



## The effect of electronic management practices on improving the level of medical services in Saudi hospitals

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### Abstract

This study aims to investigate the effect of employing electronic management practices on improving the performance and quality of medical services in Saudi hospitals in light of the Corona crisis. The methodology used is a Descriptive methodology based on the last studies, books, and papers. The results of this study show that there are many benefits in employing e-management in Saudi hospitals such as assurance of fast access to information and knowledge compared to other competitors, best-sharing knowledge, avoiding extra costs, maximizing profitability and achieving fast-growing revenues, shorter time to access markets, improving relations with clients, opportunities for new business. Also, the study concluded that there is a positive effect of employing the e-management on the performance and quality of medical services in Saudi hospitals.

**Key words:** Corona crisis, electronic, hospitals, management, performance, quality.

### المخلص

تهدف هذه الدراسة إلى البحث في أثر توظيف ممارسات الإدارة الإلكترونية في تحسين أداء وجودة الخدمات الطبية في المستشفيات السعودية في ظل أزمة كورونا، وقد تم اتباع المنهج المتبع الوصفي بناءً على آخر الدراسات والكتب والأوراق البحثية. وقد أظهرت نتائج هذه الدراسة أن هناك العديد من الفوائد لتوظيف الإدارة الإلكترونية في المستشفيات السعودية مثل ضمان الوصول السريع إلى المعلومات والمعرفة مقارنة بالمنافسين الآخرين، وتبادل المعرفة بأفضل شكل، وتجنب التكاليف الإضافية، وتعظيم الربحية، وتحقيق النمو إيرادات سريع، ووقت أقصر للوصول إلى الأسواق، وتحسين العلاقات مع العملاء، وفرص لأعمال جديدة. كما خلصت الدراسة إلى وجود أثر إيجابي لتوظيف الإدارة الإلكترونية على أداء وجودة الخدمات الطبية في المستشفيات السعودية.

**الكلمات المفتاحية:** أزمة كورونا، إلكترونية، مستشفيات، إدارة، أداء، جودة.



## Introduction

The health sector is affected, like other sectors, by the successive changes and transformations that occur in the local and global mediums. It is noticeable at the local level that there are severe pressure and a direct increase in the demand of individuals for health services in addition to other demands such as bringing their locations closer to the recipient, and raising the level and quality of their services to be close to the level of Health services available in developed countries.

Hospitals are considered to be one of the most important institutions operating in society and the state that mainly provides health services to all members of society. moreover, the development of hospitals is an important measure of the development and the progress of the state in the health, scientific and civilizational fields, so all countries seek to enhance the interest in hospitals, their services, and their quality to avoid any negative errors that may cause a disaster in the state. however Quality at present has become a unique strategy and a competitive mean to meet all the needs of sustainable development and achieve its goals, and not only that, maintaining quality enables the hospital to achieve the highest levels of excellence in service markets (abu shkr, 2012).

Hospitals as an institution in the state increasingly face many internal and external challenges. the internal challenges include new financing mechanisms, increased specialization and complexity, increased political and public aspirations, the introduction of new medicinal preparations and medical technology, while external challenges include population aging and changing forms and types of diseases, And setting general demographic and epidemiological perceptions, and all of these challenges require higher levels of management to improve the performance and services provided. it is worth noting that the deterioration that was observed in the late eighth decade of the second century that the lack of performance and the fall and deterioration of health outcomes in a group of hospitals in the Middle East was not the result of a lack In material liquidity, but it was a deficiency in the administrative processes of health care (WHO, 2009; Mikalef & Batenburg, 2011).

Consequently, hospitals must develop administrative practices through the use of many modern technological innovations and rely on information and communication technology technologies as an important pillar of modern management, which is in line with the development goals of the World Health Organization, which put a set of goals, including "Cooperate with the private sector to make available the



benefits of new technology, especially information and communication technology" (WHO, 2005). technology has become an indispensable necessity at present as it is an imperative imposed by global developments and changes, as the processes of participation, integration and employment of information have become one of the criteria for achieving enterprise success at present.

According to the importance of the above information, this paper will investigate the effect of employing electronic management practices on improving the performance and quality of medical services in Saudi hospitals in light of the Corona crisis.

### **Problem and questions**

The study conducted by the World Health Organization (2009) has confirmed the weakness of hospital management in the Eastern Mediterranean Region, as one of the reasons for the low performance of hospitals, especially in low-income middle-income countries and low-income countries. It was also noted that widespread mismanagement of human resources, with the absence of incentive and reward systems, and comprehensive evaluation systems. Note that improving the performance of hospitals in the framework of improving the performance of health systems in general, is at the forefront of the reform program in the countries of the region. Many countries of the Region have established programs to strengthen the administrative skills needed for hospitals, and to introduce modern procedures in hospital management, including hospital independence, in order to provide more flexibility in their management, improve information systems, and enhance hospital efficiency.

So, this study came to investigate the effect of employing electronic management practices on improving the performance and quality of medical services in Saudi hospitals in light of the Corona crisis, by answering the following questions:

1. What is the electronic management?
2. What is electronic management goals, principles, advantages, obstacles?
3. What is the effect of employing electronic management practices on improving the performance and quality of medical services in Saudi hospitals in light of the Corona crisis?

### **Methodology**

The methodology used in this study is a qualitative methodology, based on other studies, books, and articles.



## **Electronic management**

many definitions were used to define electronic management. according to Al-Ani & Jawad (2013) definition it's an administrative strategy in the information age, with the goal of optimal utilization of information resources in a modern electronic framework, and in light of the considerations of the proper operation of human and material resources and the electronic method, to achieve efficiency in harnessing efforts and spending money to achieve the targeted goals By the organization in question. also Al-Hassan (2010) defines it as administrative efforts that include exchanging information and providing services to the citizens and the business sector at a high speed and low cost across computers and Internet networks, while ensuring the confidentiality of the security of mobile information. In addition, It is a new alternative in management that is mainly based on the use of electronic means such as computers, internet technologies, intranets, extranets, and software to carry out administrative tasks with less effort, a faster time, and high quality (minwar & whebeh, 2018).

## **Electronic management goals**

The goals of electronic management are many, all of which are based on increasing efficiency and effectiveness of service and lower costs. We will review some of them as following (minwar & whebeh, 2018; Rawash, 2014; Atallah, 2016):

1. Managing files instead of saving them.
2. Reviewing the content of the document instead of writing it down.
3. Managing and following-up of the various departments of the institution as if it were a central unit.
4. Collecting data from its original sources in a uniform manner.
5. Reducing decision-making obstacles by providing and linking data.
6. Reducing disbursements in following up on various management processes.
7. Transforming government procedures, such as providing government services faster and at a lower cost.
8. Create effectiveness in management and improve the level of administrative processes using modern technologies.



9. Reorganizing the administrative work and qualifying the human cadres and training them to use modern technologies.
10. Reducing burdens on citizens and reducing the effort required to conduct transactions.
11. Simplify and shorten administrative procedures.

### **The advantages of electronic management**

The electronic administration provides many advantages, which can be divided into two types as follows (Younes, 2017; Hidayanto, Ningsih, Sandhyaduhita, & Handayani, 2014; Burtylev, Mokhun, Bodnya, & Yuhnevich, 2013; Ang & Husain, 2012; Al-Thunaibat, 2014):

1. The advantages of electronic management for public administrations, which include the following:
  - Simplify procedures for completing jobs.
  - Provides transaction flow programming electronically.
  - Departments help improve the quality of the services provided.
  - Facilitate communication between its different departments, as well as with various other institutions.
  - It contributes to achieving excellence, by reducing transaction completion times and costs.
2. The advantages of electronic management for society, which include the following:
  - Contributing to increasing the transparency of public administrations with regard to improving services, simplifying procedures, and facilitating transactions between them and all groups in society.
  - Contributing to providing information and making it available to all segments of society.
  - Contributing to achieving better and faster communication, through the use of a single electronic portal to provide public services, which helps citizens to obtain those services with high quality and lower cost.
  - It enables citizens to find information and obtain public services in their whereabouts without the need to review the relevant public administrations.
  - It helps in increasing citizen loyalty, as a result of rapid response to needs and simplified delivery of the services provided.



## **Principles of electronic management**

The most important principles of electronic management are summarized as follows (Shahinaz, 2013; Ammari, 2018):

1. Providing services to citizens: This concern for citizen service requires creating a work environment in which a diversity of skills and mental abilities prepared for the use of modern technology. because electronic management is always focused on using information, extracting results, proposing appropriate solutions for each problem, and good exploitation in the management environment in a manner that allows identification of strengths and get to know her.
2. Focusing on the results: according to this principle, the interest of electronic management stipulates the transformation of ideas into embodied results on the ground, because the citizen does not care much about the business philosophy but rather the health of the electronic process and the emergence of its results on the ground, it should achieve electronic management Benefits for the public in order not to fail to achieve the interests of the citizen in terms of effort and time, and to provide permanent service around the clock and to complete the work in a highly efficient and fast time.
3. Continuity of change: This is through changing the way the traditional administration works, using technology, activating, and applying it at the individual level.
4. Privacy and safety: achieving the highest degree of appropriate confidentiality and credibility, which leads to development in the field of public services and contributes to building trust between the service provider and the citizen.
5. Reducing costs: Investment in information technology and the multiplicity of competitors to provide services at low prices results in reducing costs, raising the level of performance, and expanding services to a significant number of participants who benefit from services at low prices.

## **Obstacles to implementing e-management:**

Many researchers and thinkers classified the obstacles of applying electronic management to many obstacles, the most important of which are the following:

1. Administrative obstacles that included the following (Ahmed, 2009; Lin & Lin, 2008):



- Weak media education programs accompanying the application of electronic management.
  - Poor planning and coordination at the senior management level of electronic management programs.
  - Failure to make the organizational changes required to introduce electronic management from adding or merging some departments or divisions and defining powers and relations between departments and the workflow between them.
  - The difference in management systems and methods, even within a single organization.
  - Absence of a clear strategic vision on the use of information and communication technology to serve the transition towards electronic future organizations.
  - Weak political support from senior political leaders to the electronic management project.
  - The weakness of the higher management's interest in evaluating and following up the implementation of electronic management.
  - Lack of coordination between other departments related to the activity of the organization, even those that own the same types of hardware and software.
  - Lack of coordination between other departments related to the activity of the organization, even those that have the same types of hardware and software.
2. Legislative obstacles include the following (Shalaby, 2011; Ellatif & Ahmed, 2013; Lin, Huang, Jalleh, Liu, & Tung, 2010):
- The inconsistency of the applicable laws and regulations for the application of electronic management.
  - The difficulty of finding a legislative and legal environment suitable for e-work applications, because it required effort and a long time.
  - Insufficient legislation and laws such as rules of evidence, authentic, and credible.
  - The lack of legislation that prohibiting the penetration and sabotage of electronic management programs and specifying deterrent penalties for their perpetrators.
  - Lack of legal legislation to approve the electronic signature, deal with e-mail, and verify the identity of the service request.
3. Financial constraints are represented in the following (Shalaby, 2011):



- The limited resources available due to the linking to fixed budgets and specific aspects of spending.
  - The limited financial allocations for training workers in the field of information systems.
  - The cost of using the World Wide Web.
  - The high maintenance service costs for computers.
  - The high costs of providing infrastructure through purchasing hardware and application software, creating sites, and connecting networks.
4. Human obstacles which include the following (Najm, 2009):
- The limited number of employees familiar with the basic skills of using computers and the Internet.
  - Weak cultural awareness in the informational technology at the social and organizational levels.
  - Lack of trained human resources that can handle and maintain this new technology.
  - the resistance of workers to change due to their fear of losing their jobs.
  - A growing feeling among some managers and people of
  - authority that change is a threat to their authority.

### **Hospital Services Quality and performance**

Hospitals are important and costly components of the health system worldwide. Hospitals at the global and regional levels absorb between 50% and 70% of total government spending on health because they use a large workforce and widely use advanced biomedical technology (WHO, 2009).

The health services quality can be defined as providing the necessary performance to the customer, which satisfies his desires at a competitive price, at the right time and in the appropriate ways. Parasuraman et al. (1985) defined service quality as the difference between the service obtained and the service expected to be obtained by the beneficiary of the service (Ahlam, 2014; Bobocea, Gheorghe, Spiridon, Gheorghe, & Purcarea, 2016; Akhade, Jaju, & Lakhe, 2016; Alshammary, 2017).

usually, the hospital medical services quality and performance evaluations are provided from the users of these services that measure what is given and what is received. many dimensions are used in measuring hospital service quality such as understanding the customer, credibility, availability, reliability, proficiency, concrete, responsiveness, courteousness, security, communication.





Then the researchers reduce these dimensions into five dimension that included, trustworthiness, concrete, responsiveness, sympathy, and surety. According to Upadhyai, Jain, Roy, & Pant (2019) the five dimensions of health care service are responsiveness, assurance, tangibility, empathy and reliability (RATER), which are commonly used in many service setting in various industries including the healthcare services (Zarei, Arab, Froushani, Rashidian, & Ghazi Tabatabaei, 2012; Venkateswarlu, Ranga, & Sreedhar, 2015; Thiakarajan & Krishnaraj, 2015; Ramez, 2012; Pramanik, 2016). Then they proposed a new model that called ServQual which shows how the multiple limitation in the health care services affect and disturb the approach and the assessment of the consumer towards the performance and the quality of the service (Lima, et al., 2018; D’Cunha & Suresh, 2015).

### **Quality dimensions of health services**

The dimensions of health service quality are seen as a tool to measure the perceived quality of service in the hospital institution, and these dimensions are (habebah, 2020; Ahlam, 2014; Al-khrabsheh, Mahdi, & Muttar, 2017):

1. The concrete aspects: It includes the following variables:
  - Attractive buildings and physical facilities.
  - Interior design and organization.
  - The modernity of medical equipment and devices and keeping pace with technology.
  - The good appearance of doctors and workers.
2. Reliability: It includes the following variables:
  - Fulfillment of the provision of the health service on the specified dates.
  - Accuracy and non-error in examination, diagnosis, or treatment.
  - Availability of different specialties.
  - Confidence in doctors, specialists, and nurses.
  - Care to solve the patient's problems.
  - Maintain accurate medical records and files.
3. Response: It includes the following variables:
  - Speed in providing the required health service.
  - Immediate response to the patient's needs, regardless of the degree of preoccupation.
  - The permanent willingness of workers to cooperate with the patient.
  - Prompt response to inquiries and complaints.



- Inform the patient exactly when the service will be provided and completed.
4. Security: It includes the following modifications:
- Feeling secure in dealing.
  - Specialist knowledge and skill of physicians.
  - Literature and good manners for workers.
  - Continuity of monitoring the patient's condition.
  - Confidentiality of patient information.
  - Support and support the administration for workers to perform their jobs efficiently.
5. Empathy: includes the following variables:
- Understand the patient's needs.
  - Putting the interests of the patient at the forefront of the interests of management and workers.
  - Appropriateness of working hours and time allocated to the service provided.
  - Personal care for each patient.
  - sympathy with patient's and Estimate their circumstances.
  - dealing with the patient in a fun and friendly spirit (psychological and social aspect).

### **the effect of employing electronic management practices on improving the performance and quality of medical services in Saudi hospitals in light of the Corona crisis**

Hospitals currently face many challenges due to sudden changes, transformations, and crises occurring in the local and global environment. In late 2019, Corona Virus (Covid-19) appeared, which is an infectious disease that affects the respiratory system as a result of infection with one of the most recent coronaviruses. all the sectors in the world were affected by this disease including the health sector, which witnessed significant pressure as a result of the increasing numbers of injuries and their need for health care. Therefore, this process requires finding new administrative methods to cope with the side effects of the Corona pandemic.

The existence or development of a system to assist in providing electronic health care is an important necessity in light of local and international competition and in light of the complete desire to reduce administrative and operational costs, all of which are important factors that have driven many hospitals to provide electronic care.



On the other hand, Health care providers need some possibilities to compete in the competition market, namely: accessing a continuum of medical services in different ways, focusing on primary and preventive care, having a competitive and studied prices, the ability to predict and manage the risks. in addition to the Integration of health care plans and functions and the integration with suppliers, physicians, financial resources, and service delivery (Al-Sudairy, 2014).

The applying of electronic management practices on an organization will bring many benefits to it such as (Ellatif & Ahmed, 2013):

1. Assurance of fast access to information and knowledge compared to other competitors.
2. Best sharing knowledge.
3. Avoiding extra costs.
4. Maximizing profitability and achieving fast growing revenues.
5. Shorter time to access markets.
6. Improving relations with clients.
7. Opportunities for new business.

On the other hand, many studies were performed to measure the effect of applying e-management on many organizations such as Alkhsabah (2017) study that aimed to “identify reality of use of electronic management and its impact on job performance in Tafila Technical University (TTU)”. the study found that there was a positive effect on job performance. Moreover, the electronic management dimensions contribute with (58.3%) in the explanation of the change of job performance.

According to Sadi-Nezhada (2017) study that aimed to “measure the indirect effect of e-business on project-based organizational performance”. The study found that there is a positive relationship between e-business and integrated suppliers, customers, and the integrated customers and suppliers either directly or indirectly with organizational performance.

### **Conclusion and recommendations**

In this study, many sections use to explain the effect of employing electronic management practices on improving the performance and quality of medical services in Saudi hospitals in light of the Corona crisis. The first system discusses electronic management. The second section discusses the goals, principles, advantages, obstacles of electronic management.



And the last section investigates the effect of employing electronic management practices on improving the performance and quality of medical services in Saudi hospitals in light of the Corona crisis. The research found out that there are many benefits in employing e-management in Saudi hospitals such as assurance of fast access to information and knowledge compared to other competitors, best-sharing knowledge, avoiding extra costs, maximizing profitability and achieving fast-growing revenues, shorter time to access markets, improving relations with clients, opportunities for new business. Also, the study concluded that there is a positive effect of employing the e-management on the performance and quality of medical services in Saudi hospitals.

Based on the above results it recommended to have more studies about the e-management and the effect of employing e-management in organization.

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### أثر ممارسات الإدارة الإلكترونية على تحسين مستوى الخدمات الطبية في المستشفيات السعودية

هدفت هذه الدراسة للتعرف على أثر توظيف ممارسات الإدارة الإلكترونية على تحسين أداء وجودة الخدمات الطبية في المستشفيات السعودية في ضوء أزمة كورونا. واتبع الباحث المنهج الوصفي، وكانت أبرز نتائج الدراسة أن هناك العديد من الفوائد في توظيف الإدارة الإلكترونية في المستشفيات السعودية المتمثلة بضمان الوصول السريع إلى المعلومات مقارنة بالمنافسين الآخرين، وتبادل أفضل المعارف، وتجنب التكاليف الإضافية، وزيادة الربحية إلى أقصى حد، وتحقيق النمو السريع للإيرادات، وتحقيق وصول أسرع إلى الأسواق، وتحسين العلاقات مع العملاء، وخلق فرص الأعمال الجديدة. كما خلصت الدراسة إلى وجود أثر إيجابي لتوظيف الإدارة الإلكترونية على أداء وجودة الخدمات الطبية في المستشفيات السعودية.

**الكلمات المفتاحية:** أزمة كورونا، إدارة، أداء، الإدارة الإلكترونية، جودة، المستشفيات.