

Developing a Conceptual Framework of Integrating Effect of Hospital Information System Quality with User's Intention on Healthcare Service Quality in UAE Government Hospitals

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ABSTRACT

Today information systems become part of modern hospitals and reflects the degree of development on healthcare service. Despite the widespread adoption of HIS, challenges remain in achieving high levels of patient satisfaction and operational efficiency due to variations in system quality, information quality, service quality, and user engagement. To that end, this study aims to validate a framework that integrate the effect of Hospital Information System (HIS) quality and user's intention on healthcare service quality in government hospitals in the United Arab Emirates (UAE). A quantitative research approach was employed, using a structured survey distributed to healthcare professionals, including doctors, nurses, and administrative staff, across major UAE cities (Dubai, Abu Dhabi, and Sharjah). A total of 500 questionnaires were distributed, of which 462 valid responses were collected and analyzed using Structural Equation Modeling (SEM). Grounded in the DeLone and McLean Information Systems Success Model, the findings reveal that the hypothesized conceptual framework is fit and identical with the empirical data, indicating that the effectiveness of HIS depends not only on system performance but also on users' willingness to engage with the system. The results highlight the importance of integrating high-quality system features with strategies that enhance user engagement to improve patient care and operational efficiency. This study provides practical implications for policymakers, hospital administrators, and IT managers by emphasizing that successful HIS implementation requires both technological excellence and supportive organizational practices. Ultimately, the findings contribute to improving healthcare service delivery and ensuring the sustainable use of HIS in UAE government hospitals.

Keywords: Hospital Information System (HIS), Healthcare Service Quality, User's Intention.

INTRODUCTION

The healthcare industry is one of the fastest expanding service industries in the world economy. As technology advances, new treatments and procedures emerge, driving up demand for healthcare services. Furthermore, an aging population and increased awareness of the value of preventative treatment are boosting the demand for additional healthcare professionals. With these variables at play, the healthcare industry's expansion and influence in the global economy appear to be unstoppable. Hospitals are among the most important institutions for individuals who offer healthcare around the world, and installing a dependable hospital information system (HIS) system can significantly improve the quality of treatment given. By streamlining processes and centralizing patient information, hospitals can ensure that healthcare workers have the resources they need to provide individualized and effective care. Furthermore, HIS can help to reduce medical errors and improve patient safety, resulting in better health outcomes for individuals. Finally, integrating HIS in hospitals is critical to promote a more efficient and successful healthcare system (Jebraeily et al., 2019). Because of rising rivalry among hospitals, the healthcare industry has evolved to prioritize good healthcare service delivery and efficiency in order to attract and retain patients. As a result, healthcare institutions are increasingly relying on HIS to streamline processes and enhance overall patient outcomes. By investing in these technologies, hospitals may better manage patient data, track performance indicators, and improve the overall patient experience. The long-term benefits of deploying HIS far surpass the initial expenses, as it improves outcomes for both patients and physicians (Li et al., 2015).

Despite the fact that many studies in this domain need to explain why the delay in delivering medical services is a major challenge and attempt to link this challenge to HIS, as well as users' willingness to use HIS (Moghaddasi et al., 2018), there is a gap in the literature, particularly a lack of empirical evidence on the impact of HIS on healthcare service quality, and the link between HIS and user intention is still not widely investigated. Furthermore, most hospitals in the UAE have used HIS in their healthcare services, although some studies have found that failure rates are high due to a range of variables, including insufficient HIS operator training and poor implementation procedures (Shaikha, 2014). As a result, installing these systems is crucial to addressing these difficulties and increasing overall healthcare quality (Sven et al., 2017). The difficulties raised in previous arguments regarding HIS and service quality in hospitals require further investigation, whereas numerous studies on HIS have been completed, with a special emphasis on how to encourage HIS adoption (Handayani et al., 2017). However, additional empirical research is needed, which will surely improve our understanding of HIS's impact on medical care quality. If the use of HIS is required to improve the healthcare sector, it is still unclear how HIS system quality contributes to healthcare service quality, while the well-known theory of DeLone and McLean's success model (2003) in information systems domain indicates that intention to use a particular information system mediates the relationship between the quality attributes of HIS and the satisfaction of users the mediation (Shangala, 2020). However, the mediating function of intention to use HIS in hospitals has not been experimentally investigated or verified in the past, particularly in UAE hospitals. Therefore, the aim of this research is to determine the effect of system quality of HIS on-healthcare service quality in government hospitals in UAE, as well as investigating the role of user's intention on this relationship to develop a framework for service quality in healthcare organizations.

Healthcare System in the UAE

The UAE's healthcare system has undergone tremendous transition over the last two decades, establishing itself as one of the most modern in the Middle East. The UAE has set milestones in healthcare delivery, patient satisfaction, and technological integration, thanks to ambitious government policies, large investments, and an emphasis on digital transformation (Alhammedi et al., 2021). One of the primary success factors of the UAE healthcare system is robust government support and strategic vision. The UAE Vision 2021 and the more recent "We the UAE 2031" agenda underscore the government's commitment to creating a world-class healthcare system. These strategies prioritize excellence in patient care, health sector innovation, and the establishment of the UAE as a medical tourism hub (Alharmoodi et al., 2022). Substantial investments in healthcare infrastructure have resulted in the proliferation of state-of-the-art hospitals, clinics, and specialized centers across the Emirates.

While the government has prioritized Emiratization, the sector is still heavily reliant on expatriate healthcare workers. High turnover rates among expatriate professionals, coupled with the need for culturally competent care, create challenges in maintaining service continuity and knowledge retention (Al Suwaidi et al., 2022). For example, in a multicultural city like Dubai, healthcare providers must recruit staff from diverse backgrounds to ensure they can effectively communicate with patients of different nationalities. This includes offering language training programs and cultural sensitivity workshops to support the delivery of quality care to all residents. Despite these gains, the healthcare industry continues to face problems such as workforce sustainability, population growth, and equal access.

This debate presents a thorough study of the UAE's healthcare system, with an emphasis on its success factors, ongoing issues, information system integration, and recent government efforts. By investigating the successes and difficulties of the healthcare system, stakeholders can identify opportunities for improvement and future innovation. The integration of information systems has helped to streamline processes and improve patient care. Recent government initiatives focused at addressing workforce sustainability and equal access are critical steps in ensuring the UAE's healthcare sector's long-term viability and expansion. As the country continues to prioritize healthcare as a critical component of its national agenda, continuing collaboration and innovation will be required to address the sector's persisting issues.

The UAE healthcare system is distinguished by fast modernization, strategic investment, and a significant focus on digital transformation. Visionary leadership, public-private collaborations, and a focus on workforce development have propelled the UAE to the top of the regional healthcare rankings. One example is the



creation of specific healthcare free zones, such as Dubai Healthcare City, which bring top medical personnel and cutting-edge technology to the region. Additionally, programs such as the UAE Vision 2021 seek to improve healthcare quality and accessible for all inhabitants. The difficulties of workforce sustainability, equal access, and chronic disease management persist. Many of these concerns have been addressed in a transformative way, with information technologies driving gains in care coordination, efficiency, and patient participation. Recent government initiatives, such as national health information exchanges, telemedicine growth, and AI integration, demonstrate continuous progress toward a more resilient, responsive, and patient-centered healthcare system.

As the UAE moves forward, continued focus on interoperability, data security, and workforce training will be key to fulfilling information technology's full potential to improve medical treatment and public health outcomes. HIS is critical in addressing the difficulties of interoperability, data security, and worker training in the healthcare sector. By centralizing patient information, HIS allows for seamless communication and collaboration among healthcare providers, ensuring that all members of the care team have access to the most current and correct information. This not only improves care coordination, but it also increases efficiency by eliminating redundant tests and processes. Additionally, HIS contributes to data security by providing strong encryption and access restrictions, which protect critical patient information from unwanted access or breaches. Furthermore, HIS may aid workforce development by giving access to educational resources and training modules, allowing healthcare professionals to stay up to date on the latest breakthroughs in medical technology and best practices. Overall, health information systems (HIS) are critical instruments for driving changes in service delivery and patient outcomes in the UAE's dynamic healthcare sector.

LITERATURE REVIEW

Hospitals globally are investing in hospital information systems to enhance efficiency, improve healthcare service quality, and increase patient as well as staff satisfaction. However, the empirical evidence connecting HIS quality with healthcare service quality especially through the mediating role of user's intention is still evolving. The literature reveals lots of studies on the topic of information systems and service quality, whereas the debate on healthcare service quality showed a concern on certain gaps in the domain of information systems (Moghaddasi et al., 2018), especially the lack of empirical evidence on the effect of quality factors of HIS on the healthcare service quality in terms of responsiveness, reliability, empathy, tangibles, assurance, as well as the association between HIS and user's intention has not been broadly reported. In addition, despite that most hospitals in the UAE adopted HIS in their healthcare services, but some studies have revealed that some hospitals reported certain difficulties, including insufficient training of HIS operators, and lack of expertise (Shaikha, 2014). The following Table 1 provides a comprehensive summary of recent empirical and theoretical studies examining the relationships among hospital HIS, user's intention, and healthcare service quality. Each entry includes the study's authors, objectives, methodology, key findings, and identified research gaps. This synthesis not only highlights the diversity of research approaches and outcomes in the field but also identifies critical areas where existing literature remains limited particularly regarding the mediating role of user's intention and the contextual application within different healthcare settings. The table serves as a foundational reference for the subsequent critical discussion and comparative analysis. A review of the summarized studies reveals consistent themes, e.g., HIS quality (often measured by system quality, information quality, and service quality of information technology) is positively associated with user satisfaction, system utilization, and, in some cases, perceived improvements in healthcare service quality. All these findings and gaps are summarized in Table 1 below.

Table 1: Summary of Findings from Previous Studies

Authors (APA)	Findings	Gaps
Handayani, Syafei, & Narimawati (2025)	Integration improved employee performance and perceived healthcare service quality	Patient perspective not included; mediation by user's intention not examined

Rifial, Razak, Darmawansyah, Indar, & Rahman (2024)	Information quality and service quality positively influenced system utilization and patient satisfaction	Focus on utilization, not healthcare service quality; mediation not tested
Hardiansyah, Indrawati, & Nofierni (2025)	Information quality improves user satisfaction, increasing perceived system benefits	Only user satisfaction and benefits measured; healthcare service quality and user's intention not included
Joseph & Kumar (2024)	Adoption associated with improved healthcare service quality; implementation challenges noted	Context-specific; limited causal analysis; no mediation analysis
Sinaga & Saputra (2024)	Operations and workflow improvements reported; training critical	Healthcare service quality not measured; user's intention not assessed
Tambunan & Nasution (2025)	Improved operational metrics and perceived healthcare service quality	Patient-centered outcomes missing; mediation by user's intention not tested
Ardıç (2024)	Scale is reliable/valid for Turkish settings	Does not test relationships with healthcare service quality or user's intention
Abdullah, Aizuddin, & Manaf (2025)	Provider's information system quality increases user satisfaction and net benefits	Perceived net benefits not linked to healthcare service quality; user's intention not modeled
Nurshabrina et al. (2025)	IT improves service efficiency with training and redesign	Heterogeneous measures; no mediation analysis on user's intention
Mustafa et al. (2024)	Found acceptance factors and critical success factors	Small pilot; not linked to healthcare service quality or mediation by user's intention
Miezah (2025)	Positive associations with hospital performance metrics	Context variability; user's intention not examined as mediator
Komba & Lwoga (2024)	Barriers: accessibility, training; recommend inclusive design	Focused on vulnerable groups; lacks quantitative linkage to healthcare service quality; mediation not tested
Kayserili & Sançar (2025)	Perceived usefulness/ease of use predicted acceptance	Only staff focus; healthcare service quality and system quality dimensions not fully explored; no mediation analysis
Erzam (2025)	Improved patient satisfaction with BI insights	Focus on BI; no mediation analysis of user's intention or healthcare service quality

Moshiri, Asosheh, & Hashembigi (2024)	Improved modularity/performance; tradeoffs identified	Technical focus; lacks user-level or healthcare service quality outcomes; user's intention not modelled
Wati (2025)	TAM widely used; perceived usefulness/ ease of use predict acceptance; sometimes linked to service quality	Fragmented measures; few examine mediation of intention between system quality and service quality
Berrami et al. (2024)	Training, leadership, process alignment, and infrastructure critical for success	Lacks standardized measurement; healthcare service quality outcomes not always included
Wati, Santoso, & Cahyono (2025)	TAM variables linked to acceptance and patient satisfaction improvements	Only TAM focus; limited assessment of system quality, information quality, service quality as separate constructs
Kurniadi, Wulandari, & Arinnisa (2024)	Usability scores predict perceived effectiveness	Usability focus; healthcare service quality and mediation not tested
Ginting, Kasim, & Ritonga (2025)	Organizational, technical, human factors key	Implementation success focus; healthcare service quality and mediation not central
Ariyanto, Aji, & Intiasari (2025)	Model widely used; links among quality, use/intention, and benefits	Calls for empirical tests and mediation analyses involving intention and healthcare service quality
Purba & Sumantri (2024)	Improved unit performance	Narrow focus; not generalized to healthcare service quality or mediation by user's intention
Pejić Bach et al. (2024)	Behavioral/organizational determinants identified	Professional focus; healthcare service quality as mediated effect not examined
Misya & Ismail (2024)	Service quality strongly predicted patient satisfaction	Service quality measured broadly; link to hospital information system quality not explicated
Sakrak & Dogan (2025)	Adoption increased technostress, mixed job satisfaction results	Psychosocial focus; healthcare service quality/mediation by user's intention not measured
Chen et al. (2024)	Perioperative frailty index valid for clinical assessment	Focus on clinical tool validation; not on service quality, user's intention, or system quality
Sawalha et al. (2024)	Organizational, technical, individual factors affect acceptance	Acceptance only; healthcare service quality and mediation not measured
Suparno et al. (2024)	Implementation improved record management and service coordination	Focus on process improvement; service quality outcomes and mediation not analyzed

Mohammadpour et al. (2021)	Hospital information system improved perceived quality of care by staff	Staff focus; mediation by user's intention and system quality-performance linkage not tested
Hayati & Budi (2025)	Successful implementation linked to training and management	Implementation focus; healthcare service quality and mediation by user's intention not assessed
Ebnehoseini et al. (2021)	Identified factors influencing hospital information system success in case hospital	Single hospital; generalizability, mediation, and healthcare service quality not addressed
Lei, Liu, & Li (2021)	Hospital information system improves efficiency and clinical processes	Macro-level; mediation by user's intention and healthcare service quality less explored
Viernes, Larosa, & Natividad (2025)	Information/system/service quality positively linked to satisfaction and net benefits	Social services focus; healthcare service quality outcomes not central
Abd El Hameed, Baddar, & Khattab (2025)	Organizational support and training predicted acceptance	Acceptance focus; mediation and healthcare service quality not measured
Yulianti (2021)	Improved patient service quality with system use	Case-specific; mediation and broader generalizability not established
Mukhopadhyay et al. (2025)	System improved safety and documentation	Focus on safety; healthcare service quality and mediation by user's intention not modeled
Vantishsha, Azizah, & Arifin (2022)	Human, technology, and organization fit predicted success	Model focus; healthcare service quality and mediation not tested
Ramadhani, Sunadi, & Aziz (2025)	Perceived usefulness/ease of use predicted use	Young dentist focus; mediation and healthcare service quality not assessed
Takain & Katmini (2021)	System use improved administrative service quality	Administrative focus; mediation and healthcare service quality as an outcome not central
Karitis et al. (2021)	Identified system strengths and weaknesses	Single hospital; limited generalizability and mediation analysis
Jad & Zainol (2022)	Quality factors significantly predicted satisfaction	Direct effects studied; mediation by user's intention not tested
Ginting, Ginting, & Nasution (2023)	Technical support and training improved system use	Single hospital; healthcare service quality, mediation missing
Widiyanto & Widayati (2021)	Challenges: infrastructure, training, change management	Case-specific; healthcare service quality, mediation not assessed

Cheng (2021)	Satisfaction/continuance intention driven by system quality, support, and perceived usefulness	Physician focus; mediation by user's intention not tested beyond direct effects
Livinus, Adhikara, & Kusumapradja (2021)	Usefulness associated with both mandatory/voluntary use	Focus on usage; healthcare service quality and mediation not analyzed
Oh et al. (2023)	Precision medicine and patient care improved	Technical focus; healthcare service quality/user's intention not directly measured
Alfarizi (2022)	Efficient logistics improved patient satisfaction	Logistics perspective; healthcare service quality link with information systems not tested
Walle et al. (2023)	IS Success Model constructs predicted satisfaction	District-level focus; healthcare service quality and mediation not addressed
Tang (2023)	Improved outpatient management and efficiency	Outpatient focus; healthcare service quality and mediation not measured
Florence et al. (2021)	Improved record-keeping and process efficiency	Context-specific; healthcare service quality and mediation not tested

A common result is that information and service quality are major determinants of total system use and satisfaction (Rifial et al., 2024; Hardiansyah et al., 2025). According to several studies (e.g., Abdullah et al., 2025; Erzam, 2025), provider information system quality leads to higher satisfaction and perceived net benefits, supporting the DeLone & McLean IS Success Model, which states that system quality, information quality, and service quality influence intention to use and net system benefits.

However, there is significant variation in the operationalization of "healthcare service quality." Some studies focus on direct improvements in workflow or record management (Sinaga & Saputra, 2024; Suparno et al., 2024), while others use patient satisfaction as a proxy for service quality (Jad & Zainol, 2022; Misya & Ismail, 2024). Few researches clearly describe the process from hospital information system quality via user intention (intention to use/adopt) to healthcare service quality, with the majority concentrating on direct impacts or aggregate correlations. In synthesizing the above, it is evident that the relationships modeled in this study not only reflect but also extend current empirical knowledge, e.g., HIS quality directly enhances healthcare service quality when system, information, and service quality standards are high and well-aligned with operational needs, HIS quality strongly predicts user's intention to use and engage with the system, particularly when training, support, and organizational alignment are present

This mediation route has been theoretically verified (using the DeLone and McLean model) and is currently being empirically examined in the specific environment of UAE government hospitals, which is a first for the area in the 2025 literature. The outcomes of this study indicate that in order for HIS to have a meaningful influence on healthcare service quality, emphasis must be devoted not just to technical and informational factors, but also to the development of strong user intention.

In conclusion, the linkages revealed in this study are substantially validated, and there is great progress in evaluating the important links between HIS and service quality in hospitals. This study fills critical gaps and establishes a new empirical and theoretical standard for hypotheses development by explicitly modelling the mediating role of user intention in the pathway from hospital information system quality to healthcare service quality, as well as contextualizing the research within the dynamic and ambitious UAE healthcare sector. Based on the theoretical framework and literature studied in earlier chapters, this part describes the research hypotheses that will drive the empirical inquiry. These hypotheses seek to examine the suggested links

between the important variables and serve as a foundation for investigating the direct and indirect impacts within the conceptual model. Each hypothesis is established in line with the study's aims and supported by appropriate empirical evidence, establishing a clear relationship between theory and practice.

CONCEPTUAL FRAMEWORK

Conceptualization is the mental process by which fuzzy and imprecise constructs (concepts) and their constituent components are defined in concrete and precise terms. This process involves breaking down abstract ideas into specific, measurable elements that can be clearly understood and communicated. Through conceptualization, individuals are able to organize their thoughts and ideas into coherent structures, allowing for more effective problem-solving and decision-making. By clearly defining concepts, individuals can also communicate more effectively with others, ensuring that their ideas are accurately understood and interpreted.

The framework that is developed in this study (see Figure 1) constructs one independent variable (HIS system quality), one mediator (user's intention), and one dependent variable (healthcare service quality). This framework will be evaluated based on quantitative methods and statistical analyses. The conceptual framework (e.g., concept statements) is a body of interconnected fundamentals and objectives that guide the research and analysis process. It serves as a roadmap for understanding the relationship between variables and predicting outcomes. Through the use of a conceptual framework, researchers can gain a deeper understanding of complex phenomena and make more informed decisions based on empirical evidence. Ultimately, a well-developed conceptual framework can lead to more effective problem-solving and decision-making in various fields of study.

The objective of this research is to identify the purposes of HIS in the healthcare organizations through a conceptual framework, and the fundamentals are the underlying user's intention and healthcare service quality that help achieve the objectives of HIS implementation. By examining these key components within the framework, researchers aim to not only understand the role of HIS in-healthcare organizations but also to provide guidance on how to optimize their use for improved patient outcomes and organizational efficiency. By identifying the underlying intentions and quality of healthcare services, this research seeks to bridge the gap between theory and practice, ultimately leading to more effective and impactful healthcare delivery systems. Through a well-defined conceptual framework, the potential benefits of HIS in-healthcare organizations can be fully realized, resulting in better patient care and overall organizational success.

Those concepts will provide guidance for the UAE hospitals to understand what other variables are interrelated with information systems in the healthcare domain. By understanding these relationships, hospitals in the UAE can make informed decisions about implementing and optimizing their HIS to improve patient outcomes and operational efficiency. With the right strategies in place, healthcare organizations can not only streamline their processes but also enhance communication and collaboration among healthcare professionals, ultimately benefiting both patients and staff alike. Overall, the integration of information systems in healthcare settings in the UAE has the potential to revolutionize the way healthcare is delivered, making it more patient-centered, efficient, and sustainable in the long run.

The exploratory factor analysis reveal that HIS quality is linked to three latent dimensions (system quality, information quality, and service quality), Intention to use is linked to two latent dimensions (actual use and frequent use). Finally, healthcare service quality is linked to six latent dimensions (responsiveness, reliability, empathy, tangibles, and assurance). The conceptual framework that is developed in this study (see Figure 1) constructs one independent variable (HIS system quality), one mediator (user's intention), and one dependent variable (healthcare service quality).

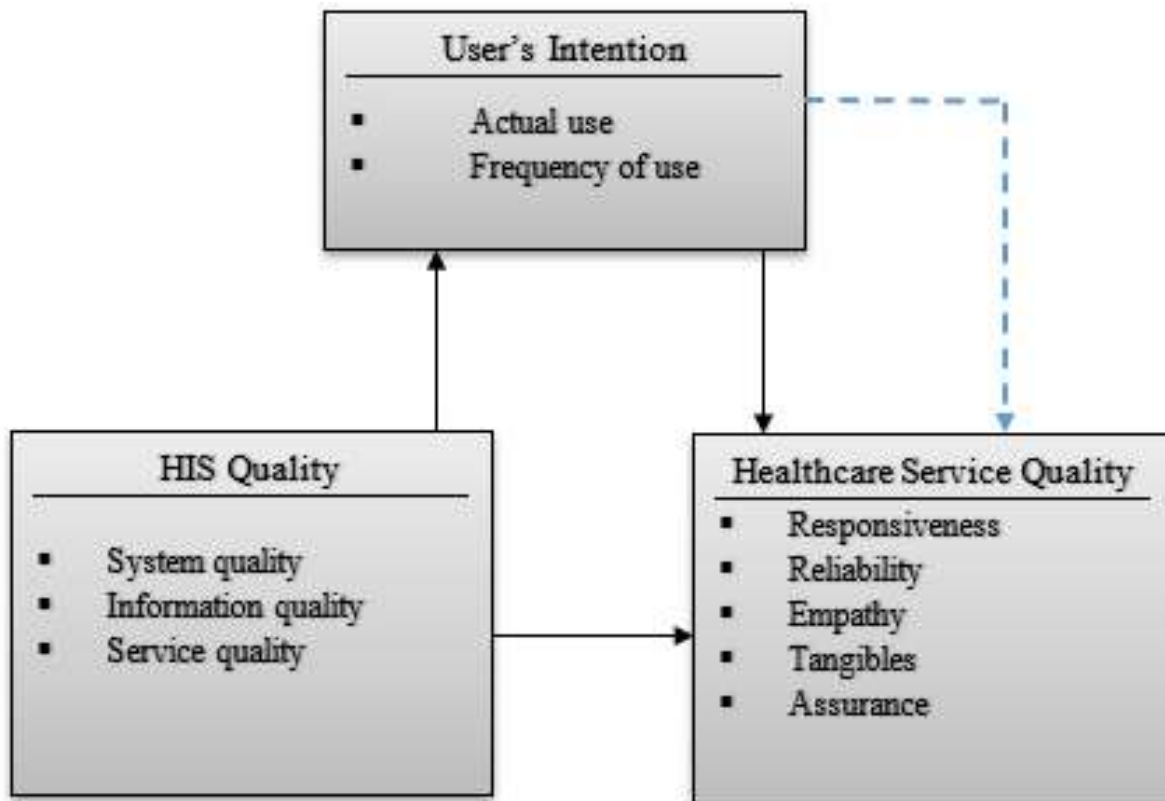


Figure 1: The conceptual framework of healthcare service quality

RESEARCH METHODOLOGY

This study applied quantitative methods to analyze relationships between HIS quality, healthcare service quality, user's intention, as well as validating the proposed framework. The population are healthcare professionals, including doctors, nurses, and administrative staff, across major UAE cities (Dubai, Abu Dhabi, and Sharjah) in government hospitals. Data instrument is self-administrated questionnaire. The data collection has been conducted on a sample of 500 respondents. Simple random sampling technique has been applied in the survey procedure. SPSS software is deployed to conduct data analysis. SEM was principal approach used to conduct data analysis and test the hypothesis of this study.

RESULT AND DISCUSSIONS

The demographic profiles of respondents as shown in Table 2 shows that the majority of responders (35.93%) were aged 40–49, followed by 30-39 (32.03%). Younger individuals aged 20-29 made up 18.18% of the sample, while those aged 50-59 and above 60 made up 8.87% and 4.98%. This implies that the research surveyed mid-career healthcare workers with extensive HIS and healthcare service process expertise. Most responders had advanced degrees. 36.58% held a Master's, 39.39% a PhD, and 24.03% a Bachelor's. This high level of education means that the sample was mostly physicians, senior nurses, healthcare managers, or IT personnel, who should have a better grasp of HIS and healthcare service quality.

Respondent job experience demonstrates sample competence. Most participants had many years of professional experience, with 29.65% having worked over 15 years and 28.79% 10-15. The sample has 24.89% 5-10 years of experience and 16.67% 1-5 years. This distribution suggests that most respondents were experienced professionals with a lengthy history with hospital information systems, delivering knowledgeable and deliberate replies. The demographics of the respondents indicate that UAE government hospital healthcare personnel are informed and experienced.

This improves the study's credibility and depth, but it may exclude the views of less experienced or less educated workers. This demographic bias, especially in gender and education, should be addressed when

generalizing findings. However, the profile emphasizes the significance of discovering how HIS quality affects healthcare service quality and how desire to use mediates this relationship.

Table 2: The demographic profile of the respondents

Demographics	Category	Frequency	Percentage (%)
Gender	Male	303	65.58
	Female	159	34.42
Age	20-29 years	84	18.18
	30-39 years	148	32.03
	40-49 years	166	35.93
	50-59 years	41	8.87
	Older than 60 years	23	4.98
Academic Qualification	Bachelor	111	24.03
	Master	169	36.58
	PHD	182	39.39
Work Experience	1-5 years	77	16.67
	5-10 years	115	24.89
	10-15 years	133	28.79
	Elder than 15 years	137	29.65

Exploratory Factor Analysis (EFA) as shown in Table 3 is conducted in advance using a dataset collected in the pilot study in order to group the indicators (questionnaire items) in relation to specific dimensions. EFA is generally an exploratory procedure before SEM. Thus, in EFA analysis, the researcher explores the dimensions associated with each construct (Hair et al., 2018), i.e., HIS quality, intention to use, and healthcare service quality. Bartlett's test is the first analysis in EFA. A significance magnitude less than 0.05 indicates that the empirical data are fit for EFA (Ferrando et al., 2022). KMO should range between 0.60 - 0.90. As $KMO \geq 0.00$ for all constructs (0.870, 0.859, 0.867) means the quality of data is excellent for conducting data analysis.

Next measuring the communalities of items (indicator) that are associated with a single construct, the communality value of each indicator should be greater than 0.30. It is evident that the majority of items associated with each construct having a communality exceeding 0.30. However, some of the indicators have a weak communality value; one indicator linked to HIS quality, and two indicators associated with intention to use, also one indicator is associated with healthcare service quality. For this reason, these indicators will be omitted from the dataset used in data analysis. Next, evaluating the output of total variance explained which specifies the number of dimensions that scored an eigenvalue ≥ 1.00 , and explaining the variance in each construct more than 50.00%, these dimensions should be included in constructing the measurement models.

Table 3: EFA analysis summary

Constructs and dimensions		Indicators	EFA indicators	Omitted indicators	Lowest Factor loading	Highest Factor Loading	KMO	Sig.	Percentage Explanation
HIS quality		15	13	2					
1	System quality	5	5	0	0.834	0.893	0.870	00.00	71.098
2	Information quality	5	4	1	0.843	0.887			
3	Service quality	5	4	1	0.903	0.923			
Intention to use		10	9	1					
1	Actual use	5	5	0	0.739	0.839	0.859	00.00	59.362
2	Frequency of use	5	4	1	0.764	0.809			
Healthcare service quality		25	20	5					
1	Responsiveness	5	4	1	0.697	0.736	0.867	00.00	63.180
2	Reliability	5	4	1	0.616	0.900			
3	Empathy	5	4	1	0.844	0.896			
4	Tangibles	5	4	1	0.653	0.818			
5	Assurance	5	4	1	0.710	0.789			

The analysis of the conceptual framework as shown in Figure 2 indicates how the constructs are related to one another in one structural model. The evaluation of path analysis result reports that all fit-indices are compatible with the cut-off points for SEM standards. Starting with PCLOSE = 1.00 (perfect non-significant), while RMSEA = 0.043 (≤ 0.08) which reflects a high degree of model-fit. Moreover, CMIN/DF = 1.838 (≤ 3.00), CFI = 0.949 (≥ 0.80), TLI = 0.944 (≥ 0.80), the typical range for TLI and CFI lies between zero and one, whereas TLI and CFI values close to 1 indicate a very good model fit (Bentler & Bonett, 1980; McDonald and Marsh, 1990).

These are the standard fit-indices in SEM standards that should be used to assess the validity of a theoretical model with an empirical data (Dash & Paul, 2021). These magnitudes are typical (Hair et al., 2020) and shows that hypothesized framework in theory is valid and fit the empirical data, so that modeling HIS quality with healthcare service quality through the partial mediating influence of intention to use is theoretically developed and empirically validated.

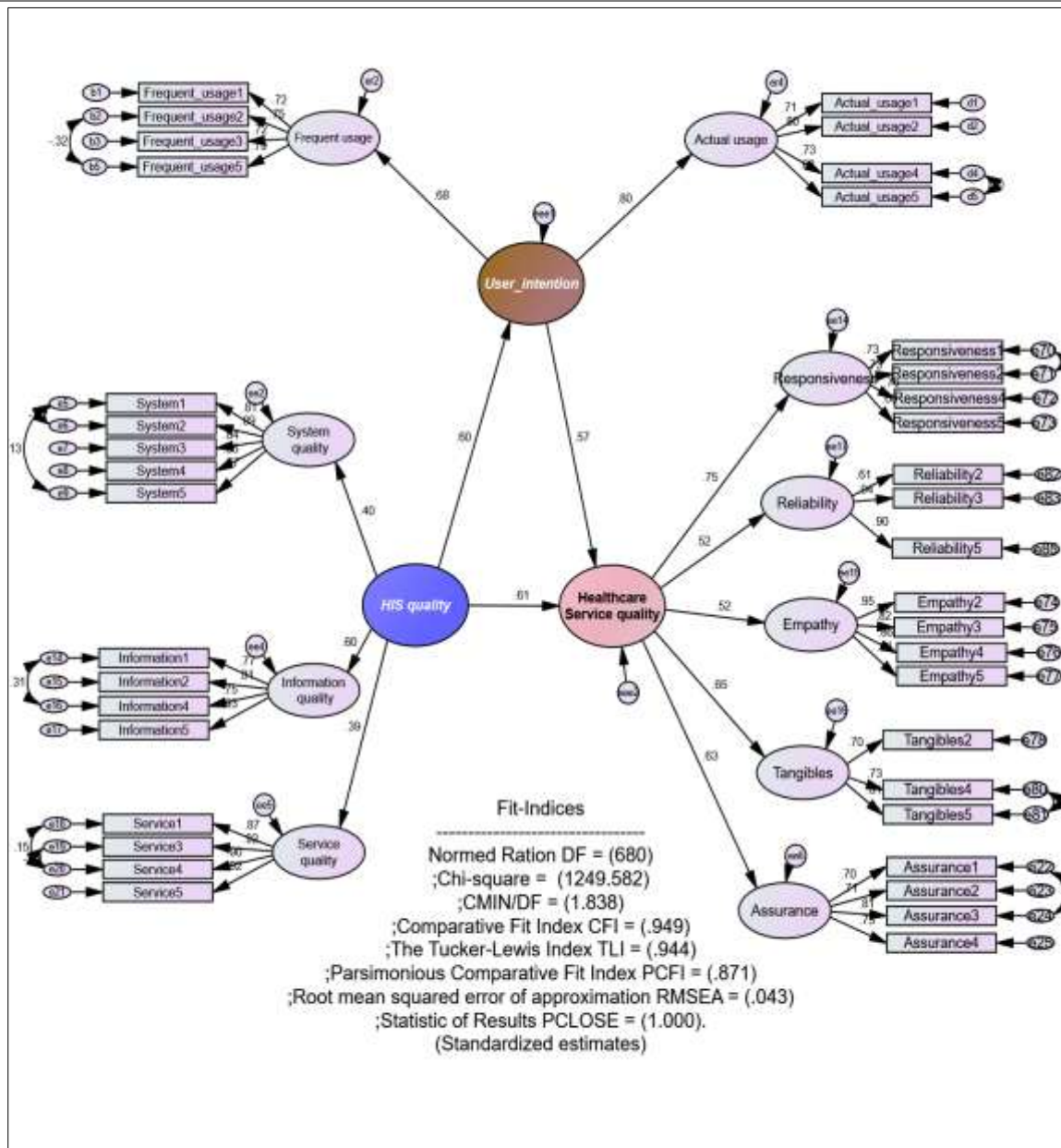


Figure 2: The validate conceptual framework

To understand how HIS quality attributes (system quality, information quality, and service quality) are associated with user's intention and healthcare service quality, it is important to analyze the various factors at play. These attributes directly impact the user's intention to utilize the system and ultimately affect the overall quality of healthcare services provided. Overall, the quality attributes of a healthcare information system have a direct impact on the user's intention to use the system and ultimately affect the overall quality of healthcare services provided. Therefore, it is crucial to thoroughly examine these attributes and their association with user intention and healthcare service quality. This analysis will enable healthcare providers to make informed decisions and improvements to ensure the highest possible quality of care for patients. With this framework, hospital managers and politicians may make more informed decisions on HIS implementation and optimization. Understanding that the aspects of HIS quality system quality, information quality, and service quality are intimately related to user intention and, ultimately, healthcare service quality allows leaders to prioritize focused actions where they will have the biggest effect. For example, investing in more user-friendly system interfaces, assuring information integrity and timeliness, and offering extensive user assistance may all increase healthcare professionals' and patients' willingness to engage with the HIS. As a result, digital tools are used more frequently and effectively, workflows are simplified, and patients receive better treatment. Furthermore, the validated framework demonstrates the importance of user intention as a partial mediator. This emphasizes the need of not just enhancing the technical elements of HIS, but also aggressively creating a culture of digital adoption. Hospitals may foster a favorable attitude about HIS utilization by implementing

change management methods, specific training programs, and constant feedback systems. Such measures can assist overcome traditional challenges to technology adoption, such as aversion to change or a lack of trust, both of which have historically contributed to the region's high failure rate for HIS programs.

The practical advantages of using this verified framework are significant for UAE hospitals. Improved HIS quality results in more motivated users, who are more likely to exploit the system's maximum potential. This improves the entire quality of healthcare service delivery, as seen by increased responsiveness, dependability, empathy, tangibles, and assurance. Improved communication, fewer mistakes, and more efficient administrative procedures become attainable goals, eventually leading to increased patient satisfaction and better therapeutic outcomes. In the larger context of the UAE's aim for world-class healthcare, the framework provides a strategic tool for linking digital health projects to actual service improvements. Hospitals may utilize the framework's insights to measure HIS performance, guide resource allocation, and track progress toward service excellence. Finally, by cultivating an environment that prioritizes both HIS quality and user intention, UAE hospitals may achieve the full potential of digital transformation, setting new norms for healthcare quality, efficiency, and innovation in the region.

CONCLUSIONS

The results demonstrate that a well-functioning and dependable information system improves hospital healthcare services. Because such a system provides accurate and fast patient data, healthcare providers may make educated judgments and give appropriate treatment. A high-quality information system improves communication and coordination across departments and healthcare professionals, improving patient care and results and increasing patient intention to use HIS regularly. The report also emphasizes HIS strategic role in healthcare organizational reform. The framework helps UAE hospitals connect HIS investments with service quality and patient-centered care goals as they modernize and digitize. This research fills a gap in the literature and offers concrete advice for hospital administrators, politicians, and IT experts seeking to improve healthcare service delivery through information system adoption. These findings emphasize the importance of technology quality, user engagement, and service results. They show that HIS projects with solid technological solutions and tactics to change user attitudes and behaviors are most likely to improve healthcare service quality. To fulfil patient expectations and adapt to a fast-changing digital ecosystem, UAE and international healthcare institutions must leverage HIS to achieve sustained advancement and excellence. This study contributes to the existing literature on information system in health sector through a development of framework correlated the HIS quality with service quality and intention to use HIS in UAE government hospitals. It is recommended that healthcare personnel in the UAE, including doctors, nurses, administrative staff, and IT support teams, should undergo structured and continuous training sessions. These programs must cover both the technical functionalities of HIS and the practical applications within clinical workflows. Training should be tailored to different user roles and updated regularly to align with system upgrades and policy changes.

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