of digital transformation and social dimension, these indirect effects increase the standardized effect of all dimensions of digital transformation on social dimension respectively (building DT strategy, Spreading DT culture, Human dimension, Procedural dimension, and Technical dimension) from 0.228 to 0.379, 0.121 to 0.552, 0.150 to 0.344, 0.141 to 0.389, and 0.132 to 0.400.

Besides, all dimensions of digital transformation respectively (building DT strategy, Human dimension, Spreading DT culture, Procedural dimension, and Technical dimension) have a statistically significant positive indirect impact on environmental dimension (Y3) through the Development of HRM practices at Private hospitals in the governorates of Lower Egypt (β = +0.164, +0.160, +0.153, +0.130, and +0.104 with $p < 0.001$).

According to the statistical results, the existence of development of HRM practices as a mediating variable between all dimensions of digital transformation and environmental dimension, these indirect effects increase the standardized effect of all dimensions of digital transformation on environmental dimension respectively (building DT strategy, Spreading DT culture, Human dimension, Procedural dimension, and Technical dimension) from 0.289 to 0.453, 0.359 to 0.512, 0.335 to 0.495, 0.277 to 0.407, and 0.215 to 0.319.

Therefore, based on the previous results and analyses, the fourth main hypothesis (H4) is supported which assumed that Digital transformation dimensions have a statistically significant indirect impact on sustainable development dimensions at Private hospitals in the governorates of Lower Egypt through the development of HRM practices.

9. DISCUSSION OF RESEARCH RESULTRS

In the light of the results that are previously mentioned, the researcher found the following:

- Research results revealed that the first main hypothesis (H1) which investigates the direct impact of digital dimensions on sustainable development dimensions was supported. This result is in line with Tsindeliani, et al., (2019) ; Shaeban (2021) ; El Gohary (2022) and Belbay (2022) that reflected that digital transformation dimensions have significant positive direct impact on sustainable development dimensions where digital transformation has an essential effect on enhancing the achievement dimensions of sustainable development(economic, social, environmental) by implementing the relevant recent digital technologies to develop and transform the nature of business processes implementation which lead to improve the overall performance of organizations and enhancing their level competitiveness inside the market by creating new business models, digital services, products that assist in accomplishing extra profits and the real-time quality control, where Digital transformation provides new opportunities to boost the economy through reducing in Bureaucratic procedures, reduction of costs which lead to accomplishment a qualitative leap and participating in the fourth industrialization revolution.

Moreover, Digital transformation has facilitated communication between rural and rural communities where help in supporting effective health control, and facilitating access to the latest findings in medical research, digital health is emerged as a general term that encompasses all aspects of the use of information and communication technology in the field of Health care, and sound and visual conferences services were provided in some Hospitals for remote diagnosis.The use of information technology as an effective tool to serve the local community in various categories that allows the development of human resources and gaining modern economy skills for becoming more competitive for advanced jobs for contributing in achieving economic and social sustainability which will affect on the life and well-being of the citizen. Besides, Digital transformation plays a major role in addressing environmental issues, through using Geographical information or the use of information technology devices that contribute in Rationalizing the use of resources.

- Research results also showed that the second main hypothesis (H2) which investigates the direct impact of Digital transformation dimensions on development of HRM practices was totally supported. This result agreed with Jayabalan et al., (2021) ; Mahdy (2022) that showed that Digital transformation dimensions have significant positive direct influence on development of HRM practices where The adoption of digital transformation and new technologies used in organizational processes assist in enhancing the rapid evolution of HRM practices that demands the development and adoption of new HR competencies, new forms of employment, and agile HR processes where digital trasnsformation contribute in minimizing administrative workloads through digital employment forms, scanning of job resumes, online tests and interviews, facilitating online training, assist organizations in more efficient coordination between external and internal data from compensation surveys and current pay sources that help any organization to differentiate any imbalance in compensation structures.

- Research results also mentioned that the third main hypothesis (H3) which investigates the direct impact of development of HRM practices on sustainable development dimensions was supported. This result agreed with Al-Hakim & Nasr (2014) and partially with Zubair & Khan (2019); Taha &Taha (2022); El Sawy (2022); Liu et al., (2022) that reflected that

there is significant positive direct impact of development of HRM practices on enhancing the dimensions of sustainable development. This means that development of human resources management practices may lead to a positive impact on economic and social welfare, and has essential impact on the environment affecting sustainability as a whole.

- Finally, the fundamental and significant contribution of this study is represented through the fourth hypothesis (H4) that tests the indirect effect of digital transformation dimensions on sustainable development dimensions through development of HRM practices as a mediating variable. All dimensions of digital transformation contribute in achieving economic development which can be manifested in the development of the infrastructure of the economy with the optimal exploitation of natural and social resources. Besides, Digital transformation assists in enhancing environmental development that is also manifested in protecting the environment and natural resources, while social development is manifested in achieving justice and improving living conditions and health. Therefore, Digital transformation enhances the achievement of sustainable development through development of HRM practices by accomplishing balance between meeting human needs and protecting the natural environment.

10. RECOMMENDATIONS OF RESEARCH AND FUTURE RESEARCH

10.1 Recommendations of Research

Based on the results of the field study, this study also provides significant practical implications through precious views from various perspectives for managers, practitioners, and organizations on how to effectively maximize sustainable development at Private hospitals in the governorates of Lower Egypt.

1- Generally, the management of hospital should focus more on the Digital transformation concept and try to develop this concept among different levels of hospital which foster the achievement of sustainable development through:

- The need to build a clear and objective strategy for digital transformation that is applicable through Developing a clear vision for

the digital transformation of the hospital, Providing the necessary financial, physical and human resources for the implementation of digital transformation and existence permanent and continuous support from top management for the digital transformation program.

- The need to ensure the dissemination of the culture of digital transformation at the hospital through providing guidance continuously to its employees regarding digital transformation, establishing a unit affiliated to the senior management whose mission is to spread the culture of digital transformation, and expanding the scope of employees' participation in the digital transformation process.
- The necessity for providing skilled and trained human resources to implement the digital transformation at the hospital through attracting the best qualified personnel in information systems and programming, appointing managers with the ability to deal efficiently with information technology and digital transformation mechanisms and seeking to get assistance from experts who have competences in information technology to train employees.
- The need to establish rules and procedures to ensure the prevention of electronic theft and the protection of information at the hospital through Building an information security strategy, Providing the hospital with strong protection programs against electronic penetration, and Maintaining a secure backup of all data of patients and employees in general.
- The need for sufficient attention to develop the necessary infrastructure for the process of complete digital transformation at the hospital through introducing new ways of working through the use of information technology, bringing Latest devices, equipment, advanced technology and other facilities, Continuous updating of devices and computers in accordance to work requirements, providing technical support to all departments continuously through the concerned teams, the hospital should has technological techniques that facilitate the exchange of information and Existence of a specialized department for digital transformation and technical consulting.

2- On the other hand It is recommended that top management should follow some strategies to enhance the development of human resources management. This can be achieved through:

- Developing the nature of recruitment through having effective electronic website for recruiting human resources and developing them, focusing on attracting Human resources that have capabilities of information systems and software, having websites that allow the electronic applications to the required jobs and the tracking of employment applications and advertise about vacancies on hospital web pages.
- Developing the nature of selection through implementing the various employment tests electronically, the interviews are partially computerized where the assessment criteria and calculation system of final results become digital, and after the final acceptance, the employee is given an electronic number automatically.
- Developing the nature of training and development through Training and developing administrative leaders capable of dealing with information and communication technology, Using video conferences and remote communication technology during seminars and training courses for employees, Downloading all the material related to training programs on website of hospital with high technology and having recent E-training programs that contribute to increasing the ability to identify problems and develop appropriate solutions.
- Developing the nature of compensation system through using The electronic network within the hospital to communicate with all employees and provide them with information about vacations, salaries, allowances and promotions, adopting electronic archiving to save documents related to salaries instead of regular records and Adopting an electronic system in all financial aspects among all departments within the hospital.
- Developing the nature of performance management through determining the times to complete the tasks and measure the deviation from specified time electronically, implementing performance appraisal for employees electronically in the light of the volume and

quality of work and using electronic system for assigning tasks and implement reports for performance evaluation.

3- Finally which related to enhancing and achieving sustainable development. This can be achieved through

- Management of hospitals should adopt the concept of "Go To Green" which contributes in rationalizing the use of resources and helps in generating profits that contribute to improving the economic situation, should seek to decrease its operating costs, should strive to reduce Bureaucratic procedures by using information technology system such as using 5G technology to interrelate doctors with patients for facilitating the diagnosis process.
- Management of these hospitals should seek to minimize the health gap in remote areas by providing better healthcare to remote regions by providing Telemedicine for patients. Management should focus on facilitating the citizens' accessibility to healthcare services online, enhancing its scope, quality, and saving the patients' time and money. Moreover, Management should strive to decrease the spread of the non-communicable diseases such as hepatitis, blood pressure, diabetes by increasing health awareness to citizens by sending patients short messages through usage of mobile applications
- Disposing the size and quantity of medical waste resulting from the care of patients and visitors in the correct ways,this requires from the management of these hospitals compliance the proper environmental management system for those wastes by not throwing them randomly in front of the hospitals and not leaving them in open places that are easy to tamper with or transport with non -medical waste to open landfills that have dangerous impact on the citizens and causing many dangerous and infectious diseases. Therefore, the management of these hospitals should seek to use advanced means, modern technology and implement integrated environmental management of the medical wastes of hospitals and their safe disposal. Also, the management of hospital should seek to recycle materials for reuse and using energy-saving lighting systems suitable for health care.

10. 2 Future Research

Based upon the study's results and conclusions, the following recommendations for future research are suggested:

1- Investigating the impact of Digital transformation on improving organizational performance at communications companies.

2- Investigating the impact of Digital transformation on crisis management through innovative behavior as a mediating variable at Egyptian Banks.

3- Make a comparison study among pharmaceutical companies in Egypt (governmental- private – multinational) through studying the impact of digital transformation on level of competitiveness.

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APPENDIX A.

The following statements are related to the dimensions of Digital Transformation, Development of HRM Practices, and Sustainable Development. Please evaluate each statement and answer in a way that reflects your stance, using scales ranging from 0 to 5 taking into consideration that (0=" Does not occur") and (5=" always occurs")

Please make ◯ on the scale that expresses your opinion.

	Statements	The degree of occurred					
1.	There is a clear and written vision and mission for the digital transformation process.	0	1	2	3	4	5
2.	There is consistency between the digital transformation strategy, the vision, mission and goals of the hospital.	0	1	2	3	4	5
3.	The adopted policies contribute to the implementation of the strategic plan for the desired digital transformation.	0	1	2	3	4	5
4.	The hospital strategy is periodically re-evaluated to comply with the digital transformation process.	0	1	2	3	4	5
5.	The necessary procedures are taken in the event of a difference in the actual performance from the strategic goals of the digital transformation process.	0	1	2	3	4	5
6.	The hospital has a digital communication network that helps speed up the work.	0	1	2	3	4	5
7.	Constantly adjusting the institutional structure in line with the requirements of electronic management.	0	1	2	3	4	5
8.	The company has the financial capabilities to execute strategy of digital transformation.	0	1	2	3	4	5
9.	The management is interested in expanding the scope of employees' participation in the digital transformation process.	0	1	2	3	4	5
10.	The management of hospital seeks to spread the culture of development and modernization in providing services to employees and patients.	0	1	2	3	4	5
11.	The hospital keens to improve the level of services provided through digital transformation process.	0	1	2	3	4	5
12.	Management encourages the exchange of data and information among different departments electronically.	0	1	2	3	4	5
13.	Management Plans all administrative work and distributes tasks within the hospital electronically.	0	1	2	3	4	5

14. Establishment of unit affiliated to management responsible for spreading the culture of digital transformation.	0	1	2	3	4	5
15. The management is interested in planning human resources in line with the digital transformation process	0	1	2	3	4	5
16. The hospital keens to provide employees with the necessary skills and capabilities for the digital transformation process.	0	1	2	3	4	5
17. The management of hospital encourages creativity and innovation in line with the nature of digital transformation work.	0	1	2	3	4	5
18. The hospital is working on rehabilitating and appointing employees in accordance with the requirements of the job in light of the digital transformation.	0	1	2	3	4	5
19. The management of hospital is asking assistance from qualified experts in information technology to train their employees.	0	1	2	3	4	5
20. Existence of good electronic system to protect the security and confidentiality of information.	0	1	2	3	4	5
21. The hospital has Strong protection programs against electronic penetration of networks.	0	1	2	3	4	5
22. The management of hospital keeps a secure backup of all data inside the hospital related to all employees and patients.	0	1	2	3	4	5
23. The management of hospital is interested in introducing new ways of working through the use of information technology.	0	1	2	3	4	5
24. Management of hospital is interested in bringing Latest devices, equipment, advanced technology and other facilities.	0	1	2	3	4	5
25. Management of hospital focus on Continuous updating of devices and computers in accordance with work requirements.	0	1	2	3	4	5
26. Provide technical support to all departments continuously through the concerned teams.	0	1	2	3	4	5
27. The hospital has technological techniques that facilitate the exchange of information.	0	1	2	3	4	5
28. Existence of a specialized department for digital transformation and technical consulting.	0	1	2	3	4	5
29. The available technology capabilities are characterized by the high efficiency required for digital transformation.	0	1	2	3	4	5
30. The hospital has an qualified information center that	0	1	2	3	4	5

facilitates access to information.						
31. The hospital has effective electronic website for recruiting human resources and developing them.	0	1	2	3	4	5
32. The management of hospital interested in attracting human resources that have capabilities in information systems and software.	0	1	2	3	4	5
33. The hospital has website that allows the electronic application to the required jobs and the tracking of employment applications.	0	1	2	3	4	5
34. Advertise about vacancies on hospital web pages.	0	1	2	3	4	5
35. The management of hospital has the capability to conduct the various employment tests electronically.	0	1	2	3	4	5
36. The interviews are partially computerized where the assessment criteria and calculation system of final results become digital.	0	1	2	3	4	5
37. After the final acceptance, the employee is given an electronic number automatically.	0	1	2	3	4	5
38. Training and developing administrative leaders capable of dealing with information and communication technology.	0	1	2	3	4	5
39. Using video conferences and remote communication technology during seminars and training courses for employees.	0	1	2	3	4	5
40. Downloading all the material related to training programs on website of hospital with high technology.	0	1	2	3	4	5
41. The company has recent E-training programs that contribute to increasing the ability to identify problems and develop appropriate solutions	0	1	2	3	4	5
42. The electronic network is used within the hospital to communicate with all employees and provide them with information about vacations, salaries, allowances and promotions.	0	1	2	3	4	5
43. Adopting electronic archiving to save documents related to salaries instead of regular records	0	1	2	3	4	5
44. Adopting an electronic system in all financial aspects among all departments within the hospital.	0	1	2	3	4	5
45.Determine the times to complete the tasks and measure the deviation from specified time electronically.	0	1	2	3	4	5
46. Implement performance appraisal for employees electronically in the light of the volume and quality of work.	0	1	2	3	4	5

47. Hospital uses electronic system for assigning tasks and implement reports for performance evaluation.	0	1	2	3	4	5
48. Resources are used optimally without wasting.	0	1	2	3	4	5
49. The hospital generates profits that contribute to improving the economic situation.	0	1	2	3	4	5
50. The hospital provides high quality services efficiently and effectively.	0	1	2	3	4	5
51. The management of hospital encourages teamwork and cooperation.	0	1	2	3	4	5
52. The management of hospital applies the code of professional ethics.	0	1	2	3	4	5
53. The hospital applies ethical aspects when dealing with superiors, colleagues and patients.	0	1	2	3	4	5
54. Hospital waste is disposed in designated areas.	0	1	2	3	4	5
55. Some materials can be recycled for reuse.	0	1	2	3	4	5
56. The hospital keens on preserving the environment from pollution through work.	0	1	2	3	4	5

With sincere thanks and appreciation

Researcher

اثر التحول الرقمى على التنمية المستدامة: تحليل الدور الوسيط لتطوير ممارسات إدارة الموارد البشرية. دراسة تطبيقية على المستشفيات الخاصة بمحافظات الوجه البحرى

د .أية حسين ابو جبل

ملخص البحث باللغة العربية

هدف هذا البحث إلى اختبار الأثر المباشر للتحول الرقمى على التنمية المستدامة فى المستشفيات الخاصة بمحافظات الوجه البحرى، كما تسعى الدراسة إلى الكشف عن ما إذا كانت تنمية ممارسات إدارة الموارد البشرية تلعب دوراً وسيطاً فى هذه العلاقة. بدأت الدراسة باستعراض لأدبيات التحول الرقمى والتنمية المستدامة و تنمية ممارسات إدارة الموارد البشرية ومن ثم تم صياغة أربعة فروض رئيسية و قد تم إجراء دراسة ميدانية بإستخدام عينة قوامها 384مفردة من العاملين فى المستشفيات الخاصة بمحافظات الوجه البحرى وبلغت عدد الإستمارات المستوفاة 375إستمارة ، وقد تم تحليل البيانات المجمعة باستخدام نموذج المعادلات الهيكلية. أوضحت النتائج أن جميع أبعاد التحول الرقمى (بناء استرتيجية التحول الرقمى، نشر ثقافة التحول الرقمى، البعد البشرى،البعد الاجرائى ، البعد التقني) لها تأثير معنوى إيجابى مباشر على أبعاد التنمية المستدامة وهى (البعد الاقتصادى، البعد الاجتماعى، البعد البيئى). أما فيما يتعلق بالتأثير المباشر لأبعاد التحول الرقمى على تنمية ممارسات إدارة الموارد البشرية (الإستقطاب، الإختيار، االتدريب والتطوير، إدارة التعويضات، إدارة الأداء)، فقد أوضحت النتائج أن جميع أبعاد التحول الرقمى لها تأثير معنوى إيجابى مباشر على تنمية ممارسات إدارة الموارد البشرية. كما أظهرت النتائج أن تنمية ممارسات إدارة الموارد البشرية تؤثر تأثير معنوى مباشر على أبعاد التنمية المستدامة فى المستشفيات الخاصة بمحافظات الوجه البحرى. وأخيراً فيما يتعلق بالدور الوسيط لتنمية ممارسات إدارة الموارد البشرية فقد أوضحت النتائج أن تنمية ممارسات إدارة الموارد البشرية تلعب دوراً وسيطاً فى العلاقة بين أبعاد التحول الرقمى و أبعاد التنمية المستدامة فى المستشفيات الخاصة بمحافظات الوجه البحرى.

الكلمات الدالة: التحول الرقمى، تنمية ممارسات إدارة الموارد البشرية، التنمية المستدامة

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