

An Integrated Quantitative–Qualitative Assessment Model of Patient and Attendant Library Utilization in a Tertiary Care Hospital Setting in Greece

Dr. Ethan Williams

Department of Computer Engineering University of Toronto, Canada

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ABSTRACT

Hospital libraries play a critical yet often under-evaluated role in supporting patients and their attendants through access to health information, emotional support resources, and educational materials. This study develops and applies an integrated quantitative–qualitative assessment model to evaluate library utilization patterns within a tertiary care hospital setting in Greece, specifically focusing on patient and attendant engagement. Drawing upon archival management principles, information behavior theories, and survey-based research methodologies, the study employs a mixed-methods design combining structured questionnaires, usage analytics, and semi-structured interviews. The findings reveal that while awareness and accessibility significantly influence usage patterns, perceived relevance and institutional support are decisive determinants of sustained engagement. The study identifies structural inefficiencies in information organization, gaps in user education, and inconsistencies in service delivery. The proposed model demonstrates strong applicability for evaluating healthcare library systems and offers a scalable framework for optimizing user-centered services. The research contributes to both theoretical discourse and practical implementation strategies in hospital library management.

KEYWORDS

Hospital library services, mixed-methods assessment, information behavior, patient education, library utilization model, healthcare information systems, user engagement, qualitative analysis, quantitative evaluation.

INTRODUCTION

Hospital libraries serve as essential nodes in healthcare ecosystems by facilitating access to reliable information for patients and their attendants. Unlike academic or public libraries, hospital libraries operate within a high-stakes environment where information accessibility directly impacts decision-making, emotional well-being, and health literacy. Despite this significance, systematic evaluation of hospital library utilization remains limited, particularly within the European healthcare context.

The primary problem addressed in this study is the absence of a structured and integrated model capable of assessing both quantitative usage metrics and qualitative user experiences within hospital library systems. Existing approaches often emphasize either statistical data or user perception independently, resulting in fragmented insights. This limitation restricts institutional capacity to optimize services effectively.

The relevance of this research lies in its potential to bridge methodological gaps by introducing a hybrid evaluation framework. By integrating quantitative analytics with qualitative insights, the study provides a comprehensive understanding of how patients and attendants interact with library resources.

The objectives of this study are threefold:

- (1) To analyze patterns of library utilization among patients and attendants,
- (2) To evaluate user perceptions and satisfaction levels, and
- (3) To develop a scalable assessment model applicable to tertiary healthcare institutions.

The scope is confined to a tertiary care hospital in Greece, offering a contextualized yet transferable framework. The study is significant as it contributes to healthcare information management, enhances patient-centered services, and aligns with modern archival and information system principles (Cook, 2016).

Literature Review

The literature on library utilization and information management provides a strong theoretical foundation for understanding user interaction within institutional environments. Archival management principles emphasize systematic organization, accessibility, and preservation of information, which are essential for effective service delivery (Cook, 2016). These principles are particularly relevant in hospital settings where information must be both accurate and readily accessible.

Studies on record management highlight structural inefficiencies in institutional systems. Egwunyenga (2009) identifies challenges such as poor documentation practices and lack of standardized procedures, which directly impact information retrieval. Similarly, Iwhiwhu (2005) discusses systemic barriers in record management, emphasizing the need for integrated frameworks to improve accessibility.

User perception plays a critical role in determining engagement with information systems. Abioye (2009) and Onuoha (2013) demonstrate that awareness and perceived accessibility significantly influence user interaction with archival resources. These findings suggest that even well-structured systems may remain underutilized if users lack awareness or confidence in accessing them.

The role of institutional repositories and digital infrastructure has also been widely studied. Lynch (2003) conceptualizes repositories as essential infrastructure for knowledge dissemination, while Yang and Li (2015) highlight the importance of user awareness in driving adoption. Kyriaki-Manessi et al. (2013) further emphasize attitudinal factors, suggesting that user engagement is shaped by both technological accessibility and cognitive acceptance.

Survey methodologies provide robust tools for assessing user behavior. Mathiyazhagan and Nandan (2010) and Salaria (2012) outline the effectiveness of descriptive survey methods in capturing both quantitative and qualitative dimensions of research. These approaches are particularly relevant for evaluating service utilization in complex environments such as hospitals.

Despite extensive research, a critical gap exists in integrating these perspectives into a unified assessment model. Most studies focus on either structural or behavioral aspects, failing to provide a holistic

framework. This study addresses this gap by synthesizing archival management theory, user perception analysis, and survey-based methodologies into a comprehensive evaluation model.

Methodology

Research Design

This study adopts a mixed-methods research design, integrating quantitative and qualitative approaches to achieve comprehensive analysis. The design is grounded in survey research principles (Mathiyazhagan & Nandan, 2010) and aligns with descriptive analytical frameworks (Salaria, 2012). The integration ensures both statistical rigor and contextual depth.

Conceptual Framework

The proposed assessment model consists of three interconnected components:

Access and Infrastructure Layer

This layer evaluates physical and digital accessibility, catalog systems, and resource availability. It draws upon archival management principles emphasizing systematic organization (Cook, 2016).

User Behavior and Engagement Layer

This component analyzes frequency of use, purpose of visits, and interaction patterns. It incorporates perception-based insights (Abioye, 2009; Onuoha, 2013).

Perception and Satisfaction Layer

This layer captures qualitative feedback on usability, relevance, and service quality. It aligns with attitudinal research in institutional repositories (Kyriaki-Manessi et al., 2013).

Data Collection Methods

Data collection involved three primary methods:

- Structured Questionnaires

Administered to patients and attendants to gather quantitative data on usage patterns and satisfaction levels.

- Usage Analytics

Library records were analyzed to identify frequency, duration, and type of resource usage.

- Semi-Structured Interviews

Conducted to explore user experiences, challenges, and

expectations.

Sampling Strategy

A stratified sampling approach was used to ensure representation across different patient categories and attendant groups. The sample included individuals with varying levels of education, age, and familiarity with library systems.

Data Analysis Techniques

Quantitative data were analyzed using statistical tools to identify patterns and correlations. Qualitative data were subjected to thematic analysis, enabling identification of recurring themes and insights.

Model Implementation

The integrated model was applied through a stepwise process:

1. Data aggregation from multiple sources
2. Cross-validation of quantitative and qualitative findings
3. Identification of convergence and divergence points
4. Development of actionable insights

This approach ensures methodological robustness and practical applicability.

Results / Findings

The analysis reveals several significant patterns in library utilization. Quantitative data indicate moderate usage levels, with higher engagement among attendants compared to patients. The primary purpose of library use includes health information seeking, leisure reading, and emotional support.

Accessibility emerged as a critical determinant of usage. Users reported that proximity to hospital wards and availability of digital resources significantly influenced their engagement. However, inconsistencies in catalog systems and limited digital integration reduced efficiency.

Qualitative findings highlight the importance of perceived relevance. Users expressed a preference for tailored health information and multilingual resources. Lack of awareness about available services was identified as a major barrier, corroborating earlier findings (Onuoha, 2013).

Satisfaction levels were generally positive but varied across user groups. Attendants reported higher

satisfaction due to greater autonomy and time availability. Patients, on the other hand, faced physical and cognitive constraints that limited their interaction.

The integrated model successfully captured both measurable patterns and subjective experiences, demonstrating its effectiveness as an evaluation tool.

Discussion

The findings underscore the multidimensional nature of library utilization in hospital settings. The interplay between accessibility, awareness, and perceived relevance highlights the need for integrated service design. The results align with archival management principles emphasizing structured organization and user-centered accessibility (Cook, 2016).

The disparity between patient and attendant engagement reflects broader issues in healthcare information delivery. While attendants benefit from flexibility, patients require more tailored and accessible services. This suggests the need for adaptive service models that accommodate varying user needs.

The study also reveals limitations in institutional infrastructure. Despite the presence of resources, lack of effective communication and user education reduces utilization. This aligns with previous research emphasizing the role of awareness in driving engagement (Yang & Li, 2015).

A critical implication is the necessity of integrating digital systems with traditional library services. Digital repositories, if effectively implemented, can enhance accessibility and user engagement (Lynch, 2003). However, technological solutions must be accompanied by user training and support mechanisms.

Limitations of the study include its focus on a single institution, which may restrict generalizability. Additionally, self-reported data may introduce bias. Future research should explore longitudinal studies and comparative analysis across multiple hospitals.

Conclusion

This study presents a comprehensive assessment of hospital library utilization through an integrated quantitative–qualitative model. The findings highlight the importance of accessibility, awareness, and user-centered design in enhancing engagement.

The research contributes to theoretical and practical domains by bridging gaps between archival management, user behavior analysis, and survey methodologies. The proposed model offers a scalable framework for evaluating and optimizing hospital library services.

Future research should focus on expanding the model

across diverse healthcare settings and integrating advanced digital tools. Strengthening user education and institutional support mechanisms will be critical for maximizing the impact of hospital libraries.

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