

ABSTRACT

The digital revolution has brought significant changes in various aspects of life, particularly in the use of information technology. Information technology has become a crucial factor in supporting the operations of companies and organizations, including the East Java Provincial Department of Public Works for Water Resources (DPU SDA). DPU SDA is responsible for realizing comprehensive, integrated, and environmentally sustainable water resource management in East Java Province. In carrying out its series of tasks and responsibilities, DPU SDA comprises five divisions, one of which is the Rivers, Reservoirs, and Coastal Areas Division (SWP). The SWP Division's business processes include activities related to water resource maintenance and disaster management for flood events under DPU SDA's authority in East Java Province. As a division that contributes significantly to achieving DPU SDA's vision and mission, the SWP Division faces several obstacles and issues that impact community welfare. Data compilation and performance analysis of the division indicate that from 2023 to 2024, there has been a significant increase in recorded flood events in East Java Province. Based on this information, this research focuses on the SWP Division, which has internal organizational issues related to the alignment between business strategies and IT strategies used. The problems encountered include suboptimal automation and integration of business processes and information systems, the lack of interconnection between tasks and functions within the SWP Division facilitated by supporting information systems, and the presence of manual activities due to systems not meeting functional needs. These issues result in fragmented and unintegrated organizational information and data, leading to difficulties in coordination and collaboration between divisions, inaccuracies in decision-making, and negatively impacting service quality to the community. These problems indicate that the IT strategy implemented by the SWP Division requires improvement and is not aligned with existing business processes. Therefore, this research aims to develop a strategy through designing an information system architecture using a framework-based approach to ensure and create alignment between business strategies and information technology strategies. In this study, the researcher uses the TOGAF ADM v9.2 (The Open

Group Architecture Framework - Architecture Development Method) framework approach, focusing on the Preliminary Phase and the following three phases: Architecture Vision, Business Architecture, and Information System Architecture. The result of this research is an information system architecture along with a roadmap, providing recommendations for future information system development plans. This roadmap offers a clear and structured concept on how to optimize the use of information technology aligned with the business processes of the SWP Division to support the achievement of the goals and vision & mission of the East Java Provincial Department of Public Works for Water Resources.

Keywords: Enterprise Architecture, TOGAF ADM v9.2, Architecture Vision, Business Architecture, Information System Architecture.