

A. Introduction

In the contemporary digital landscape, websites have become indispensable for public institutions, especially within the healthcare domain, serving as primary platforms for the wide and prompt dissemination of information (Ylenia Murgia, Jaime Delgado, 2024) (Han et al., 2022). Hospitals like RSUD dr. Loekmono Hadi Kudus, a significant regional referral center, rely on their official websites to provide accessible details regarding services, medical personnel, and operational procedures, thus supporting broader public health objectives (Ramadya et al., 2022). The functional issues present in the previous version of the RSUD dr. Loekmono Hadi Kudus website had a significant impact on both user experience and the hospital's operational efficiency. One of the major problems was outdated information, such as doctor schedules that were not regularly updated, service tariffs that did not reflect current rates, and invalid or obsolete contact details. This led to confusion among patients and their families, particularly for those planning visits or attempting to confirm service availability prior to arrival. In several cases, patients reported discrepancies between the information displayed on the website and the actual situation at the hospital, resulting in frustration and a diminished level of trust in the institution. Additionally, the poorly organized interface with unintuitive navigation structures and cluttered page layouts made it difficult for users to quickly find essential information. Critical features such as doctor search, installation locations, and service inquiry forms were often buried or inaccessible. This posed serious risks for users in emergency situations or those requiring timely information. Furthermore, recent studies highlight that digital health maturity including the implementation of reliable information systems has a measurable influence on patient experience, operational efficiency, and population health outcomes (Woods et al., 2023).

The most critical issue, however, was the severely impaired functional efficiency of the site, where many core features failed to operate as intended. Several important pages encountered loading errors, navigation buttons were unresponsive, and online forms such as registration or inquiry submissions could not be completed. This not only hindered two-way communication between patients and the hospital but also increased the administrative burden on staff, as users were forced to contact the hospital directly via phone or visit in person just to obtain basic information. Overall, the combination of inaccurate information, user unfriendly layout, and technical malfunctions created a poor digital experience for patients and their families. From an operational standpoint, it led to an increase in inquiries, complaints, and reliance on manual processes that could otherwise be streamlined through digital means. These challenges underscore the critical importance of a reliable and functionally sound hospital website as a tool for public communication and service delivery. This lack of functionality was quantitatively confirmed, with the legacy system showing that only a fraction of its features specifically 30% of 10 selected core functionalities as later detailed in this paper were operating correctly, underscoring an urgent need for substantial improvements. A similar application of design-thinking principles in healthcare innovation

was demonstrated by (Smiechowski et al., 2021), who emphasized that integrating end-user perspectives throughout the design process yields practical, patient-centered solutions for improving healthcare system experiences.

A functionally sound and efficient hospital website is essential for the clear delivery of information and the smooth accessibility of services. Dependable functionality ensures that users can navigate the platform and utilize its features without encountering technical barriers, which is vital for accessing critical health-related information. In response to these challenges, a thorough redesign of the website was initiated. This redesign effort was guided by the Design Thinking methodology, fostering a user-centric approach that placed the needs and experiences of end-users at the forefront of the development cycle. A primary goal of this redesign was to markedly improve the website's functional efficiency (Purwitasari et al., 2021). This paper, therefore, focuses on presenting and analyzing the results of the Blackbox testing phase, which was systematically applied to quantify the improvement in functional efficiency of the RSUD dr. Loekmono Hadi Kudus website following its redesign (Dini Nurul Azizah et al., 2024). Blackbox testing was selected because it enables a thorough evaluation of system functionality by examining inputs and outputs without requiring knowledge of the system's internal structure. This method is effective in detecting functional discrepancies and ensuring that each core feature operates according to specifications, particularly in the context of post-redesign evaluation (Al-losi et al., 2021). The findings aim to offer an objective, empirical measure of the redesign's success regarding its technical performance, operational reliability, and its beneficial impact on human-computer interaction.