European Economic Letters
ISSN 2323-5233
Vol 14, Issue 4 (2024)
http://eelet.org.uk

Digital Transformation and Improvement of the Health Service: A Forward-Looking Study of the Prospects of Its Embodiment at the Level of the Algerian Environment

Boufafa Ouided [1], Boukechima Meriem [2]
[1] Laboratory of international Finance, Governance, and Economic Development
[1] Badji Mokhtar-ANNABA UNIVERSITY, Department of Financial Sciences
[2] Laboratory of international Finance, Governance, and Economic Development
[2] Badji Mokhtar-ANNABA UNIVERSITY, Department of Financial Sciences

Email : boufafawided@gmail.com , boukhchima.meriem@gmail.com

Received: 12/05/2024; Accepted: 15/08/2024; Published: 29/11/2024

Abstract:

The purpose of this research is to examine the potential applications of technology in Algeria's healthcare industry. As well as the proliferation of "digital health" to maintain pace with the digital transformation path selected by the authorities in keeping with the international trend promoting the use of technology for improvement and making progress.

Through a case study-supported exploratory investigation that is based on a descriptive method**.** Additionally, a sample of professionals in the Algerian healthcare industry were interviewed. The study discovered that different experts have varied ideas about digital health, and that it can be challenging to fast prepare and provide the infrastructure needed for it.

Key Word: Public policy, healthcare, digital transformation, digital health, the Algerian healthcare sector.

Introduction:

Innovation in technology has become a vital aspect of our everyday existence. Its ability to enhance healthcare delivery and healthcare delivery in general is one of its uses in the medical industry. Technology has contributed to the reduction of the increasing level of terror caused by the "COVID-19" pandemic. A strong interest in this virus and its effects on the human body and society was also sparked by it.

With the start of the process of opening up and the return of normalcy. This contribution is uncontested. There has been a growing call in the official discourse of international organizations to find ways to take advantage of this technology. Furthermore, depending on it to initiate the sustainable development path, particularly for developing nations.

In line with global economies, the Algerian government has made attaining a successful digital transformation a top priority[1]. The development of a national strategy was encouraged at every level, including in the medical field. According to the National Agency for Digitalization in Health's Director General, the procedure would help create a simple and adaptable system that guarantees patients have easy access to medical facilities. Moreover, keeping an eye on his health[2].

The focus of this research paper has become clear given the strategic and significant role that health plays in every society's daily and economic life: to examine the effects of embracing and integrating digital technology in the health sector in order to advance it and enhance public health. From the viewpoint of experts in the domain. Additionally, field studies are associated with focusing on the public health sector. Where a key and underlying pillar is the public health system in Algeria. It oversees rehabilitation, employment, education, and therapy. Additionally, it strives to accomplish the overarching goals of national health planning[3]. Given that the public and private sectors employ 70% and 30% of the industry's specialists, respectively[4].

Therefore, the purpose of this study is to clarify the views and responses of many stakeholders in the healthcare industry's digitization process, with an emphasis on professionals in their diverse roles and position.

This research paper's significance stems from the scientific basis it offers for framing the contributions of medical professionals, such as general and specialty physicians, paramedics, and administrative personnel in healthcare facilities. This makes it possible to keep an eye on the digitization process and try to hasten its deployment.

To accomplish and illustrate this, the descriptive and historical technique was used to learn about the realities of implementing new mechanisms in the Algerian healthcare system. A case study of a randomly selected sample of respondents from the Algerian public health sector was used to support the research paper's content. The purpose of the study was to analyses the respondents' future visions regarding the use of technology to both improve the sector's services and activate the digitization process.

The respondents were interrogated using the direct interview tool. In terms of gathering and evaluating case study data, the research tool was the most adaptable. It has been broken down into the following parts questions in order to address the preceding issue:

1. What are the processes for using technology from the digital economy to the healthcare industry?
2. How does this usage actually occur in Algeria?

The research paper was based on the following hypotheses:

- Medical data storage is the only use case for digital economy technology.
- Building a broad and strong infrastructure is necessary to digitize the healthcare industry.

A number of earlier studies served as the foundation for the process of developing the study hypothesis for this publication, the most significant of which are:

1. Research by "**Bouchaour radia and others**" with the title **Read about the digital transformation of the healthcare system in Algeria"**: The research examined the Algerian healthcare industry's digital transformation trajectory and its attempts to implement digital health apps. Using an analytical methodology, the study emphasized the anticipated advantages and upcoming difficulties in light of historical progress and a number of changes that have been put into place[5].
2. Research by " **Angelos I. Stoumpos and others**" with the title "**Digital Transformation in Healthcare: Technology Acceptance and Its Applications":** Analyzing the changes brought about by digital transformation in the healthcare industry was the goal of the study. Using a thorough analysis of the research literature from 2008 to 2021. It ended by outlining the evolution of the most significant and frequently debated ideas and their actuality in five areas: telemedicine, security concerns, acceptance of e-health, the educational influence of e-health, and information technology in health. The study provides a basic framework for conceptual clarification and a key reference for the terminology literature[6].
3. Research by "**Bouzana Aymen and others**" with the title "**The shift towards using emerging digital health applications as a mechanism to face corona virus (covid-19): presenting the experiment of the two states of China and South Korea":** the study sought to demonstrate the truth of the trend towards the use of digitalhealth tools like big data, artificial intelligence, and electronic medical records, in order to mitigate the effects of the COVID19 virus. By examining China's and South Korea's experiences. Where the World Health Organization's assistance for its implementation helped to improve the effectiveness of healthcare services in combating the pandemic**.** In this study, the two experiences' trajectories were compared to the Algerian trajectory's actual trajectory[7].
4. **Research by "Hanen salah kamel"** with the title **"An exploratory study on electronic health records and the difficulties associated with digital transformation in the healthcare industry":** In order to improve the quality of healthcare services, the study concentrated on the significance of digital transformation in the healthcare industry through the usage of electronic health records. In addition, illuminating how digitization may affect Egypt's healthcare and health in the future. The paper was a useful scientific resource for putting this mechanism into practice since it described the certification process and cited global experiences that were comparable to the Spanish experience[8].
5. **Research by "Bouriche ahmed and others"** with the title**" Influence of digital Health on Public Health Protection Against the COVID-19 Pandemic via the Mediating Effects of Public Health**

Awareness and Behavioral Changes": through the use of public health awareness and behavioural change indicators, the project sought to investigate how digital health can help safeguard public health against the COVID-19 pandemic. Through the survey and data analysis, the study demonstrated how digital health might help safeguard public health from the COVID-19 pandemic. This effect was supported by intermediary concerns, which should be considered while developing any strategy plan to improve health[9].

6. **Research by " Stella Aririguzoh and others"** with the title **"Achieving sustainable e-health with information and communication technologies in Nigerian rural communities":** The study began by demonstrating the advantages of using modern information and communication technology by residents of rural areas, enabling them to access health information electronically and quickly. It enables them to face potential health complications and improve their level of healthcare. The original plan was implemented to the rural community in West Nigeria by the study. Additionally, it highlighted the degree of internet connectivity they have, which facilitates their access to health information. In order to expedite the process of granting internet access to the populace, enable their acceptance of digital health, and reap its benefits, the study suggested that governments and non-governmental organizations do the following[10].

The aforementioned information was used to formulate the research paper's themes. It went over the realities of the healthcare industry as a whole and how to take advantage of the digital revolution by outlining a number of fundamental ideas and showing how they may work together. Following a review of an exploratory field research on the potential and viability of implementation and benefit, the nature of the transformation initiatives adopted by the Algerian health sector was summarized**.**

First: **the digital revolution and the healthcare industry: a replacement problem and a foundation for progress**

The digital revolution, which began in the early 1990s and is currently gaining popularity quickly, has had an impact on the healthcare industry, just like it has on other facets of life and the economy, both public and private. In every economy, public officials are still working to describe the characteristics of the digital transition and to find ways to capitalize on its capabilities. The spread was quickly. The World Health Organization has endorsed the path. Digital health has been referred to as "the field of knowledge and practical and applied practices related to the use of digital technology in the health sector and its development to improve health services and the health sector in general."

This phrase is in line with the worldwide appeal to capitalize on the benefits of the technology revolution. It alludes to the collaborative application of information technology and electronic communication in the medical field[11].

Over the next 10 years, more than two million lives can be saved by spending $0.24 per patient per year on digital health interventions like chatbots, telemedicine, and mobile messaging. Additionally, it helps prevent about 7 million hospital admissions and acute medical crises. This shows that the strain on the majority of the world's healthcare systems has decreased[12].

A wide range of digital health mechanisms are available in this subject, which reflects interest in the connected digital consumer who interacts with media, smart tools, and new modern technologies to assist health services. We determine :

- **Mobile apps and online support resources**: people can use it to:
  - Access health information, including prescription drugs, doctor's visits, and diagnosis.
  - The ability to access health care advice and answers to frequently asked questions.
- **Electronic patient and healthcare provider communication**: when patients are able to:
  - Using email or text messaging to get medical advice from physicians and nurses.
  - Helps save time and effort when giving care remotely.
- **Health records in electronic form** :
  - Patient data may be securely shared and stored thanks to electronic health records.

- To enhance diagnosis and care, physicians and nurses have online access to patient records.

- **Health education via websites and social media**:
  - People can look up and share health related information online.
  - It can aid in increasing knowledge about illnesses and how to prevent them.
- **Data analyses and intelligent instruction** :
  - Digital health enhances healthcare by utilizing data and analytics.
  - Through the use of artificial intelligence, it can assist in identifying patterns and health concerns and enhance medical judgements.

Since digital technology and health systems are intertwined, a new outlook on healthcare has been made possible by the many types of digital health, where we find:

- **E-health**: it encompasses the application of information and communication technology (ICT) to enhance healthcare and deliver medical services. They consist of patient-provider electronic communication and electronic health records.
- **Mobile health**: applications for mobile devices are used to track fitness and health, as well as to help with healthcare and offer health information.
- **Telemedicine**: with the use of digital technology, doctors can conduct consultations and treat patients remotely. For patients who have trouble getting to medical institutions or in isolated locations, it may be helpful.
- **Graphical analysis and smart technology**: Data analysis helps direct healthcare and enhance medical decisions. Prevention, diagnosis, and treatment can all be enhanced with the use of smart technology. A major step forward in enhancing healthcare and patient services is represented by digital health.
- **Health applications**: such as apps for managing medications, tracking calories, and exercising.
- **Wearable devices**: similar to smartwatches and fitness trackers.
- **Electronic health records**: It refers to digital medical records for patients.
- **Artificial intelligence in the healthcare sector**: it involves applying artificial intelligence to enhance healthcare management, diagnosis and treatment.

Globally, digital health is a rapidly developing sector that has the potential to enhance people's health and well-being. It's probable that digital technology will play a crucial role in the healthcare system. Better access to healthcare, increased efficacy and efficiency, and patient empowerment to better control their health are just a few of the numerous potential advantages of digital health. The expense of digital technology, its complexity, and privacy and security issues are some of the issues that must be resolved, though.

Second: Algeria's healthcare system and its advancement initiatives: a haste to capitalize on the benefits of digital transformation

"The issue of digitization today is no longer a social luxury , nor a luxury that can be dispensed with, but rather an urgent and imperative necessity, as it is the only way to modernize health management in a scientific manner capable of providing immediate responses to problems and solving them", the President of the National People's Assembly acknowledged during the parliamentary day organized by the Committee on Health, Social Affairs, Labor and Vocational Training in coordination with the National Agency for Digitalization in Health under the title "Digital Transformation in Health... "Challenges and Prospects"[13].

On Tuesday, June 6, 2023, the chairman of the Committee on Health, Social Affairs, Labour, and Voca tional Training reaffirmed that the only way to improve the way any health system functions is to integrate mod ern technologies and information and communication technology into every aspect of the system and to adhere t o strategies that guarantee digital transformation in a practical manner that permits the successful digitization of this industry[14].

In Algeria, the Ministry of Health, Population, and Hospital Reform is in charge of overseeing the healthcare system. particularly with regard to private sector monitoring procedures and public sector healthcare

administration and organization. Additionally, it is a manifestation of the objectives of the official discourse and the endeavors undertaken to guarantee the success of the digital transformation road and to reap its benefits.

The Algerian health industry is documenting several digitization initiatives and their implementation, including as:

- **A digital platform that connects patients with doctors**[15]: a group of Algerian professionals launched a digital platform aimed at doctors and citizens. It is called “DOCTA”.

Managing patient medical records and scheduling visits are the goals of this platform. Moreover to:

- ⇒ Organizing medical appointments
- ⇒ Medical Information Management
- ⇒ Improving communication between the doctor and the patient

- **Digital prescription**[16] : this is accomplished by creating a health card that is connected to the online platform. It contains the information and medical data of the patients. They are also digitally stored. It facilitates their accessibility and helps shield them against harm , loss, or forgetfulness
- **Digital hospital projects**[17]: Six (06) cutting-edge digital projects were announced by the ministry, including the following:
  - Project for digitizing contractual agreements with social security bodies
  - The national identity number will be incorporated into electronic medical records
  - The central administration will be digitized and connected to healthcare facilities
  - A project to digitize health facilities' activity plans the electronic pharmacy project

In the process of change and digital transformation in Algeria's health sector, these projects constitute a strength and a significant turning point.

- **Digitizing healthcare services nationwide**[18]: in this regard, the ministry highlights the importance of establishing an encrypted digital medical file with a unique number associated with the person's national health identity that will be with them forever. This eliminates the need for the patient to bring their medical file on paper and enables the development of an extensive database of their medical information.

The digitization of the pharmaceutical manufacturing industry and the health insurance industry are both included in the transformation path's dimensions. The first seeks to follow the drug's journey and keep an eye on the stock of medical supplies and pharmaceutical components. In particular, to address the issue of medicine shortages. Regarding the insurance industry, its objective is to make it easier to provide benefits and payments pertaining to citizens' health. The"Carte Chifa" for instance, has been essential in helping people get prescription drugs and take advantage of instant insurance payouts[19]. Most significantly, it has reduced the amount of time needed to process files and the daily stress of submitting them.

Efforts to reform are still diligent and ongoing. A budget of 848 billion dinars has been set aside for the health sector in 2024[20]. Additionally, it's the first since independence. Through an exploratory-descriptive study that seeks to paint a picture of reality, this research article strives to investigate the possibilities of the viability and the scientific and practical compatibility of the "digitalization, health" duality within the Algerian health sector. Here is a thorough description of it.

Third: The practical research

A. **Methods for selecting the sample**: in order to analyze the Algerian health sector, the field study focused on "sector professionals," such as physicians, paramedics, and hospital administration personnel. Seventy (70) respondents, who were distributed as follows, were contacted by phone and interviewed:
   - Twenty (20) Specialist doctor are working in six provinces in the northeast:
     Guelma, Annaba, El Tarf, Tebessa, Skikda, and Algeria capital.

- Thirty(30) general practitioners are working in public neighborhood health institutions in the provinces of Annaba, Guelma, and Skikda.
- In the provinces of Annaba and Skikda, there are eight(08) paramedical assistants connected to the local healthcare facilities.
- Twelve(12) workers in the provinces of Annaba and Skikda are involved in the management of public community healthcare facilities.

B. **Specifying variables and their measurement methods**: as a significant variable, the study mainly examined the idea of digital health and its tools, as well as the potential for its implementation in Algeria as part of the nation's public policy's digitalization agenda. Moreover, the absence of the prerequisites for a typical study with a sizable and uniform sample. Regarding the concept's and its tools' applicability among industry professionals and the likelihood of its adoption in Algeria, the study was exploratory.

C. **Discussion and presentation of the study's findings**: as stated earlier, the study sample was made up of four types of different health sector professionals working at the Algerian hospital. Additionally, an overview of the findings for each category is presented prior to the examination of the personal data.

The following are the justifications for the analysis's reliance on the interview:

- Achieving the necessary sample size for questionnaire distribution proved to be challenging.
- The respondents' differing conceptions of the digital revolution, its degrees, and its nomenclature.
- Some people chose the interview over the questionnaire. Where days in a row were dedicated to discussion sessions.
- The interview made it possible to describe the interviewees in depth. What made it possible to have a methodical thorough, comprehension that tackles the goals of this research study and emphasizes its importance?

For the class of **Specialist doctor**. Its data are summarized in the following table:

Personal characteristics of the sample members – Category1-		**Frequency**
Specialization	Cardiac surgery	02
	Otorhinolaryngology	03
	Pulmonary and allergy diseases	04
	Orthopedic surgery	06
	Obstetrics and gynecology	05
TOTAL		**20**
Professional seniority	From 5 to 10 years	05
	From 11 to 20 years	13
	More than 20 years	02
TOTAL		**20**

Source: Prepared by Researcher

Based on the information in the above table, we discover that:

- Approximately half of the sample members are experts in non-surgical diagnosis and assessment. The Algerian university system, which is in charge of educating and managing professionals in the health sector, does not provide surgical training in the areas of internal medicine, pulmonology, or allergies.

- ❖ Because digital technology helps meet the need for data to diagnose the current situation and compare it with similar cases to build an idea about the medication, possible treatment, and recovery path to be adopted, the majority of respondents support the digital transformation path in the healthcare sector.
- ❖ The treating specialist physician had the opportunity to examine comparable situations and their approaches to treatment. What provides him with some sort of work experience
- ❖ It raises people's awareness of health issues and stresses the value of self-care.
- ❖ Virtual forums that may be accessed through an official path—real name, specialisation, and country—are created by the majority of responders, who prefer to use digital technology. Its goal is to track the advancement of worldwide research in the field.
- ❖ Particularly during the COVID-19 epidemic, digital technology has made it possible to attend high-level scientific discussion meetings. Thus, nine out of ten respondents are in favour of using it to deliver training sessions remotely.
- ❖ Only 10% of respondents, however, agree that attendance is necessary for the debate to be beneficial. That being said, they provoked a debate among themselves. Time and discipline were both a motivating and a limiting element.
- ❖ Despite the overwhelming support for digital technology use for education and learning, especially in the health sector. The importance of the examination phase and the role of the specialized physician in diagnosis, treatment and follow-up are emphasized by members of this group.
- ❖ They are in favour of developing a specific application for them, but they do not believe it will be implemented anytime soon because there is currently no legal framework in place, either from a business and financial or ethical position.

For the class of **general practitioners**. Its data are summarized in the following table:

Personal characteristics of the sample members – Category2-		**Frequency**
Professional seniority	From 5 to 10 years	06
	From 11 to 20 years	21
	More than 20 years	03
TOTAL		**30**
Work area	Down-town	13
	Suburbs of the city	17
TOTAL		**30**
Work place	Private clinic	19
	Public institution	11
TOTAL		**30**

Source: Prepared by Researcher

Based on the information in the preceding table, we discover that:

- ♣ In this category, almost 37 percent of the respondents have 11–20 years of professional experience. This sums up their experiences with both the traditional phase and the pivotal moment in the adoption and growth of digital technologies in the healthcare industry.
- ♣ Due to the inability to get a job as a specialist, almost 57% of doctors in this group think that working in the suburbs is unavoidable.

- ♣ However, given their failure to pass the specialization exam and the exorbitant training fees for those who want to pursue it overseas, they soon adapted to it and started to prefer it.
- ♣ Other regionally specific variables are also mentioned by members of this category. For example, we notice that there are more patients in the city than in the suburbs, allowing them to take the time needed for examination and treatment. Furthermore, the cultural level was brought up as a contributing factor, as suburbanites have a lower level yet are better at following doctor's recommendations than city dwellers.
- ♣ When financial resources are scarce, many members of the study sample are content to just secure a source of income.
- ♣ In addition to several other categories, the group with over 20 years of experience is part of the sample carrying out its responsibilities in the private sector. Among chronic patients, the first group gains specialization and recognition. Who refuse to have any other medical professional examine them (the majority of them are influenced by the doctor). When they visit with their doctor, they feel more at ease with the outcome of the checkup. Those in the second group made an effort to educate themselves, particularly on chronic conditions including diabetes, high blood pressure, joint pain, and emergency situations.
- ♣ It was digitalization that helped to calm "the queue." where a software for patient registration was set up at the reception level, and upon registration, the data was connected to the computer of the treating physician. When the examination is finished, the accompanying physician notifies the reception. which then makes the number of the following patient visible to all. It made things more transparent and organized.

For the class of **paramedical assistants**. Its data are summarized in the following table

Personal characteristics of the sample members – Category3-		**Frequency**
The occupation	Nurse	04
	Laboratory	01
	Paramedic	03
TOTAL		**08**
Professional seniority	From 5 to 10 years	01
	From 11 to 20 years	05
	More than 20 years	02
TOTAL		**08**

Source: Prepared by Researcher

Based on the information in the preceding table, we discover that:

- ❖ The "nurse" is certified by a paramedical school. which, since the turn of the millennium, has required a baccalaureate degree.
- ❖ The "lab technician" in the research sample has a biology degree.
- ❖ The term "paramedical assistants" refers to the staff members who assist in operating rooms with tasks including setting up equipment, cleaning it, and getting patients ready.

Overall, the majority of the replies from the participants in this sample were from "experts," who tended to be negative:

- As for "nurses," they advocate for the use of digital technology to store patient medical data so that it is never forgotten, lost, or rejected to be shared. This information may have an impact on the choice of diagnosis and treatment.

Patient examinations are nonetheless impacted by interpersonal interactions, whether they are between active participants in the medical facility or with outside parties. Thus, if digital technology is used in the healthcare industry and the public sector in general, they have trouble keeping it up to date. They demand that these practices be stopped and that stringent application and follow-up procedures be implemented first.

- Regarding the "laboratory," its sole goal is to establish a network that will enable the doctor and patient to receive results as soon as they become available, eliminating the need for either party to travel.
- Regarding the paramedical staff, they had a fairly impartial viewpoint. Robotics is the technology that is most relevant to their purpose. They exclude it because of the high expense and the small amount of money allotted for healthcare facility equipment. However, this set of respondents did not conceal their concern about losing their jobs if digital health aspects were fully implemented in Algerian workplaces. His interest in technology and the digital revolution in other domains, like management and education, is preferable because he believes that this is fairly implausible.

For the class of **management of public community healthcare** . Its data are summarized in the following table:

Personal characteristics of the sample members – Category4-		**Frequency**
Department of Labor	Medical equipment	02
	Human resources	05
	Finance and accounting	04
	Senior management	01
TOTAL		**12**
Professional seniority	From 5 to 10 years	02
	From 11 to 20 years	09
	More than 20 years	01
TOTAL		**12**

Source: Prepared by Researcher

Based on the information in the preceding table, we discover that:

- The particulars of the industry are not taken into consideration while training staff in the human resources department. Rather, it is learnt via professional experience and networking with industry experts.
- Most of those polled from this sample had some understanding of digital technology in relation to the healthcare industry. This is because they interact on a regular and ongoing basis, first as industry professionals and subsequently as a result of their own training and information-gathering.
- According to the sample's respondents, the health sector should embrace the digital route. Particularly with regard to patient data preservation and the promptness and simplicity of delivering information to the treating physician. Along with keeping administrative data and moving it across offices and divisions fast.

- ♣ Regarding the use of digitization and digital technology to enhance healthcare and services, the vast majority of the sample voiced their worries. In addition to its high cost, they cited factors such the technology's source of manufacture, pricing, and the Algerian supplier's control over it.
- ♣ Due to their lack of involvement in the medical treatment process, the majority of respondents in this category believe they are independent of the process of using digital technology to activate health services and care. All parties involved in the choice to deliver quality healthcare and services consequently feel less accountable. Frequently, the nature of governmental spending and the funding allotted for it are the source of disagreement. The doctor attributes these issues to the financial manager, notwithstanding his lack of understanding. The latter does not have the authority to alter the balance sheet items assigned to the organization he oversees; instead, he fulfils their specifications.

Conclusion:

Technology is a powerful and essential pillar for improving healthcare services and attaining good health monitoring, not a replacement for them. In Algerian healthcare facilities, digital transformation is beneficial:

- ❒ Enhancing the availability of healthcare services for patients
- ❒ Making administrative processes and the paperwork that go with them simpler
- ❒ Improving the exchange of information between patients and medical professionals
- ❒ Preserving time and time
- ❒ Hospital management systems and electronic records are two examples of technological solutions that can improve patient satisfaction and increase the effectiveness of healthcare facilities.
- ❒ It facilitates better planning and organisation as well as better use of resources.
- ❒ Through the analysis of big health data, healthcare institutions can identify health trends and issues and intervene more effectively.
- ❒ New medicines and improved medical research are made possible by the transformation pathway.
- ❒ The second hypothesis is supported and confirmed by this, while the first hypothesis is rejected because the field study revealed that the relationship between digital transformation and health is restricted to the use of applications, even though the active parties were aware of the existence of other technologies.

Assuring the security and confidentiality of health data, providing appropriate digital infrastructure, and offering ongoing training and education for professionals and staff are all necessary to make this road successful.

References :

1. https://www.aps.dz/ar/sante-science-technologie/161533-2024-05-04-21-09-19
2. https://epinews.emphnet.net/ar/news/eastern-mediterranean/digitization-of-the-health-sector-facilitates-access-to-health-structures-in-algeria
3. A.Bouchelaguem & Other(2017) : The role of management control in the emergence of new governance in public health institutions in Algeria, *DIRASSAT IQTISSADIYA* Journal,Constantine-Algeria, V°1-N°4.
4. https://www.albankaldawli.org/ar/topic/health/overview
5. - Bouchaour radia and others(2024): Read about the digital transformation of the healthcare system in Algeria, Journal of Business and Trade Economics,V°9 N°2.
6. Angelos I. Stoumpos and others(2023): Digital Transformation in Healthcare: Technology Acceptance and Its Applications, International Journal of Environmental Research and Public Health, https://doi.org/10.3390/ijerph20043407**.**
7. Bouzana Aymen and others(2022): The shift towards using emerging digital health applications as a mechanism to face corona virus (covid-19):, Review of Human resources development-SETIF-ALGERIA,V°17, N°1.

8. Hanen salah kamel(2023) : An exploratory study on electronic health records and the difficulties associated with digital transformation in the healthcare industry5in Arabic language) ,V°5,N°15 https://jslmf.journals.ekb.eg.
9. Bouriche ahmed and others(2022): " Influence of digital Health on Public Health Protection Against the COVID-19 Pandemic via the Mediating Effects of Public Health Awareness and Behavioral Changes, *Journal of North African Economies, V°19-N°29.*
10. Stella Aririguzoh and others Stella Aririguzoh(2021): Achieving sustainable e-health with information and communication technologies in Nigerian rural communities, https://doi.org/10.1080/23311886.2021.1887433.
11. Hans Oh&Other(2005) : What Is eHealth (3):A Systematic Review of Published Definitions, Journal of medical internet research, Journal of Medical Internet Research - What Is eHealth (3): A Systematic Review of Published Definitions
12. °- https://www.who.int/ar/news/item/20-03-1446-boosting-digital-health-can-help-prevent-millions-of-deaths-from-noncommunicable
13. https://www.aps.dz/ar/sante-science-technologie/144961-2023-06-06-12-12-19
14. °- https://www.apn.dz/lire-article/3795
15. °- https://elwassat.dz
16. °- https://www.elbilad.net/national/%D8%B1%D8%B3%D9%85%D9%8A%D8%A7-%D9%87%D8%B0%D8%A7-%D8%AC%D8%AF%D9%8A%D8%AF-%D8%A7%D9%84%D9%88%D8%B5%D9%81%D8%A7%D8%AA-%D8%A7%D9%84%D8%B7%D8%A8%D9%8A%D8%A9-%D9%81%D9%8A-%D8%A7%D9%84%D8%AC%D8%B2%D8%A7%D8%A6%D8%B1-3100#google_vignette
17. °- https://eldjazaironline.dz/Accueil/%D8%A5%D8%B7%D9%84%D8%A7%D9%82-6-%D9%85%D8%B4%D8%A7%D8%B1%D9%8A%D8%B9-%D9%84%D8%B1%D9%82%D9%85%D9%86%D8%A9-%D9%82%D8%B7%D8%A7%D8%B9-%D8%A7%D9%84%D8%B5%D8%AD%D8%A9/
18. °- https://www.aps.dz/ar/sante-science-technologie/142194-2023-04-11-15-02-18
19. °- https://legal-doctrine.com/edition/Tout-sur-la-carte-chifa-en-Alg%C3%A9rie
20. °- https://elghadeldjazairi.dz/848-%D9%85%D9%84%D9%8A%D8%A7%D8%B1-%D8%AF%D9%8A%D9%86%D8%A7%D8%B1-%D9%85%D9%8A%D8%B2%D8%A7%D9%86%D9%8A%D8%A9-%D9%82%D8%B7%D8%A7%D8%B9-%D8%A7%D9%84%D8%B5%D8%AD%D8%A9-%D8%B9%D8%A7%D9%85-2024