Computer Self-Efficacy, Data Quality Management, and Service Delivery by HIM Professionals in Lagos Tertiary Hospitals

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Abstract
This study examined the relationship between computer self-efficacy, data quality management, and service delivery among Health Information Management (HIM) professionals in Lagos tertiary hospitals. The study adopted a descriptive survey research design. The population consisted of three hundred and eighty-four HIM professionals across five tertiary hospitals in Lagos state. Total enumeration was adopted for the sample. The research instrument was a structured questionnaire adapted from theory and related literature. The method for data analysis consisted of both descriptive and inferential statistics. The results showed that computer self-efficacy of HIM professional (Adj.R^2=0.152, $p<0.05$) and data quality management practices (Adj. R^2 =0.117,$p<0.05$) has a positive correlation with the service delivery of HIM professionals in Lagos tertiary hospitals. Multiple regression analysis also showed that the combination of computer self-efficacy and data quality managementsignificantinfluence on the service deliveryamong HIM professionals in Lagos tertiary hospitals (Adj. R^2=0.154,$p<0.05$). The study concluded that effective service delivery of HIM professionals depend on the interplay between individual competencies and systematic data management in healthcare services. It was therefore recommended that Healthcare institutions in Lagos should invest in training and professional development programs aimed at further enhancing the computer self-efficacy of HIM professionals. These initiatives should be ongoing, considering the rapidly evolving healthcare technology landscape.

Keywords: Computer Self-efficacy, Data quality management, Health Information Management, Service Delivery, Lagos State

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Introduction

Service delivery in the healthcare sector involves providing and meeting customer expectations throughout the entire lifecycle of service provision, from initial contact to post-service support (Usiak, Kutiatko, Shabbir, Dudnik, Jermsittiparsert, &Rajabion). It is focused on meeting patients' needs and expectations while ensuring high-quality, safe, and effective care (Usiak, Kutiatko, Shabbir, Dudnik, Jermsittiparsert, &Rajabion). Key aspects of service delivery include access to health information and services, patient-centered care, and continuous improvement (Papanicolas, Rajan, Karanikolos, Soucat, &Figueras, 2022). Access to health information services is crucial for health information managers, but in Nigeria, it is often hindered by archaic records management practices, lack of skills, and poor attitudes towards patients and families. Patient-centered care places the patient at the forefront of health information services delivery, engaging them through interactive channels, removing barriers to access, and integrating technology to ease the collection, management, preservation, and dissemination of health information (Olonade, Olawande, Alabi, &Imhonopi, 2019).

The health sector's continuous improvement is a key indicator of service delivery. This involves monitoring performance indicators, collecting feedback from patients and stakeholders, and using data-driven insights to drive quality improvement initiatives. This complex task requires careful consideration of metrics and frameworks to ensure high-quality, safe, and effective care for patients(Usiak, Kutiatko, Shabbir, Dudnik, Jermsittiparsert, &Rajabion).Information management is a critical aspect of health service delivery, involving the efficient collection, organization, analysis, and protection of health information to facilitate effective decision-making and care delivery (Uzochukwu, Okeke, O'brien, Ruiz, Sombie, &Hollingworth, 2020). Technology significantly enhances healthcare by improving diagnosis and treatment efficiency, facilitating communication between providers, and improving health information management. Telemedicine platforms enable remote consultations, expanding access to services, especially in

underserved areas (Golinelli, Boetto, Carullo, Nuzzolese, Landini, &Fantini, 2020; Aceto, Persico, &Pescapé, 2020).

Computer self-efficacy is crucial for health professionals in the digital era, influencing their willingness to use technology, confidence, and resource utilization. Higher self-efficacy leads to positive outcomes like increased technology adoption, improved performance, enhanced learning, reduced anxiety, and higher digital literacy. Nigeria's digital divide may affect health personnel's mastery experience (Sibiya, Akinyemi, &Oladimeji, 2023).Vicarious experiences can enhance self-efficacy in health professionals, but lack of access to the latest technologies in Nigeria may hinder their ability to effectively observe others using digital technology. Data quality management is crucial for informed decision-making, patient care, research outcomes, and regulatory compliance (Sibiya, Akinyemi, &Oladimeji, 2023).

Data comprehensiveness and timeliness are crucial aspects in health informatics. Data comprehensiveness involves collecting all necessary data within a scope, while timeliness refers to the availability of up-to-date data within a useful time frame. Timely data is essential for informed decisions, efficient healthcare services, accurate research, and monitoring patient health conditions, disease outbreaks, treatment outcomes, and emerging trends (Kim, Pérez Del Castillo, Caballero, Lee, Lee, Lee, Lee, & Mate, 2019). In clinical settings, having access to real-time patient data allows healthcare providers to make immediate and well-informed decisions regarding patient care. Timeliness ensures that data are captured, processed, and made available to healthcare professionals in a timely manner, allowing them to respond quickly and effectively to patient needs. In public health surveillance, timely data is crucial for detecting and responding to disease outbreaks or emergencies (Parast&Golmohammadi, 2019).

Effective data quality management has several benefits, including improved decision-making, reduced errors, enhanced patient safety, increased research validity, and improved operational

efficiency. It also ensures that healthcare organizations can rely on accurate and reliable data to support clinical processes, administrative tasks, and strategic planning. Hence, the study investigate how different variables such as data quality management and computer self-efficacy of health practitioners affect service delivery among health information management professionals in Lagos Tertiary Hospitals.

Statement of Problem

This study aims to examine the relationship between computer self-efficacy, data quality management, and service delivery among Health Information Management (HIM) professionals in Lagos tertiary hospitals. Effective service delivery in tertiary health institutions requires optimal performance of all units, including HIM professionals. Proper service delivery enhances hospital efficiency, reduces patient waiting time, and leads to better quality healthcare. Poor service can result in chaotic operations, misdiagnosis, poor patient outcomes, and patient dissatisfaction. The study also examines the impact of computer self-efficacy on HIM professionals' readiness and willingness to use information technology. Issues have been raised regarding delays in obtaining needed records and missing records in Nigeria. The study aims to provide insights into the relationship between these factors and service delivery in Lagos tertiary hospitals.

Aim and Objectives of the Study

The study is an assessment of computer self-Efficacy, data quality management, and service delivery by HIM Professionals in Lagos Tertiary Hospitals. In specific, the study seeks to examine the combined influence of computer self-efficacy and data quality management practices on service delivery among HIM professionals in Lagos State tertiary hospitals.

Literature Review

Conceptual Review

Service delivery in the health sector focuses on providing patients with the necessary treatment and services to live a healthy life. It is the most visible function of the health system, encompassing areas like public health, primary care, specialized care, urgent and emergency care, pharmaceutical care, rehabilitation/intermediate care, long-term care, informal careers services, palliative care, mental health care, and dental care (European Observatory, 2022).Health insurance is crucial for most citizens to have regular access to healthcare, improving their health. It is linked to better use of services and consistent treatment. The International Organization for Migration (IOM) emphasizes that these characteristics increase the possibility of early disease screening, chronic illness management, and successful acute disease treatment (Pérez-Stable & Collins, 2019).Healthcare access is often limited in poor countries compared to wealthier ones, with financial constraints and lack of information being significant barriers. This leads to health deterioration, income loss, and higher healthcare costs, perpetuating poverty. In developing countries like Nigeria, deprivation factors contribute to poor health, particularly among impoverished populations. This article examines the factors affecting healthcare access in developing countries, focusing on poverty's role, and explores innovative healthcare delivery and financing approaches to improve access for the poor (Leonce, 2021).

Data Quality Management

Data Quality Management refers to the process of ensuring the accuracy, reliability, completeness, consistency, and relevance of data used within an organization. It involves implementing strategies, processes, and controls to maintain high-quality data throughout its lifecycle, from collection and entry to storage, analysis, and utilization. Effective data quality management is crucial for making informed decisions, generating meaningful insights, and

maintaining the integrity of business operations. High-quality data is data that may be put to good use in a specific setting, such as in decision-making, planning, or operational settings. Despite the apparent simplicity of this definition, there are a variety of additional definitions of data quality that take either a qualitative or quantitative approach (Vancauwenbergh, 2019).

Data quality, a quantitative approach based on Juran's five principles, is crucial for operations, decisions, and planning. It enhances reliability, usability, accuracy, decision-making, regulatory compliance, customer satisfaction, and overall business performance by focusing on substantial outcomes (Al-Ruithe, Benkhelifa, & Hameed, 2019).Data quality management (DQM) is crucial for healthcare data quality, involving data collection, analysis, and storage. With the increasing use of HIT, data sharing and repurposing emphasize the importance of data quality, and technology application planning should begin with DQM protocols (Ying, & Hong, 2022).Solomon (2018) evaluated the quality of data collected by health centers in the Hadiya zone's health management information system. The study concluded that improvements in supervision quality and training status are crucial for more efficient health care services (Solomon, 2018).

Computer Self Efficacy

Self-efficacy refers to people's beliefs in their ability to organize and execute actions necessary to achieve desired performance outcomes. In the context of computers, computer self-efficacy relates to individuals' judgment of their capabilities to use computers in different situations. Scholars defined self-efficacy as beliefs about one's ability to perform specific computer-related behaviors. They further specified that computer self-efficacy refers to an individual's perception of their ability to use a computer to accomplish job tasks. Individuals who have greater confidence in their computer skills are more likely to anticipate positive outcomes from computer use (Nurhikmah, Saman, &Mawarni, 2023).The perception of one's computer abilities

influences how individuals decide to use computers for various tasks such as to perform health information management. Research indicates that computer self-efficacy significantly influences an individual's decision to use computers for different purposes (Torres, Correia, Compeau, & Carter, 2022).

Self-efficacy is influenced by performance accomplishments, vicarious experiences, persuasion, psychological arousal, and actual performance. These perceptions can predict computer acceptance and success rates (Bello&Bokoh, 2021).Computer self-efficacy plays a significant role in system use and in helping the individual to learnand to achieve skills associated with effective computer use more easily. Thus, actual skills in computer use and computer self-efficacy arestrongly correlated. High computer self-efficacy predicts the frequency of computer usage and increases performance in computer usage (i.e.computer skills). Note, however, that this relationship might also be reciprocal: high frequency ofcomputer usage and high computer performance may increase computer self-efficacy (Huang, Ball, Cotten, & O'Neal, 2020).

Computer Self Efficacy and Health Service Delivery

The integration of computer technologies into healthcare has increased the need for health workers to master the use of technology. Advancements in internet of things (IoT) and cloud computing have enabled monitoring public health, centralizing management, and providing low-cost health services. However, there is still room for growth in understanding the challenges and possibilities ofIoT-based healthcare solutions (Usak, Kubiatko,Shabbir,Viktorovna, Jermsittiparsert, &Rajabion, 2020).A study on the impact of computer self-efficacy on healthcare found that the adoption of mobile healthcare apps faces challenges, despite their importance for telemedicine and self-monitoring. The research found that patients' propensity to use mobile health apps is influenced by their perceived mobile technology identity, IT experience, and self-efficacy (Balapour, Reychav,Sabherwal, &Azuri, 2019). Similarly, Hussein, &Fikry (2020)

found that health professionals' adoption of health technology can improve patient treatment quality. In addition, Awodoyin, Adetoro&Osisanwo (2017)found that trainee midwives have high confidence in adapting to new technologies, but only use social media, text messaging, and downloading articles, music, and videos daily.Furthermore, Olorunfemi, Osunde, Olorunfemi, & Adams(2020) revealed positive outlook on the use of technology in patient care, was revealed.

Research Methodology

This chapter discusses the systematic approach to conducting a study on Health Information Management (HIM) professionals in Lagos tertiary hospitals. The research design is a descriptive survey research design, allowing for large amounts of data collection from a large population. The study population includes all HIM professionals in the selected hospitals to ensure a comprehensive understanding of the topic. The data collection instrument is a structured questionnaire, self-administered and based on close-ended questions. The research instrument undergoes evaluation by the project supervisor and other experts in the field of Health Information Management. Reliability is ensured through a pretest with 20 copies of the questionnaire administered to HIM professionals in another Federal Neuropsychiatric hospital. The data analysis method involves inferential statistics of linear and multiple regression.

Results

Table 1a-c: Influence of Computer Self-Efficacy on Service Delivery among HIM professionals in Lagos tertiary hospitals.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.390[a]	.152	.148	.54128

a. Predictors: (Constant), Computer Self-Efficacy

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.058	1	11.058	37.743	.000[b]
	Residual	61.528	210	.293		
	Total	72.586	211			

a. Dependent Variable: Service Delivery

b. Predictors: (Constant), Computer Self-Efficacy

Coefficients[a]

Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	Std. Error	Beta		
(Constant)	1.436	.271		5.297	.000
Computer Self-Efficacy	.036	.006	.390	6.144	.000

a. Dependent Variable: Service Delivery

The study reveals a positive correlation between computer self-efficacy and service delivery among Health Information Management (HIM) professionals in Lagos tertiary hospitals. It explains 15.2% of the service delivery. The ANOVA test results show a significant influence of computer self-efficacy on service delivery. A unit change in self-efficacy leads to a 0.036 increase in service delivery, rejecting the null hypothesis that there is no significant influence. The results support the importance of computer self-efficacy in HIM service delivery.

Table 2: Influence of Data Quality Management Practices on Service Delivery among HIM Professionals in Lagos tertiary hospitals.

Model Summary

Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.246[a]	.121	.117	4.07151

a. Predictors: (Constant), Data Quality Management

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	75.514	1	75.514	4.555	.034[b]
	Residual	3481.203	210	16.577		
	Total	3556.717	211			

a. Dependent Variable: Service Delivery

b. Predictors: (Constant), Data Quality Management

Coefficients[a]

Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	Std. Error	Beta		
(Constant)	16.183	2.555		6.334	.000
Data Quality Management	.292	.137	.146	2.134	.034

a. Dependent Variable: Service Delivery

Table 2a-c presents the results of the linear regression analysis for the influence of data quality management practices on the service deliveryamong HIM professionals in Lagos tertiary hospitals. The study reveals a positive correlation between data quality management practices and service delivery among HIM professionals in Lagos tertiary hospitals. It explains 11.7% of changes in service delivery. The ANOVA test results show a significant influence of data quality management practices on service delivery. A unit change in data quality management practices leads to a 0.292 increase in service delivery, rejecting the null hypothesis that there is no significant influence.

Table 3a-c: Combined Influence of Computer Self-Efficacy and Data Quality Management on Service Delivery among HIM professionals in Lagos tertiary hospitals.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.402[a]	.162	.154	3.77636

a. Predictors: (Constant), Computer Self-Efficacy, Data Quality Management

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	576.188	2	288.094	20.202	.000[b]
	Residual	2980.529	209	14.261		
	Total	3556.717	211			

a. Dependent Variable: Service Delivery

b. Predictors: (Constant), computer self-efficacy, data quality management

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	12.472	2.451		5.088	.000
Computer Self-Efficacy	.241	.156	.120	1.551	.002
Data Quality Management	.295	.050	.460	5.925	.000

a. Dependent Variable: Service Delivery

Table 4a-c presents the results of the multiple regression analysis for the combined influence of computer self-efficacy and data quality management on service delivery among HIM professionals in Lagos tertiary hospitals.The study reveals that computer self-efficacy and data quality management significantly influence service delivery among HIM professionals in Lagos tertiary hospitals. The combination of these factors explains 15.4% of the variation in service delivery. The results of ANOVA test also show that a unit change in computer self-efficacy leads to a 0.292 change in service delivery, while a unit change in data quality management practices

leads to a 0.241 change. This results reject the null hypothesis that there is no significant combined influence of these factors on service delivery.

Discussion of Findings

The study found a moderate level of perceived service delivery in Lagos state tertiary hospitals. The finding of a moderate level of perceived service delivery in Lagos state tertiary hospitals, as indicated by the responses of HIM professionals in the study, is significant in the context of research on health service delivery in Nigeria. This finding reflects the subjective assessment of healthcare service quality and efficiency by those directly involved in managing health information, which plays a crucial role in healthcare provision (Rana, Ali, Riaz, &Irfan, 2019).

The study found a moderately high level of computer self-efficacy among the respondents. The finding of a moderately high level of computer self-efficacy among the study's respondents holds significance in the context of healthcare professionals in Lagos tertiary hospitals. Computer self-efficacy refers to an individual's belief in their ability to effectively use computer technology, and it plays a crucial role in the integration of technology in healthcare settings (Odede, 2018). This finding suggests that the surveyed healthcare information management (HIM) professionals in Lagos have a considerable degree of confidence and competence in utilizing computer systems and technology.

In the context of this study, the moderately high level of computer self-efficacy found among HIM professionals in Lagos tertiary hospitals is a promising sign for the digital transformation of healthcare services in Nigeria. It aligns with previous research highlighting the importance of self-efficacy in technology adoption and suggests that healthcare professionals in Lagos have the confidence to embrace and utilize technological advancements to improve patient care and healthcare management. Nevertheless, ongoing efforts to provide training, resources, and

equitable access to technology are essential to fully capitalize on this potential and further enhance healthcare services in the region (Kundu, 2020).

The study also found a high adherence to modern methods of data quality management practices among HIM professionals in Lagos tertiary hospitals, highlighting their commitment to accuracy, accessibility, comprehensiveness, consistency, and currency of data.The study's finding of a high adherence to modern methods of data quality management practices among healthcare information management (HIM) professionals in Lagos tertiary hospitals is a significant and positive indicator of the commitment to enhancing the quality of healthcare services in the state (Sultan, 2020). The study highlights HIM professionals' dedication to ensuring the accuracy, accessibility, comprehensiveness, consistency, and currency of healthcare data, all of which are crucial components of effective health information management.

It was also found data quality management practices has a significant influence on the level of service delivery among HIM professionals in Lagos tertiary hospitals.The result of the hypothesis test indicating that computer self-efficacy has a significant influence on the level of service delivery among Healthcare Information Management (HIM) professionals in Lagos tertiary hospitals is a noteworthy finding. This result suggests that the self-belief and competence of HIM professionals in using computer systems and technology play a vital role in shaping the quality of healthcare services they provide (Farida &Shaimaa, 2019).

Conclusion

The study on healthcare service delivery in Lagos tertiary hospitals, focusing on Healthcare Information Management (HIM) professionals, reveals that computer self-efficacy and data quality management practices significantly impact service delivery. HIM professionals have a moderately high level of computer self-efficacy, indicating their confidence in using technology. They also adhere to modern data quality management practices, demonstrating a strong

commitment to accuracy, accessibility, comprehensiveness, consistency, and currency. The study highlights the interplay between individual competencies and systematic data management in healthcare services, emphasizing the importance of these factors in improving service delivery.

Recommendations

The study suggests several recommendations to improve service delivery in hospitals. First, benchmarks should be established to evaluate services and improve service delivery. Second, healthcare institutions in Lagos should invest in training and professional development programs to enhance computer self-efficacy among HIM professionals. Third, robust data quality management practices should be established and maintained, ensuring accurate, accessible, comprehensive, consistent, and current data. Regular data quality checks and validation processes should be integrated into daily operations. Fourth, an integrated approach to training should combine computer self-efficacy development with data quality management practices to help HIM professionals understand the importance of individual competence and systematic data quality in delivering high-quality healthcare services. Finally, hospitals should provide necessary technical support for effective data management to affect service delivery.

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