ABSTRACT

Advancements in information technology have had a significant impact across various sectors, including healthcare. Information technology plays a crucial role in enhancing operational efficiency, simplifying report generation, and supporting organizations in achieving their strategic goals. Despite many organizations investing resources in information technology, they often do not see the desired performance improvements. This is typically due to a lack of thorough strategic planning in the implementation of information systems. Rumah Sakit TNI AU Soemitro in Surabaya, accredited with full status and classified as a type IV/D hospital, serves as a relevant case study for this research due to its urgent need for an integrated information system to enhance its operational effectiveness. The problem faced is that Rumah Sakit TNI AU Soemitro still uses manual medical record files. This practice is not aligned with the Minister of Health Regulation (PMK) number 24 of 2022 concerning Medical Records, which requires healthcare facilities (Fasyankes) to implement an electronic patient medical record system. The use of manual medical records often leads to various issues, including data entry errors and slow patient information retrieval processes, which affect the quality of healthcare services provided. This research begins with the collection of qualitative data through observations and interviews with the hospital's Secretary, IT Support, and Medical Record Service Coordinator to identify needs and challenges in implementing an electronic medical information system. The collected data is then analyzed using the Spiral model, through the stages of description, reduction, and selection. Subsequently, the results of the spiral analysis are processed using The Open Group Architecture Framework (TOGAF) with the Architecture Development Method (ADM) Version 9.2. TOGAF ADM is chosen for its flexible and open-source nature, which allows for better and more structured planning and implementation of information technology. This approach focuses on five main phases: Preliminary Phase, Phase A: Architecture Vision, Phase B: Business Architecture, Phase C: Information System Architecture, and Phase D: Technology Architecture. Each phase is designed to ensure that all aspects of the information system are considered and well-integrated. The Preliminary Phase establishes the context and objectives of

the architecture to be developed. Phase A: Architecture Vision identifies the vision and strategic goals of the information system to be built. Phase B: Business Architecture focuses on the analysis and design of the business architecture, covering key business processes and information needs. Phase C: Information System Architecture develops the data and application architecture models needed to support the business architecture. The final stage of this research involves validating all designed phases using time triangulation. Based on the description, this research proposes a topic related to information system architecture focusing on the medical record unit, resulting in a planning document for the information system architecture. The outcomes of this research include recommendations and guidelines for planning and implementing appropriate technology architecture to align information systems. With thorough planning and proper implementation, the new information system is expected to enhance operational effectiveness, reduce data entry errors, and clarify patient service processes. Additionally, the results of this research are anticipated to enrich the understanding of information system architecture in the context of health information technology management and provide useful guidance for other organizations facing similar challenges.

Keywords—information systems, architecture planning, TOGAF ADM 9.2, E-MR, Rumah Sakit TNI AU Soemitro.