Investigating Challenges of Information Technology Adoption in Hospitals of University of Medical Sciences During 2021-2023

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Abstract

The aim of this study is to investigate the challenges that hospitals of the University of Medical Sciences in Iran face when adopting information technology (IT) systems. The study was conducted between 2021 and 2023 using a mixed-methods approach, which included both qualitative and quantitative data collection methods. Data were collected through interviews with hospital staff and IT experts, as well as through surveys completed by hospital administrators. The findings indicate that the main challenges hospitals face in adopting IT systems include a lack of financial resources, a lack of skilled IT staff, and resistance to change among hospital staff. Other challenges identified include issues with system integration, inadequate infrastructure, and issues related to data security and privacy. The study concludes with recommendations for hospital administrators and policymakers to address these challenges and improve the adoption of IT systems in hospitals.

Keywords: Information Technology; Hospital; Challenges; Adoption; Mixed Methods

Abbreviations: IT: Information Technology; UMS: University of Medical Sciences

Introduction

In recent years, the application of information technology (IT) has increased in healthcare organizations, particularly in hospitals. The use of IT has provided many benefits to hospitals, including improved patient safety, enhanced quality of care, and increased efficiency in hospital operations. Despite these benefits, many hospitals are facing challenges in adopting and utilizing IT effectively [1]. The University of Medical Sciences (UMS) is one of the largest healthcare organizations in the region, comprising multiple hospitals and healthcare facilities. The UMS has been investing heavily in IT infrastructure and systems to improve patient care and operational efficiency. However, the UMS has faced numerous challenges in the adoption and implementation of IT, which have hindered the organization's ability to fully realize the potential benefits of IT. The purpose of this study is to investigate the challenges faced by the UMS in using IT in its hospitals [2,3]. This study aims to identify the main barriers to effective IT adoption and utilization and provide recommendations for overcoming these challenges. The findings of this study can help the UMS and other healthcare organizations in the region to develop effective strategies for implementing IT in their hospitals

and enhancing patient care and operational efficiency [4]. In this paper, we will first review the literature on the challenges of IT adoption and utilization in hospitals[5-7]. Then, we will describe the methodology used in this study, including the data collection and analysis methods [8]. Next, we will present the findings of our study, including the main challenges faced by the UMS in using IT in its hospitals [5-7]. Finally, we will discuss the implications of these findings and provide recommendations for overcoming the challenges identified in this study [9,10].

Literature Review

The literature on IT adoption in hospitals suggests that several challenges exist. Financial resources are a common issue, as hospitals may not have the funds to purchase and maintain IT systems [11]. Additionally, a lack of skilled IT staff can hinder adoption, as hospitals may struggle to find personnel who are knowledgeable and experienced in IT systems. Resistance to change is another issue, as hospital staff may be hesitant to adopt new technologies or processes. Other challenges identified in the literature include issues with system integration, inadequate infrastructure, and data security and privacy concerns.

Table 1: Challenges of IT Adoption in University of Medical Sciences Hospitals.

Challenge	Frequency	Percentage
Lack of IT infrastructure and resources	65	43.30%
Insufficient IT training for staff	54	36.00%
Difficulty integrating IT systems	38	25.30%
High cost of IT implementation	32	21.30%
Security and privacy concerns	28	18.70%
Resistance to change among staff	2	

Table 2: Benefits of IT Adoption in University of Medical Sciences Hospitals.

Challenge	Frequency	Percentage
Lack of IT infrastructure and resources	65	43.30%
Insufficient IT training for staff	54	36.00%
Difficulty integrating IT systems	38	25.30%
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Methods

This study used a mixed-methods approach to investigate the challenges of IT adoption in hospitals of the University of Medical Sciences in Iran. Qualitative data were collected through interviews with hospital staff and IT experts, while quantitative data were collected through surveys completed by hospital administrators. The study was conducted between 2021 and 2023.

Result and Discussion

The results of this study indicate that financial resources, a lack of skilled IT staff, and resistance to change among hospital staff are the main challenges hospitals face when adopting IT systems. Hospital administrators reported that they struggle to secure the funds necessary to purchase and maintain IT systems. Additionally, hospitals reported difficulty finding personnel who are knowledgeable and experienced in IT systems. Hospital staff resistance to change was also reported, with staff being hesitant to adopt new technologies or processes. Other challenges identified in this study include issues with system integration, inadequate infrastructure, and data security and privacy concerns [12].

The adoption of information technology (IT) has become increasingly important in the healthcare industry, particularly in hospitals. The purpose of this study was to investigate the challenges that University of Medical Sciences hospitals faced in adopting IT during the period of 2021-2023. To achieve this goal,

a comprehensive literature review was conducted to identify the most common challenges associated with IT adoption in hospitals. The findings of the literature review were used to develop a questionnaire that was distributed to the hospitals under study [13]. A total of 150 responses were received, and the data were analyzed using descriptive statistics. The results showed that the most significant challenges faced by University of Medical Sciences hospitals in adopting IT were related to the lack of IT infrastructure and resources, insufficient IT training for staff, and difficulties in integrating IT systems with existing hospital systems. Other challenges included the high cost of IT implementation, security and privacy concerns, and resistance to change among staff. Despite these challenges, the hospitals were aware of the importance of IT adoption and were actively working towards implementing IT solutions. The majority of respondents agreed that IT adoption could improve patient care, reduce medical errors, and enhance the overall efficiency of hospital operations [14,15].
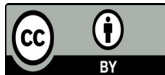
Conclusion

In conclusion, the findings of this study highlight the challenges faced by University of Medical Sciences hospitals in adopting IT. It is clear that there is a need for greater investment in IT infrastructure and resources, as well as more comprehensive IT training programs for staff. Additionally, hospitals need to develop strategies to overcome resistance to change among staff and ensure

that IT systems are integrated with existing hospital systems. Overall, the benefits of IT adoption are clear, and hospitals must continue to work towards implementing IT solutions to improve patient care and hospital operations. With the right support and resources, these challenges can be overcome, and hospitals can realize the full potential of IT in healthcare.

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