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A Research Proposal

The Impact Of Using The Health Information Technology On The Management Performance In The Health Public Sector At Riyadh City In Saudi Arabia

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Abstract

This current research aims to the impact of using the health information technology on the management performance in the health public sector at Riyadh city in Saudi Arabia.. The research conceptual model developed for this research, whereas the independent variable (IV): “Health Information Technology”. Also, the dependent variable (DV) “Management Performance”. The deductive quantitative approach will be use to understanding the relationships between the research variables. The main data for the research will gather using a Google Forms survey. It will use the non-probability sampling technique through using a convenience sampling for all employees at the public health sector in Saudi Arabia via an online questionnaire. The research data will be analyze using SPSS software. The research analysis will be done quantitatively. Hence, the expected result is that hypotheses (H1) will be satisfied.

Keywords: “Health Information Technology”. “Management Performance”.

1.1 Introduction

Saudi Arabia's health services are free for citizens and expatriates working in government institutions, except those in private hospitals(Aldossary et al., 2008). Saudi Arabians have three sources of health care: the Ministry of Health (MOH), other government providers, and private providers (Almasabi, 2013). Since 1926, Saudi Arabian citizens have been provided with healthcare services through the Department of Health, which was established in 1926 (Mufti, 2000).

The health sector in Saudi Arabia is witnessing a radical transformation and enormous changes that reflect an ambitious vision that seeks to develop and improve health care for citizens and residents. The digital transformation in this sector is an essential part of the Kingdom's Vision 2030, launched by the Saudi government with the aim of achieving sustainable development and diversifying the economy away from the sole dependence on oil. This transformation aims to provide high-quality health care, increase human potential in the field, promote medical research and development, and enhance transparency and effectiveness in the management of health resources (Alasiri & Mohammed, 2022).

Furthermore, the activation of digital transformation in the health sector in the Kingdom of Saudi Arabia depends on the use of the latest technology and digital systems that contribute to improving all aspects of health care, this includes the development of electronic health information systems (EHR) that allow for the secure and effective storage and sharing of patient records. Smart technologies and artificial intelligence also improve disease diagnosis and provide accurate treatment recommendations (Alowais et al., 2023). These technologies allow health care providers and patients to communicate easily and share information effectively, contributing to improved care provided and increased patient participation in managing their health (Alotaibi & Federico, 2017). Further, the E-health which is the use of tools such as telecare, electronic medical records, and health day

analytics, e-Health improves and enhances a wide range of health and care services [(Barbabella et al., 2017).

Furthermore, human resource management plays a noticeable role in any management 's performance, with top management considering HR to be a competitive advantage for organization success, which can result in innovative and sustainable performance, as well as the efficient use of organizational resources to reduce threats and obstacles, thus ensuring that the company remains competitive (Singh et al., 2019). According to (Xu &Wang, 2008), Performed is defined as the achievement of a prescribed behavior based on skills, abilities, knowledge, and motivation. Further, management performance is defined as the extent to which an organization's goals and objectives have been achieved based on both financial and non-financial indicators. In addition to objective metrics, organizations can measure their performance based on information gathered from managers or other key informants, e.g., market share, profitability, innovation efforts, performance of HR practices (Singh & Darwish & Potočník, 2016). Further, management performance can be measured using financial ratios (e.g. return on assets (ROA) and return on equity (ROE)), market outcomes such as market share, stock price and growth, or a combination thereof, or HR-related outcomes such as job satisfaction, commitment, and so on(Singh & Darwish & Potočník, 2016).

Hence, this research aims to determine the impact of using the health information technology on the management performance in the health public sector at Riyadh city in Saudi Arabia. Additionally , this research proposal discussed the research questions, and the objectives. Further, the hypothesis regarding the relationship between the research variables also formulated. Furthermore, the significance of the research are also provided. The research problem statement is also addressed. Lastly , the structure of this research is outlined.

1.2 Research Problem

The low adoption rate of health information technology(HIT) in Saudi Arabia is the result of a complex web of circumstances. Although hospitals in all sectors of healthcare are upgrading their infrastructures, including HIT, Saudi Arabia has seen a slow pace of HIT adoption. The absence of health data standards and a lack of awareness of the need for interoperability has escalated HIT problems, based on the most recent studies, which all

agree that Saudi Arabia must face longstanding challenges in order to successfully upgrade the HIT infrastructure (Alharbi,2018). There is a gap in literature review about the availability of this research topic in Saudi Arabia. The problem statement of this research seeks to identify the impact of using the health information technology on the management performance in the health public sector at Riyadh city in Saudi Arabia.

1.3 Research Importance

There are main reasons for this research, as outlined below:

First, there is a lack of the literature reviews in the research topic in Saudi Arabia, the research's results are important in order to provide a deep understanding for the impact of using the health information technology on the management performance in the health public sector at Riyadh city in Saudi Arabia.

Second, Saudi Arabia's healthcare system has challenges due to the country's growing population, which is predicted to reach 39.5 million by 2030. The health system is under stress due to the inflow of foreign visitors and immigrants, especially during religious festivals. The incidence of preventable injuries and non-communicable diseases are still high, and urbanization is rising. There are differences in the quality of patient care due to inadequate primary healthcare. One factor contributing to inefficiency is the absence of standardized monitoring procedures and treatment strategies. The system is criticized for having significant gaps in labor capacity and digital information systems, and for being resource-centric rather than patient-centric. In order to improve the nation's overall healthcare effectiveness, efforts must be made to address these problems(Chowdhury et al., 2021). Thus, this research is crucial for many employees who work at the public health hospitals as it will provide them the best motivations of using advanced information technology when they understand its benefits and its impact of the performance of the management level.

Further, the results of this research will help managers at the management level to be able making better decisions, and keep improving their skills, thus they can perform better using the advanced health information technology.

1.4 Research Questions

The research main question is addressed as the following:

Q1. What is the impact of using the health information technology on the management performance in the health public sector at Riyadh city in Saudi Arabia?

1.5 Research Objective

This research has the following objective:

- **To identify the impact of using the health information technology on the management performance in the health public sector at Riyadh city in Saudi Arabia.**

1.6 Research Model

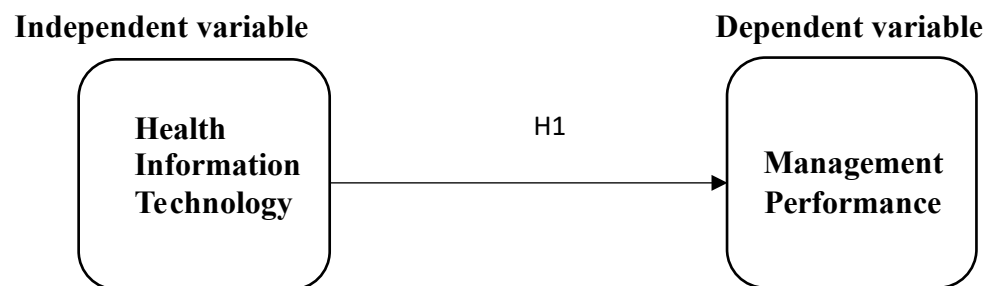


Figure 2. Research Model has been created for the research's purpose.

1.7 Research Hypotheses

As the following, the research hypothesis is determined below:

H1: The health information technology has a positive impact on the management performance.

1.8 Research Methodology

Research approach defined as a strategy for increasing social research validity, research approach is an effective approach (Creswell, 2007). Further, inductive and deductive reasoning are the broad methods of reasoning discussed by Trochiim (2006). A deduction begins with a general and ends with a specific, whereas induction moves from a specific to a general one. It is best to express arguments based on experience or observation inductively, while arguments based on laws, rules, or other widely accepted principles should be expressed deductively (Trochim,2006). In (Onwuegbuzie & Leech, 2005, p.

267) argument, quantitative and qualitative researchers often consider themselves competitors. Further, It is difficult to generalize findings and draw inferences from quantitative research simply because each individual views the world differently. Qualitative research relies on the epistemological assumption that everyone is different and therefore has a different view of the world (Soiferman, 2010). Moreover, (Watson, 2015), the term quantitative research refers to research that employs statistical procedures and numerical data in evaluating social phenomena. The result of quantitative research is that it involves measurement and assumes the phenomenon is measurable. In order to verify the measures made, the data are analyzed for trends and relationships.

In this research, it will use a deductive approach, and a quantitative descriptive analysis for the collected data through SPSS software. The primary data is the online survey, while the secondary data will be through online scientific books, articles, journals to create a comprehensive dataset, information from government resources, official websites, and information published officially, as well as direct emails and voice communications with hospital officials will be use as well.

The sample size of this research will be determine by using Steven K. Thampson formula: (Robert et al., 1970).

$$n = \frac{N * p(1-p)}{[(N-1) * (Z^2) + p(1-p)]} \cdot d$$

Where:

N: Population size, p: probability value = 0.5, d: error = 0.05, Z: Standard normal value =1.96 According to Steven formula the sample size is (100) of employees who works in public hospitals at Riyadh city in Saudi Arabia. While the population is all the employees who work at the public health hospitals in Saudi Arabia.

1.9 Research Structure

There are five chapters in the research as below:

Chapter One: It covers an overview of the research, the problem, the objectives, research importance, research model, the research question and hypotheses, the research terminology, the content of the research, and the ethical consideration.

Chapter Two: A critical literature review relevant to this research is presented in the second chapter; it summarizes the literature previously published in highly ranked academic journals, identifies gaps, and provided the relationship between the research variables.

Chapter Three: Research methods and methodology are discussed in the third chapter. The research design, research approach, research population, research sample, and analysis are discussed.

Chapter Four: The results are presented in the fourth chapter. Analyzing the research data and testing hypotheses are described in tables and figures.

Chapter Five: In this chapter, it includes a summary of the findings, discussion, implications, limitations for this research, and further recommendations for future researchers.

1.10 Literature Review & Theoretical Framework

A study by (Alharbi,2018), shown the results that Saudi Arabia's poor Health Information Technology(HIT) infrastructure has exacerbated problems and slowed the adoption of electronic healthcare practices. Technical project resources have been reduced, primarily due to high costs, which are not just in Saudi Arabia but also regionally and globally. The Saudi public hospitals have also suffered from a shortage of HIT specialists, a lack of training and awareness programs, and poor management of HIT practices. A lack of success was also found in the implementation strategies of Electronic Health Record Systems (EHRs), as well as the rigidity and long-term nature of the National Information Technology Plan. These unsuccessful ventures are secondary, and consequential to, a core triangle of interdependent, negative factors that persistently impede the development of Saudi Arabian healthcare technology infrastructure, consisting of: (1) an insufficient, partially dysfunctional HIT infrastructure further weakened by each implementation failure; 2) a dire shortage of suitably-qualified Health Information Management (HIM) professionals, incapable or hesitant to train application users, let alone additional staff

members in their own department; (3) the failure to comply with the International Organization for Standardization specifications regarding Health Data Standards.

A study by Al-Harbi, (2011), King Abdullah Medical City Specialist Hospital (KAMC) conducted a survey regarding obstacles, benefits, and motivations associated with health informatics implementation. The results indicated that most healthcare employees at KAMC were familiar with health information applications and found them useful and valuable. There were technical failures and shortages of computers. There is a shortage of training and technical assistance for hospital staff, as well as management support.

Another study by(Aldosari, 2-14), the primary objective of this study is to examine the adoption of an electronic health record (HER) system in Riyadh, Saudi Arabia, also this study investigates the level and determinants of the adoption of (EHR) system for public, nonprofit, and private hospitals. The wide variation in adoption across hospitals has implications for policy-making and funding interventions. As a result of identified weaknesses, EHR systems need to be adopted and used more widely.

An actor-network theory-based approach can help to understand the complexity of reality including organizational complexity and the active role of technology in this context (Cresswell et al., 2010).

1.11 Research Terminologies

- **Management Performance**

Achieving better performance, the organization injects resources, strategies, and techniques in order to achieve results (Elena-luliana & Maria, 2016).

- **Health Information Technology**

A list of types of information that may be shared, accessed, or exchanged (Akhlaq et al., 2016).

1.12Research Limits

- This research will focus on the employees who works the hospitals at the health public sector in Riyadh city , Several factors contributed to the selection of Riyadh

as the region of interest: it is the national capital, and it has a large number of public hospitals.

- This research will be in Saudi Arabia.
- This research will conduct in 2024.

1.13 Summary

An overview of the research topic has been provided. Research objectives, research model, research hypothesis, research importance, and research problem statement are discussed. Moreover, the research terminology , the content of the research are explained.

References

- Alharbi, M. A. (2018). The status quo of health information technology and health information management efficiency in Saudi Arabia: a narrative review. *Int J Health Res Innov*, 6(1), 11-23.
- Aldossary, A., While, A., & Barriball, L. (2008). Health care and nursing in Saudi Arabia. *International nursing review*, 55(1), 125-128.
- Almasabi, M. (2013). An overview of health system in Saudi Arabia. *Res J Med Sci*, 7(3), 70-4.
- Al-Harbi, A. (2011). Healthcare providers' perceptions towards health information applications at King Abdul-Aziz medical city, Saudi Arabia. *International Journal of Advanced Computer Science and Applications*, 2(10).
- Alasiri, A. A., & Mohammed, V. (2022). Healthcare transformation in Saudi Arabia: an overview since the launch of vision 2030. *Health services insights*, 15, 11786329221121214.
- Alowais, S. A., Alghamdi, S. S., Alsuhebany, N., Alqahtani, T., Alshaya, A. I., Almohareb, S. N., ... & Albekairy, A. M. (2023). Revolutionizing healthcare: the role of artificial intelligence in clinical practice. *BMC medical education*, 23(1), 689.
- Alotaibi, Y. K., & Federico, F. (2017). The impact of health information technology on patient safety. *Saudi medical journal*, 38(12), 1173.

Aldosari, B. (2014). Rates, levels, and determinants of electronic health record system adoption: A study of hospitals in Riyadh, Saudi Arabia. *International journal of medical informatics*, 83(5), 330-342.

Akhlaq, A., Sheikh, A., & Pagliari, C. (2016). Defining health information exchange: scoping review of published definitions. *BMJ Health & Care Informatics*, 23(4).

Barbabella, F., Melchiorre, M. G., Quattrini, S., Papa, R., Lamura, G., Richardson, E., & van Ginneken, E. (2017). *How can eHealth improve care for people with multimorbidity in Europe?*. Copenhagen: World Health Organization, Regional Office for Europe.

Creswell, J. W. 2007. *Qualitative Inquiry and Research Design*. Thousand Oaks: Sage Publications.

Chowdhury, S., Mok, D., & Leenen, L. (2021). Transformation of health care and the new model of care in Saudi Arabia: Kingdom's Vision 2030. *Journal of Medicine and Life*, 14(3), 347.

Cresswell, K. M., Worth, A., & Sheikh, A. (2010). Actor-Network Theory and its role in understanding the implementation of information technology developments in healthcare. *BMC medical informatics and decision making*, 10(1), 1-11.

Elena-Iuliana, I., & Maria, C. (2016). ORGANIZATIONAL PERFORMANCE-A CONCEPT THAT SELF-SEEKS TO FIND ITSELF. *Annals of Constantin Brancusi'University of Targu-Jiu. Economy Series*, (4).

Mufti, M. H. (2000). *Healthcare development strategies in the Kingdom of Saudi Arabia*. Springer Science & Business Media.

Onwuegbuzie, A.J. and Leech, N.L., 2005. Taking the “Q” out of research: Teaching research methodology courses without the divide between quantitative and qualitative paradigms. *Quality and Quantity*, 39(3), pp.267-295.

Robert V. Krejcie, Daryle W. Morgan (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, vol. 30, 3: pp. 607-610. , First Published Sep 1, 1970.

Soiferman, L. K. (2010). Compare and Contrast Inductive and Deductive Research Approaches. Online Submission.

Singh, S. K., Gupta, S., Busso, D., & Kamboj, S. (2021). Top management knowledge value, knowledge sharing practices, open innovation and organizational performance. *Journal of Business Research*, 128, 788-798.

Singh, S., Darwish, T. K., & Potočník, K. (2016). Measuring organizational performance: A case for subjective measures. *British Journal of Management*, 27(1), 214-224.

Trochim, W. M. (2006). Deductive and inductive thinking. *Deduction & Induction*.

Xu, G. Y., & Wang, Z. S. (2008, September). The impact of transformational leadership style on organizational performance: The intermediary effects of leader-member exchange. In *2008 International Conference on Management Science and Engineering 15th Annual Conference Proceedings* (pp. 1090-1097). IEEE.

Watson, R., (2015). Quantitative research. *Nursing Standard* (2014+), 29(31), p.44.