
E-business as an entry point for strengthening health services

Case study:

Foundation Ophthalmic Hospital Friendship of Algeria Cub in the eloued

*** Aziez Yasmine ¹, Hanan Ben Bordi ²**

¹ University of eloued (Algeria), aziz-yasmine@univ-eloued.dz

² University of eloued (Algeria), hanane-benbordi@univ-eloued.dz

Political Economy Informant between Economic Development and the Political Challenges
of Arab and African States

Received: 21/03/2024

Accepted: 16/05/2024

Published: 26/12/2024

Abstract:

The study aimed to highlight contemporary electronic and digital works and their application in the Hospital Ophthalmology Foundation Friendship of Algeria-Cuba in the Valley, by addressing both the idea of electronic business and health services and exploring the term "e-health" and its contribution to improving and strengthening the work of the institution in question.

The study concluded that the health enterprise was significantly affected by advances in ICT and e-business through its support with advanced tools and devices supported by AI technologies, which significantly improved and enhanced the institution's health services.

Key words: E-Business, Health Services, E-Health Services.

Classification JEL: M15, I10.

***Corresponding author.**

introduction:

Recent events in this world have seen increased interest in e-business, which describes the diversity of business management activities and practices resulting from the integration of ICT into business in general, especially from the Internet. Other synonyms include e-business, e-governance, e-commerce, e-marketing and other concepts adopted by the digital economy as an unavoidable technological option in the light of these recent developments.

Health organizations are one of the most important components of the digital revolution, which has affected every area of life, including the workplace, residence, trade, business, health services and public places. Healthcare managers must keep pace with the accelerated pace of scientific and technical progress in the medical industry. This, combined with population change, makes some health treatments obsolete, increasing the size of patients requires a rapid response to their demands and desires as well as improving the level of care provided to them, leading health institutions to create tools and procedures. Telemedicine and diagnostic techniques are becoming more used, especially in light of advances in medical science and expertise, competition is common among research and medical centers to ensure and improve their services.

Through the above, the study's problematic features are highlighted in the following key question:

- How has electronic business contributed to strengthening the health services of the Hospital Ophthalmology Foundation, the friendship of Algeria-Cuba in the Valley?

According to this key question, a series of sub-questions arise:

- ❖ What is the concept of electronic business? What are its most important benefits?
- ❖ What is the concept of health services? What does the term "electronic health" mean?
- ❖ To what extent does electronic business contribute to strengthening health services?
- ❖ What is the reality of e-business employment in the Hospital Ophthalmology Foundation Friendship of Algeria-Cuba of the Valley? Contribute to strengthening its services?

Study hypotheses: e-business contributes to strengthening health services

Objectives of the study: more precisely, this study aims to achieve the following objectives:

- Definition of the meaning of "electronic business".
- Understanding the importance of health services and knowing the meaning, benefits and difficulties of e-health.
- Determine how e-business can improve health services.
- Presentation of elements of electronic works used at the Algiers-Cuba Ophthalmological Hospital in Eloued.

Importance of the study: The study's importance lies in:

The importance of the study stems from the growing interest of health institutions in modern communication technology and the provision of digital solutions in multiple areas. The study also draws from an attempt to identify the extent to which Cuba's hospital ophthalmology institution uses digital media to strengthen and improve its health services.

Study curriculum:

In order to address the problem of the subject matter, the study relied on the analytical descriptive theoretical approach by covering and analysing the elements of electronic business and the elements of health services used in the institution in question.

I. E-business

1. The Concept of E-business:

E-business is understood as the processes and tools that allow companies to use internet-based information technologies to conduct business internally and externally. (Pilinkiene, Kurschus, & Auskalnyte, 2013, p. 77)

E-business allows for the extended organization to be connected. This means that all employees, customers/clients, suppliers, and other stakeholders, regardless of geographic region, are interconnected. (Rodgers, Yen, & Chou, 2002, p. 184)

According to Gouge (2003), electronic business can be defined as that activity, which is usually commercially motivated, that can be defined in terms of interaction between two or more independent parties through specific business processes automated through the use of computer and communications technology. (Gouge, 2003, p. 89)

Electronic business (e-business) can be defined as the use of the internet to network and empower business processes, electronic commerce, organizational communication and collaboration within a company and with its customers, suppliers, and other stakeholders.

2. The Benefits of e-Business Adoption

The next section introduces some general potential benefits that e-business may create.

- **Worldwide connection:** The Internet and other information technologies can connect worldwide information, content, knowledge, and people to a business. E-business provides an approach to access information or contacts other people worldwide, often at an extremely low cost.
- **Organization communication and process:** e-Business communication software allows internal staff to communicate with others and to work with staff in other businesses online. For example, Skype and software for meetings allow “virtual teams” of staff to meet colleagues and discuss projects.
- **Core business (product/service):** e-Business creates the potential for companies to expand market share through online channels and overcome the physical barriers of face-to-face contact. For example, they may respond to customers anywhere instantly. E-business has also created cross-border competition, for example, domestic retailers can sell goods to customers worldwide through international e-commerce platforms.
- **Environment:** To some degree, e-businesses can be more transparent than traditional

businesses, because anyone can access to an e-business platform that publicly available. A company's marketing-mix can be gleaned through their online profile. Hence, e-business enables companies to be more sensitive to changes within their business environment.

- **Value development through low cost or distinctiveness:** e-business often offers low entry costs, It may help create perfect competition. They may also assist companies facing financial difficulties, By providing more items online and meeting more consumer demands through e-business platforms as the industry develops, There are countless opportunities to generate new value and reap more value. (Jelassi & Martínez-López, 2020)

II. health services:

1. Définition of health services:

The term "health services" refers to it as a place for the organization of health efforts and are generally a type of public service, such as hospitals, health centres, maternity hospitals and clinics (Ardiansyah, Kautsar, & Taurusta, 2022, p. 1). The service must meet at least the following elements: legal basis, requirements, systems, mechanisms or procedures, costs, service products, facilities, infrastructure, implementation efficiency, internal control, processing of complaints, inputs and proposals, number of executors, service guarantees, security and safety assurances, free from risk and uncertainty, as well as evaluation of executors' performance. (Miswara & Wibawa, 2019, p. 14)

Healthcare services are considered the backbone of society and human wellness (Hinson, Osei-Frimpong, Ogechi, & Aziato, 2019, p. 1)

Lamberini Corcota and others define health services as part of the health system, which focuses specifically on the provision of health care services in the society. A health system includes a complex set of structural relationships between populations and institutions that have an impact on health (Lambrini & all, 2021, p. 498)

2. Evolution of the concept of health services:

The concept of health services has evolved throughout history. Previously, patients were left to die, but the idea of healing emerged, leading to the demand for organized healthcare services. With the industrial revolution, the provision of healthcare services became more organized. Medical technology advancements and the impact of wars elevated health services to public goods. However, the commodification of health services began, posing risks in the era of globalization and neoliberal policies.

The application of the scientific method to medicine, including Pasteur's germ theory, accelerated the development of medical science and technology. Tools such as thermometers, stethoscopes, vaccines, and X-rays became integral to medical practice. The focus shifted from patients to diseases, viewing the human body as a machine. This shift emphasized disease rather than overall health.

E-business as an entry point for strengthening health services
Case study: Foundation Ophthalmic Hospital Friendship of
Algeria Cub in the eloued

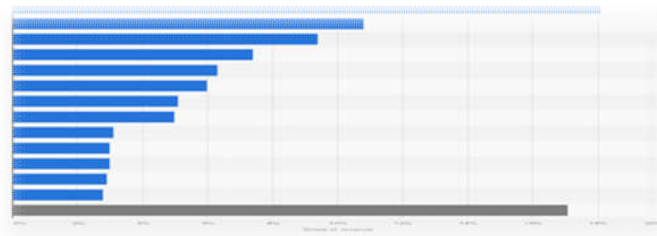
This shift also led to a dependence on technology in healthcare provision, marking the initial stages of commodification (Şafak & Özpınar, 2015, pp. 394-398).

3. Use digital technology to support health

Technology is fundamental to the integration of health and care services, underpinning the ability to get information to the right person at the right time, and allowing people to engage with their health and wellbeing in new ways. But while there are technical challenges with getting technology in health and care right, there are equally important cultural challenges that need to be address

In 2021, the medical technology industry generated revenues of about 536 billion euros. This statistic shows how MedTech's global revenue has been distributed across different product categories. According to the data, in vitro Diagnosis generated 18.1% of Medtech's total revenue, while medical devices accounted for the remaining 81.9%. Among medical devices, the most important category was those related to heart disease, which accounted for 10.8 per cent of the industry's total revenue.

Fig n°(0 1) :Distribution of global revenues for the medical technology industry in 2021 by category



Source: (Stewart, Distribution of global revenue of Medical Technology industry 2021, by category, 2022)

Health services in new developments can be highly innovative, because legacy contracts and digital programmes do not exist and so the necessary infrastructure can be built afresh. But it is important not to replicate what is already being done in the wider local area as this may replicate preexisting challenges and barriers to improvement. New places should consider conducting a digital asset-mapping exercise to understand current initiatives and resources available locally and exploring what is already available nationally to understand any gaps. The NHS Digital Maturity Assessment is one tool available to help organisations to assess where they are in relation to three themes: readiness, capability and infrastructure.

For public-facing digital systems, it is also important to understand the digital skills of the local population and where gaps might lie. The Good Things Foundation and NHS England have developed tools to improve digital skills and participation across the general population.

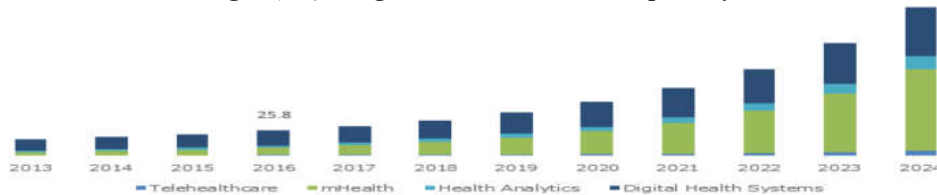
At the same time, digital projects need to carefully manage the cultural aspects of change; identifying passionate local champions, engaging intended users (for example staff, patients, carers), building organizational relationships and investing in staff skills and training. NHSX, which is

responsible for technology, digital and data policy across the Department of Health and Social Care and NHS England/NHS Improvement, provides key information and tools to support the digital development of health and care services.

III. Definition of electronic health:

- The World Health Organization (WHO) defines health as “the cost-effective and secure use of information and communications technologies in support of health and health-related fields, including health-care services, health surveillance, health literature, and health education, knowledge and research.” (DeNardis, 2011, p. 1)
- The term electronic health (digital health) indicates that it is an activity that uses electronic information resources in the health care sector and ensures immediate access for medical professionals and patients. (Fedushko, Shevchuk, Poritska, Kravets, & Tymovchak-Maksymets, 2021, p. 6)

Fig n°(0 2) : Digital Health Market Blueprint by 2024



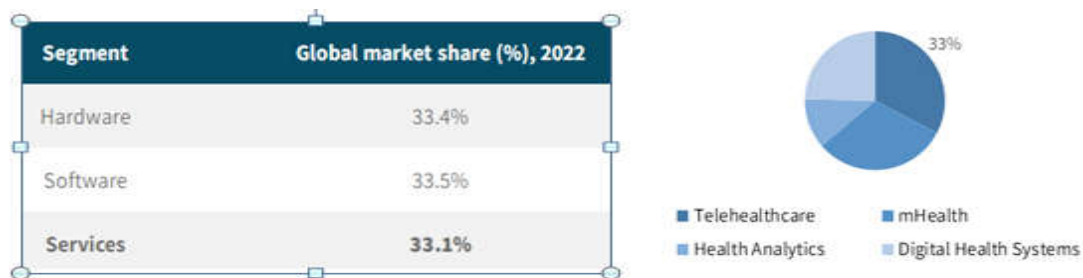
Source: ((Guohua & Malmqvist, 2007, p. 8)

Many familiar terms are embraced by the concept of e-Health, e.g.:

- Telemedicine
- Telehealth/Telecare
- Healthcare Telematics
- Medical Informatics
- Health Information Management
- ICT in healthcare

All terms with a different perspective or approach to the common challenge of using advanced technology, in the cleverest way, to change and improve healthcare services and public health. (Guohua & Malmqvist, 2007, p. 8).

Fig n°(0 3): Digital Health Market Share2022



Source: (Swain & Kharad, 2023)

Digital health Market size was worth more than USD 233.5 billion in 2022 and is anticipated to depict a 15% CAGR between 2023 and 2030 driven by the growing adoption of Smartphone, tablets, and other mobile platforms. By technology, the digital health market by the telehealthcare segment is anticipated to reach USD 244 billion by 2032, owing to the growing patient inclination towards technology-driven approaches which offer health management Tools and provides easy Access to services across remote locations, The digital health market is expected to generate USD 327 billion by 2032. (Swain & Kharad, 2023)

however, the technologies such as the Internet of things, virtual care, remote monitoring, artificial intelligence, big data analytics, blockchain, intelligent wearables, platforms, tools enabling data exchange and storage, and tools enabling remote data capture and the exchange of data and sharing of relevant information across the health ecosystem creating a continuum of care have proven potential to enhance health outcomes by improving medical diagnosis, data-based treatment decisions, digital therapeutics, clinical trials, self-management of care and person-centered care as well as creating more evidence-based knowledge, skills and competence for professionals to support health care. (World Health Organization, 2021, p. 8)

1. Nature and added value of e-health services:

The term e-health, referring to all digital health-related information, is therefore extremely generic, covering as it does: (Healy, 2007, p. 12)

Products, such as instruments to ensure the constant monitoring of blood pressure in ambulatory patients, systems, such as computer-assisted surgery systems, and services, such as:

- operating surgical and intensive care units, with interconnected instruments and surveillance services ensuring continuous patient monitoring;
- computer-assisted prescription services, where the software checks for incompatible drugs, contraindications and dosage levels;
- Information services for patients and consumers, including individual electronic health records.

2. E-Health Opportunities: (KUNBUOR, 2009, p. 30)

- Improved access and availability of healthcare services in remote or rural areas. Through mobile telephony or telemedicine, healthcare consumers will reduce the need for travel and referral to a secondary or tertiary health institution.
- Improved quality of care as a result of reduction in wait-times for medical treatment and surgical procedures and enhanced access to data for research. This will in turn improve patient health outcomes.
- Improved logistics and supply chain due to enhanced management information system for medical and non medical supplies.
- Facilitate the adoption of eLearning systems in medical education training and continuing professional development.
- Improved data and information to generate evidence to support timely and informed.

3. E-Health Challenges:

The e-health challenges and trends report states: "Integrating ICT into health in practice has proven

to be a challenge" (Welsum, Overmeer, & Ark, 2014)

- **E-Health friendly Government Policies**

Most of the globe has not yet created e-Health friendly policies. The lack of policy makers' exposure to the field of e-Health and its potential advantages in Japan prevents the development of e-Health-friendly legislation. Similarly in GCC countries, policies are not friendly for e-Health. Government policies in Jordan are also not conducive to the growth of e-Health.

The creation of an e-Health System framework is necessary for the better growth and sustainability of e-Health Projects. Reputable international institutions like the United Nations (UN) and World Health Organization support it (WHO). (Qureshi, Farooq, & Qureshi, 2021, p. 6)

- **Basic ICT Knowledge and Skills**

Most of today's youth, especially those living in rural areas, grew up without computers or electricity. This is a result of the low adoption of e-health by rural populations and doctors, so the majority of healthcare providers and patients using the new e-health system lack the knowledge or basic ICT skills needed to use the system efficiently. Poor ICT knowledge and efficiency among consumers and health-care providers prevents these stakeholders from adopting an e-health system. (EmdadulHaque, 2019, p. 50)

- **Change in business design**

Consumers, service providers, and insurers frequently aren't ready for changes to their information management roles. By adopting e-consumer empowerment, electronic supply firms will start publishing information rather than protecting it. The success of e-health operations depends on the ability to adapt to this shift in business performance. (MATAR & Alnabhan, 2014, p. 2)

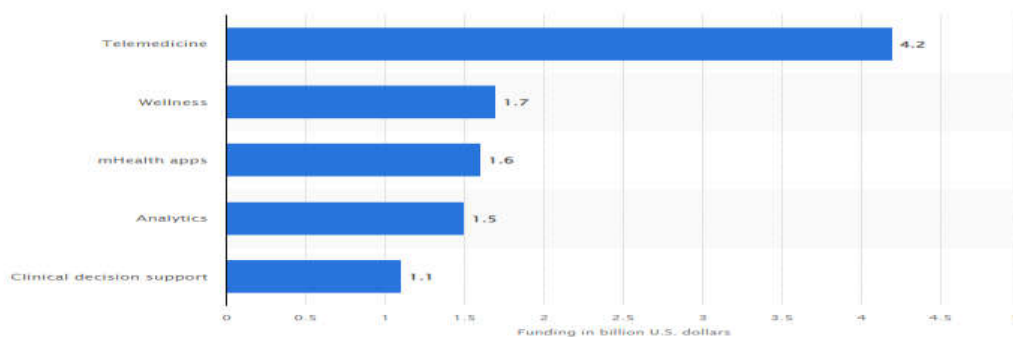
- **The underlying health information technology infrastructure is weak:**

This limits the health sector's ability to distribute low-tech and very simple medicines that require several forms of adoption. (KUNBUOR, 2009, p. 32)

- **Workforce Needs**

The need for a skilled workforce that is familiar with health care, information and communication technology, and the organizational and human resource issues involved is one of the difficulties in implementing health information and communication technology. The field of biomedical and health informatics is widely regarded as the confluence of these domains (or health informatics for short).The importance of having a skilled workforce in health informatics is also becoming more and more clear. (Hersh & all, 2010, p. 275)

Fig n°(0 4) : Top funded digital health categories worldwide in the first half of



Source: (Stewart, Top funded global digital health categories 2021, 2023)

This statistic shows the highest-funded digital health categories worldwide during the first half of 2021. In this period, USD 4.2 billion of funding was provided for medical medicine remotely making it by far the most funded category.

IV. Case study on Algeria-Cuba Friendship Ophthalmology Hospital in the Eloued State in the adoption of e-business:

The Foundation of the Ophthalmological Hospital of the Valley in the framework of the Algerian-Cuban Friendship is a private hospital with moral personality and financial independence, established by Executive Decree No. 404-13 of 01/12/2013, supplementing the list of ophthalmological institutions annexed to Executive Decree No. 281-12 of 09/07/2012 on the establishment, organization and operation of ophthalmic.

Medical appointments began the following days: on 24 August 2014, there were a large number of registrations that exceeded 100 on that day; Medical examinations were launched immediately after a week of registrations, which exceeded 800 in the hospital; On 27 August 2014, the first examinations of patients began. The Specialized Examinations Service opened A-B in response to the possibility of disease determined by the Examinations Department C, for example: retina, cornea, white water, blue water, eye nerves, eye correction, ophthalmic surgery for children, after preparation, preparation and sterilization of the Department of Operations.

On March 23, 14 surgeries appeared to be performed, and one of the most complex successfully performed ophthalmic surgery called "rupture".

The Foundation's medical urgencies opened on August 01, 2015.

The hospital has 40 beds, several wards, and a private medical emergency ward with an estimated area of 18442 square meters.

At the opening of the Foundation, there are 68 Cuban collaborators, including 23 specialized doctors, 30 nurses, 09 specialists in sight measurements and 6 engineers in various disciplines. (Algerian-Cuban Ophthal, 2023)

The following lists the many programs of Ophthalmology Hospital in the effective digital valley and how they contributed to the success of the Foundation:

1. Strong infrastructure:

It focuses on the use of cutting-edge eye-related medical procedures, a variety of electronic tools and technology, including computers, phones, and displays in each department, and technical staff in addition to offering the Internet. Among these technologies are:

- Computers: Hospital computers can be used for many purposes such as recording patients' medical data, issuing prescriptions, managing bookings and organizing appointments and surgeries.
- Smartphone and Fixed: The hospital utilizes it to help patients, physicians, and staff communicate with each other. It may be used to make calls, manage appointments and

bookings, get updates on patients' conditions and the outcomes of medical exams, organize surgeries and..

- Internet: The Foundation depends on the use of the Internet to enhance the standard of healthcare, save time, effort, and resources by accessing electronic medical databases and other medical information, facilitating the diagnosis and treatment process and making it more accurate and effective, and communicating with patients via email and smart phone applications, which helps reduce crowds in hospitals, as well as allowing the storage of electronic medical records.
- Displays: The Foundation employs this sort of screen to make notifications, present essential medical information, and sensitize patients by directing them to the appropriate departments.
- Technical staff: The organization depends on a group of technical staff members with expertise in digitization, including 3 Cuban foreign engineers with expertise in device repair.
- Medical eye imaging devices such as retinal scanners, advanced glass, eye pressure measurement and 3D photo capture.
- Specialized surgical devices for the eyes, such as lasers for white and blue water treatment, precision screening devices and laser treatment for retinal diseases.
- Eye Health Information Management System that helps manage medical records and provide personal healthcare to patients
- Telecommunications platforms and smart medical applications that help communicate between doctors, nurses and patients, provide telemedicine and manage personal healthcare

Fig n°(0 5) : Worldwide revenue of medical devices industry 2007-2024



Source: (Stewart, Worldwide revenue of medical devices industry 2007-2024, 2022)

Between 2007 and 2021, the revenue generated by the medical devices industry worldwide boomed. In 2007 the sales of medical devices generated revenue of 258 billion euros, while by 2021 this figure reached 439 billion euros. Revenue from medical devices was forecast to grow even further in the following years, reaching 521 billion euros by 2024.

2. Websites:

The Foundation's website aims to provide useful and reliable information to patients, facilitate communication, book appointments, and provide a convenient and useful experience for users, including a range of information, such as: information on the history of the Foundation, information on staff, doctors and technicians involved in the Foundation, a list of services and treatments provided to patients, and an online appointment booking system, which provides patients with convenience and ease in making appointments. The site also includes contact information about the enterprise such as physical address, phone numbers, fax and email address. (Hospital Ophthalmology Foundation, 2023), The Next table shows the various activities in the institution:

Table n°(0 1): Represents the query activity on the institution's services in the first and second years

E-business as an entry point for strengthening health services
Case study: Foundation Ophthalmic Hospital Friendship of
Algeria Cub in the eloued

ACTIVIDAD DE CONSULTA	1er año	2do Año
Consultas de Oftalmología Gral.	28349	31257
C. Especializadas	79399	87560
C. Pediatría	9912	8197
C. Oculoplastia	9073	10003
C. Córnea	8463	10112
C. Catarata	19811	22416
C. Retina	11935	15089
C. Glaucoma	13247	13245
C. Neurooftalmología	4813	5035
C. Cirugía Refractiva	2145	3463
Total de Consultas	109365	128489

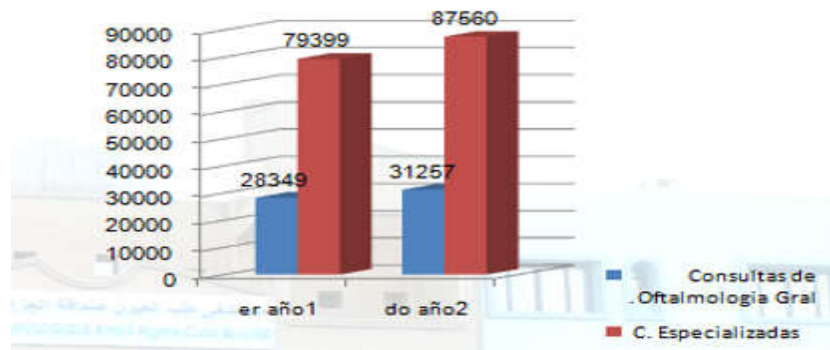
Source: (Hospital Ophthalmology Foundation of Eloued, 2023)

Fig n°(0 6) : Graphic representation showing the first and second years of the institution's services enquiry activities



Source (Hospital Ophthalmology Foundation of Eloued, 2023)

Fig n°(0 7) : Graphic representation showing general and specialized ophthalmic consultations in the first and second years



Source: ((Hospital Ophthalmology Foundation of Eloued, 2023)

1. Touri Application:

University student Boualba Abdallah developed this health-related software for the preservation of patient medical information. Boualba also developed a number of other applications and took first place globally in a competition organized by the French Academy of Health. The queue problem, particularly in hospitals, was the main focus of this program, which was later expanded to cover other problems including the patient's medical file problem. because the doctor didn't have enough information about the patient to make an appropriate diagnosis of the patient's disease. In order to create a medical file that was specific to each patient, he intended to add a box in this program where all of the patient's information and paperwork could be entered, It also provided a solution to the problem of booking and reduced the problem of finding doctors and mobility problems that can affect the patient's health and cause additional problems, as well as assisting medical professionals in making diagnoses. (boualba, 2023)

As part of the Foundation's efforts to bring its services closer to citizens and facilitate communication with them, this application was developed in France and presented in the Algerian market as the first experience in some hospitals and medical clinics, including the Hospital Foundation for Ophthalmology of the eloued. The report ends by letting all citizens know that the Foundation has adopted the Touri application, which makes it easier to upload medical records for analysis, potential treatment, and reaction. (boualba, 2023)

By including a box in the app marked "coronavirus test," where the patient lists his or her information, symptoms, and location, a new feature has been added to the Touri app to detect suspected coronavirus cases early and provide those involved in record time for the purpose of isolation and treatment in a timely manner. The order calculates and extrapolates percentages from this data, and any cases with a likelihood of disease of more than 50% are deemed suspect. Doctors have immediate access to this information at the same time, enabling them to act in a timely and appropriate manner. (Ennahar Tv Plus, 2020) Here are some advantages of this application: (Boualba, 2022)

Touri, the world's first application in its field in December 2019, allows:

- Find the best doctor and informant Solutions near you
- Booking at the doctor or informant and from your location
- See if the doctor is present or not without commuting
- Know if it's only your turn from your phone
- Upload the medical file in your file
- Easy search and appointment with your doctor;
- Follow your role remotely and get notification when your role approaches;
- Have your patient file in your profile;
- Management of médical assistants.

- Go to clinic using GPS.

3. Optisolin Program:

Once the Foundation joined the field of digitalization in 2016, the Ophthalmology Hospital of the eloued entered into a contract with Optisolin and implemented an electronic program for patients. To reduce paper records and make the process of searching the patient file easier, it started by digitizing all of the institution's fundamental tasks and activities, with the patient's medical file being the most crucial. This file contains:

- Patient's Personal Information.
- Public consultation.
- Cash Archive.
- patient clinical history (Algerian-Cuban Ophthal, 2023)
- Patient appointments: In the light of the huge number of requests for initial appointments for regular eye examinations that have arrived for 2020, the hospital administration has prompted an alert to ensure the urgency of critical cases that are not waiting for 2020, provided that the patient has a medical file indicating that his or her condition is urgent. (Echorouk, 2018)

It contains, contact information, other information, as well as satisfactory documents.

4. Support for Ophthalmology Foundation with two laser eye correction devices:

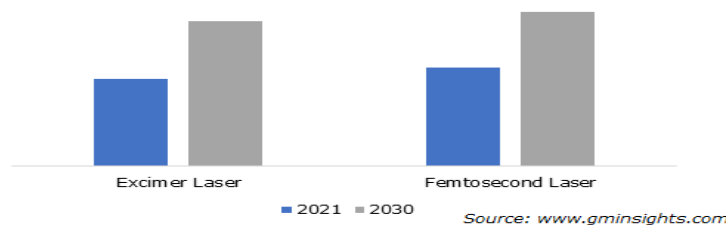
An official source from the Eastern Valley Health Directorate revealed that the ophthalmology hospital in the eloued state is supported by two important surgical devices, the first of their kind in Algeria, because they are not available in public hospitals. These two devices are very important, given the increasing cases of these diseases throughout the country.

- The first device is a laser vision correction device, which will treat many diseases.
- The second is related to the treatment of white water diseases and the treatment of conical cornea as well as accessories.

The two agencies were coming to strengthen health services in terms of diagnosis and ensuring patients' quality health care. (Alam, 2022)

Fig n°(0 8) : Size of Lasik Ophthalmic Devices Market 2021-2030.

Global LASIK Eye Surgery Devices Market, By Product, 2021 & 2030 (USD Million)



Source: ((swain & kharad, 2022)

The market size of LASIK ophthalmic devices has been estimated at more than US \$1.6 billion in 2021 and is expected to increase at a CAGR of more than 5% from 2022 to 2030 estimated at US \$2 billion. The market for ophthalmic surgical devices is separated into categories of Excimer laser and Femto second laser The Femto Second laser sector accounted for more than 53% of the industry's share in 2021.

5. social media:

Ophthalmology Hospital can use these platforms for several purposes, including: providing educational content for patients and effective treatment methods, providing a platform to communicate with them and answer their queries, providing advice and guidance, and disseminating important and up-to-date information about the hospital. The eloued Ophthalmology Hospital relies more on:

- Face book page: In the name of the Hospital Ophthalmology Foundation of the eloued, it contains identifying information of the institution from its location, telephone numbers, e-mail...
- Viber Application: The Foundation relies on Viber to communicate with the patient remotely by making voice calls, sending text messages, audio files, photos and documents... via the following number: 032120109
- E-mail: opit.opht.eloued@gmail.com: E-mail may be used to communicate with patients in some cases, such as sending medical reports or examination results, making appointments or conducting medical consultations...

6. Automate booking device :

The hospital uses an automated booking system to handle patient appointments in order to increase service effectiveness, reduce pressure on patients and staff, and save time and effort.

Conclusion:

The research conducted at the Ophthalmology Institute Hospital in the eloued yields the following conclusions:

- The Ophthalmology Hospital uses e-business to enhance performance effectiveness and service quality.
- Reducing time and effort for both patients and staff while facilitating administrative processes.
- Use the knowledge and expertise of Algeria's partnership with Cuba.
- According to the organization's official, the idea for the website is being developed to be presented in a sophisticated manner, despite the organization's advancement in the field of digitization.
- Computers and other electronic devices assist the business in gathering, managing, and making information easier to access.
- Use contemporary mobile apps (Touri app) to provide health services to patients including scheduling appointments, tracking treatment and reminders.
- The Hospital Ophthalmology Foundation supports two laser sight correction devices to treat several diseases and ensure good patient health care.
- Use electronic medical file management software (such as Optisolin) that allows doctors and patients to access medical information needed for diagnosis and treatment.

Bibliography List :

I. Books :

1. Guohua, B., & Malmqvist, G. (2007). *Guide to Regional Good Practice EHealth*. (Belgium): Eris@, DG Regional policy, EC.
2. Hinson, R., Osei-Frimpong, K., Ogechi, A., & Aziato, L. (2019).

3. Hinson, Robert, et al., eds. Health service marketing management in Africa. Taylor & Francis Group.
4. Jelassi, T., & Martínez-López, F. J. (2020). Strategies for e-business: Concepts and cases on value creation and digital business transformation. Springer Nature.
5. Sharma, M. E-COMMERCE AND E-BUSINESS. Delhi: Lovely Professional University Phagwara.

II. Journal article :

1. Ardiansyah, W., Kautsar, I. A., & Taurusta, C. (2022). Location-Based Health Service Information System Design (Case Study of Sidoarjo District Health Services). *Procedia of Engineering and Life Science* , 2 (2).
2. EmdadulHaque, M. (2019). The challenges of eHealth implementation in developing countries: A literature review. *IOSR Journal of Dental and Medical Sciences (IOSR -JDMS)* , 19 (5), pp. 41-57.
3. Fedushko, S., Shevchuk, L., Poritska, A., dsszq, Kravets, R., & Tymovchak-Maksymets, O. (2021). E-Commerce and E-Health Strategies and Implementation Activities in the United Kingdom: Review Study. arXiv preprint arXiv:2108.08271.
4. Gouge, I. (2003). *e-Management: The Impact of e-business on today's IT manager*. Springer Science & Business Media.
5. Hersh, W., Margolis, A., Quirós, F., & Otero, P. (2010). Building A Health Informatics Workforce In Developing Countries. *Health Affairs* , 29 (2), pp. 275-278.
6. Lambrini, K., Christos, I., Christos, S., Theodoula, A., Ouzounakis, P., & Christos, K. (2021). Quality of health services. *World Journal of Advanced Research and Reviews* , 12 (1), pp. 498-502.
7. MATAR, N., & Alnabhan, M. (2014, June). Evaluating E-Health Services and Patients. *International Arab Journal of e-Technology* , 3 (4), pp. 250-257.
8. Miswara, R. D., & Wibawa, S. (2019). "Kualitas Pelayanan Pasien BPJS di Rumah Sakit.". *Jurnal Ilmu Administrasi Negara ASIAN (Asosiasi Ilmuwan Administrasi Negara)* , 7 (1), pp. 13-24.
9. Pilinkiene, V., Kurschus, R.-J., & Auskalnyte, G. (2013). E-BUSINESS AS A SOURCE OF COMPETITIVE ADVANTAGE. *ECONOMICS AND MANAGEMENT* , 18 (1), pp. 77-85.
10. Qureshi, M. M., Farooq, A., & Qureshi, M. M. (2021). Current eHealth Challenges and recent trends in eHealth applications.
11. Rodgers, J. A., Yen, D. C., & Chou, D. C. (2002). Developing e-business; a strategic approach. *Information Management & Computer Security* , 10 (4), pp. 184-192.
12. Şafak, T., & Özpınar, S. (2015). The Evolution of the Concept of Health Services. *Global Advanced Research Journal of Medicine and Medical Sciences* , 4 (9), pp. 394-401

III. Internet websites

1. Echorouk. (2018, 10 15). *Medical appointments in oued souf Ophthalmology Hospital in 2020*. Consulté le 02 24, 2023, sur Echorouk: <https://www.echoroukonline.com/%D9%85%D9%88%D8%A7%D8%B9%D9%8A%D8%AF%D8%B7%D8%A8%D9%8A%D8%A9%D8%A8%D9%85%D8%B3%D8%AA%D8%B4%D9%81%D>
2. *Algérie*. Consulté le 02 24, 2023, sur 9apps: <https://www.9apps.com/android-apps/com-boualbatouri/>

3. Alam, M. (2022, 02 22). *Al Wadi/Ophthalmology Foundation supports two laser sight correction devices to treat several diseases and ensure good patient health care*. Consulté le 02 24, 2023, sur Elcharkelyoum: <https://elcharkelyoum.dz/2022/02/22/%D8%A7%D9%84%D9%88%D8%A7%D8%AF%D9%8A%D8%A7%D9%84%D9%85%D8%A4%D8%B3%D8%B3%D8%A9>
4. Ennahar Tv Plus. (2020, 03 21). *Tory App Founder: App Helps Doctors Detect Suspected Coronavirus Cases(video file)*. Consulté le 02 24, 2023, sur youtube :<https://www.youtube.com/watch?v=rNDeUXf4Hec>
5. Stewart, C. (2022, Sep 26). *Distribution of global revenue of Medical Technology industry 2021, by category*. Consulté le 03 15, 2023, sur statista: <https://www.statista.com/statistics/1333528/distribution-of-global-revenue-of-medtech-industry-by-category/>
6. Stewart, C. (2022, Sep 26). *Worldwide revenue of medical devices industry 2007-2024*. Consulté le 03 15, 2023, sur statista: <https://www.statista.com/statistics/1333522/worldwide-revenue-of-medical-devices-industry/>
7. swain, R., & kharad, S. (2022, Sep). *Size of Lasik Ophthalmic Devices Market 2021-2030*. Consulté le 03 18, 2023, sur Global Market insights: <https://www.gminsights.com/industry-analysis/lasik-eye-surgery-devices-market#>
8. Swain, R., & Kharad, S. (2023, 03). *Digital Health market share*. Consulté le 03 2023, 18, sur Global Market Insights: <https://www.gminsights.com/industry-analysis/digital-health-market>
9. Hospital Ophthalmology Foundation. (2023). *Hospital Ophthalmology Foundation*. Consulté le 07 05, 2023, sur webs: <https://eheloued.webs.com/fiche-technique>
10. Hospital Ophthalmology Foundation of Eloued. (2023). *statistiques*. Consulté le 07 05, 2023, sur <https://eheloued.webs.com/statistiques>.

IV. Interviews:

1. Algerian-Cuban Ophthal, o. (2023, 2 20). E-business as an entry point for strengthening health services (personal interview). (y. aziez, Intervieweur) El Oued.
2. boualba, a. (2023, 02 20). Introducing the application of Touri and its contribution to solving the patient's problems and bringing him closer to the institution. (y. aziez, Intervieweur)

V. Reports:

1. DeNardis, L. (2011). *Standards and eHealth*,. Yale University: ITU-T Technology Watch Report.
2. Healy, J.-C. (2007). *Implementing e-Health in Developing Countries Guidance and Principles*. New York: International Telecommunication Union (ITU).
3. KUNBUOR, B. (2009). *GHANA E-HEALTH STRATEGY*. takes inspiration from the recommendations of the Annual Ministerial Review of the United Nations Economic and Social Council held . Accra.
4. Welsum, D. v., Overmeer, W., & Ark, B. v. (2014). *Unlocking the ICT growth potential in Europe: Enabling people and businesses*. European Commission.
5. World Health Organization. (2021). *Global strategy on digital health 2020-2025*. World Health Organization.