

Adoption of Hospital Information Management Systems (HIMS) in the Public Sector: A Case of Kiambu County, Kenya

Kang'ara Anthony Chebe

Abstract: *Hospital Information Management System (HIMS) is considered as a central feature in health care sector for handling the administrative, clinical and financial aspects of a hospital. The study is set to contribute to literature regarding HIMS adoption in the public sector in Kenya as there is scarce literature. This study sought to enhance policymakers' and implementers' understanding regarding HIMS adoption in Kenya. The objectives of this study were to investigate how effort expectancy of staff influences the adoption of HIMS in government hospitals in Kiambu County, to investigate how perceived ease of use (behavioral intention) affects adoption of HIMS in government hospitals in Kiambu County, to investigate how the perceived usefulness influences uptake of HIMS in government hospitals in Kiambu County, and to establish how the facilitating conditions influence the adoption of HIMS in government hospitals in Kiambu County. This study was based on the Unified Theory of Acceptance and Use of Technology (UTAUT) in attaining its objectives. Descriptive research design was used to critically evaluate the adoption and use of HIMS in the public sector health facilities. Proportionate stratified random sampling procedure was used in sampling two hundred and forty (240) health workers in different cadres from the public hospitals. Data was collected using survey questionnaires to highlight the problems and hurdles in line with HIMS adoption. Data analysis was done using inferential statistics by SPSS. The results of this research indicated that that the performance expectancy, effort expectancy, social influence, along with facilitating conditions influences the adoption of HIMS in government hospitals. The study concluded that adoption of HIMS by public hospitals is shaped by factors such as effort expectancy, perceived ease of use, perceived usefulness, along with facilitating conditions. The study recommends that the government through the Ministry of Health (MOH) should carry out a thorough sensitization in the various health facilities to inform the medical practitioners on the importance or usefulness of the adoption of HIMS. In this case, emphasis should be on the fact that the system will make work easier for the staff and, at the same time, improve service delivery. In addition, the MOH should also introduce a training program that will help the medical practitioners to develop the knowledge, skills, along with attitude that are needed in the utilization of the adopted HIMS.*

Keywords: Health Information Management System, Adoption, Perceived Usefulness, Effort Expectancy, and Facilitating Conditions

1. Introduction

Hospitals across the globe are now cognizant of the value of integrating Information and Communication Technologies (ICT's) (Hameed et al., 2024). Given this case, there has been a rise in new strategic alliances among the health providers with telecommunication companies to offer easier ways for patients to pay for their services through mobile money platforms and also request for care online through e - platforms. The modalities for the delivery of health services have increased significantly with ICT playing a crucial role in most of these changes. Patients now demand high levels of responsibility and accountability from health care providers, with the adoption of technology being the most optimal way towards attaining this end (Naamati - Schneider et al., 2025).

The utilization of ICT in hospitals in both developed and developing nations has seen a gradual increase. According to Akuche and Akindoyin (2025) most African nations are faced with significant socio - economic development challenges such as wars, diseases, poverty along with corruption which affect healthcare provision, and this cuts across people of all social statuses. Despite this as the case, Jones, & Dolsten (2024) argues that health service providers along with governments do not have a choice but to meet the citizens' healthcare demands, while using ICT.

One way of incorporating ICT in the health sector is through the implementation of Hospital Management Information Systems (HMIS). HMIS is a broad as well as cohesive information system that helps in managing the administrative, financial along with the clinical aspects of care and entails

paper - based information processing along with data processing and storage virtually across various facilities, thus enhancing information sharing (Okoromi, 2024). Introducing of a decentralized system by implementing Hospital Information Management Systems (HIMS) by the Ministry of Health (MOH), helps in promoting continuity of care and improves service delivery as patient information will now be readily available across various facilities in a well secured system.

2. Methodology

2.1 Research Design

This research on the adoption of HIMS in the public health sector within Kiambu County, Kenya adopted a descriptive research design. According to Kothari, (2004), descriptive design is suitable in observing a phenomenon in its natural state without manipulation, hence making it a relevant research design for this study.

2.2 Target Population

This study targeted a total of 243 facilities owned by the government, private entities, and faith based organizations with only 3 facilities being government owned. The study narrowed down to 3 facilities owned by the government which has a total of 2400 health workers comprising of 30 Hospital Administrators, 60 Doctors, 300 Nurses, 90 Accountants, 80 Pharmacists, and 1840 Support Staff.

2.3 Sampling technique and sample size

Proportionate Stratified Random sampling procedure was used to sample 240 health workers in different cadres from a total of 2400 health workers. This method was appropriate because it helped in minimizing bias. Mugenda and Mugenda sample size formula which stipulates that a sample is representative when it comprises of 10% to 40% of the target population. In this case, the lowest threshold was used, with the sample size arrived as follows.

Category	Population	Sample size	Percentage
Hospital Administrators	30	3	10
Doctors	60	6	10
Nurses	300	30	10
Accountants	90	9	10
Pharmacists	80	8	10
Support Staff	1840	184	10
TOTAL	2400	240	

Source: Researcher (2016)

Ethical approval

Approval was sought from the National Commission for Science Technology and Innovation (NACOSTI) before carrying out this research. This followed the issuance of a research permit. In addition, the study participants were informed of study objectives with their participation being purely voluntary. The participants were told that they could withdraw from the study at any time. No human samples were used in this research. The information collected from the respondents in this research was used solely for the purpose of this study and was handled with confidentiality.

3. Results & Discussion

Effort expectancy

The study examined how effort expectancy influences the adoption of Health Information Management System (HIMS) in public hospitals. Effort expectancy, linked to system ease of use, was measured through indicators such as ease of use, up - to - date information, service execution, and fault resolution. The findings show that most respondents were in strong agreement that HIMS is easy to use (80%), keeps information up to date (75%), enhances service delivery (83%), and allows for easy fault fixing (72%).

The findings of this study aligns with that by Baporikar (2024), who found that health information systems enhance data accessibility for health workers, improving collaboration and service delivery. The increased availability of up - to - date patient and workflow data modifies staff interactions and daily operations, ultimately raising effort expectancy and motivation among HIMS users. Consequently, HIMS adoption in public hospitals significantly helped in fixing faults.

Perceived ease of use

The study investigated the impact of perceived ease of use in the adoption of health information management systems (HIMS) by public hospitals. Ease of use, including variables like the need for assistance and the autonomy the system provides. In this case, half of the respondents stated that HIMS is hard to use, and significant help is needed to use

HIMS.67% also believed it derailed autonomy in carrying out roles. The findings imply that although the HIMS enhances efficiency in their healthcare services, it requires users to be supported with the experienced ones.

Results similar to these have previously been described, for instance in the work by Iqbal et al. (2024) that identified needing help to use as one of the major barriers influencing the adoption of new technology that resulted in resistance to change. These researchers further indicated that the need to consult before utilizing technology hinders their autonomy in the execution of their duties.

Perceived usefulness

The study explores perceived usefulness specifically on how social influence affects the adoption of Health Information Management Systems (HIMS) in public hospitals. In this regard, the study assessed various factors such as better service, HIMS usefulness, and differentiated services. Results indicated the belief in better service upon utilization of HIMS, with 87% of the respondents confirming this. Additionally, 60% of respondents agreed that HIMS is useful, and 65% confirmed that HIMS provides differentiated services.

This research results is in affirmation with that by Omowole et al. (2024) who found that the employees usually offer minimal resistance to new technological adoption, in case such does not replace their roles, but rather help them in improving their service delivery. In addition, the finding of this study is also in line with that by Shibambu, & Ngoepe (2024) who further noted that there is high adoption rate when the employees view the technology to be useful. Besides that, it is also noted that an organization experiences faster rates of technological adoption in case such can help it in differentiating its services.

Facilitating conditions

The study examined how facilitating conditions influences the adoption of Health Information Management Systems (HIMS) in public hospitals. Facilitating conditions was assessed through indicators such as service to clients, training, age, experience, personal traits, and belief in using HIMS. Findings reveal that 56% of respondents strongly agreed that BI increases HIMS usage for client service, while 76% emphasized the role of training. Additionally, 72% highlighted experience with necessary applications as a key factor, whereas reliance on personal traits received mixed responses, with 45% strongly agreeing and 9% disagreeing. Belief in HIMS was also a major driver, with 73% strongly agreeing that it influences usage.

The findings of this research is in agreement with prior studies including that by Xu et al. (2024), where individual and group attitudes have been shown to impact innovation adoption speed. Good training, especially practical and on one to one approach, leads to user acceptance (Gkiolnta et al., 2025). A study by Rodrigues et al. (2024) further emphasize the role of the end user in HIMS implementation and how a lack of training often ends in the failure of the system. In conclusion, the study highlights that facilitating conditions in the form of training, competence, and views from hospitals about status and tripartite outcome are decisive for the successful adoption of the HIMS in public hospitals.

4. Conclusion

In conclusion, this research revealed that effort expectancy, perceived ease of use, perceived usefulness, along with facilitating conditions shapes the adoption of HIMS. The perception of ease of use in the system was reaffirmed by this study participants as a variable that positively impacts adoption rates. Fixing errors at the time of use of HIMS enhanced adoption rates as it helped in minimizing operational workload attainment while improving holistic care delivery to patients. In addition, the study indicated that users would be inclined to utilize HIMS if they felt HIMS was significant to improve service delivery, and offer better healthcare experiences. Effective training was however considered necessary in order to create the right conditions for adoption. The findings of this study are consistent with previous findings which confirmed that the adoption rate of technology is directly dependent on factors such as perceived ease of use, perceived usefulness, effort expectancy, and facilitating conditions, with the outstanding condition majorly being training.

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