

ABSTRAK

Candrawibawa. I Gede Angga (2026). Pengembangan Model *Smart village* di Wilayah Kecamatan Gianyar Berdasarkan Pendekatan *Smart city* dengan Metode TOGAF. Tesis, Ilmu Komputer, Program Pascasarjana, Universitas Pendidikan Ganesha.

Tesis ini sudah disetujui dan diperiksa oleh Pembimbing I: Dr. I Gede Aris Gunadi, S.Si. M.Kom dan Pembimbing II: Prof. Dr. Luh Joni Erawati Dewi, S.T., M.Pd.

Kata Kunci: *Smart city*, *Smart village*, *Smart governance*, Arsitektur Enterprise, TOGAF ADM, Kecamatan Gianyar

Penelitian ini bertujuan mengembangkan model *Smart village* dengan pendekatan *Smart city* yang berfokus pada dimensi *Smart governance* di Kecamatan Gianyar melalui penyusunan *blueprint* arsitektur enterprise sebagai pedoman implementasi bagi pemerintah desa. Penelitian dilatarbelakangi oleh kondisi OpenSID, Siskeudes, dan Prodeskel yang masih berjalan terpisah sehingga menimbulkan duplikasi data, silo data, dan pelayanan administrasi yang belum efisien. Penelitian menggunakan pendekatan kualitatif dengan rancangan studi kasus multisitus pada tiga desa yang dipilih melalui *purposive sampling* berdasarkan variasi tingkat kematangan digital, yaitu Desa Siangan (mapan), Desa Bakbakan (berkembang), dan Desa Serongga (rintisan). Data dikumpulkan melalui observasi, wawancara, dan studi dokumen, sedangkan perancangan arsitektur menggunakan TOGAF *Architecture Development Method* (ADM) yang mencakup tujuh fase, mulai *Preliminary Phase* hingga *Migration Planning*. Hasil penelitian berupa *blueprint* arsitektur enterprise yang menempatkan OpenSID sebagai *single source of truth* dan pusat integrasi layanan desa, didukung *API Gateway*, *Single Sign-On* berbasis *OAuth 2.0/OpenID Connect*, serta sinkronisasi data kependudukan. Pemodelan BPMN kondisi *as-is* dan *to-be* mengeliminasi tiga *bottleneck* layanan administrasi surat, sedangkan prioritas portofolio aplikasi ditentukan menggunakan McFarlan *Strategic Grid* dan dituangkan dalam *roadmap* implementasi 2027–2035 yang selaras dengan siklus RKP Desa–APBDes. Validasi melalui *Focus Group Discussion* (FGD) menunjukkan bahwa model layak diimplementasikan. Penelitian ini menyimpulkan bahwa TOGAF ADM mampu menghasilkan *blueprint* arsitektur *Smart village* yang sistematis dan kontekstual sebagai pedoman pengembangan tata kelola pemerintahan desa yang efektif, transparan, dan akuntabel. Penelitian selanjutnya dapat difokuskan pada pengembangan prototipe, evaluasi *user experience* Portal Layanan Mandiri dan *Dashboard Smart village*, kajian keamanan siber dan perlindungan data, serta perluasan model ke dimensi *Smart village* lainnya.

ABSTRACT

Candrawibawa, I Gede Angga (2026). *Development of a Smart village Model in the Gianyar Sub-district Based on a Smart city Approach Using the TOGAF Method. Thesis, Computer Science Study Program, Postgraduate Program, Universitas Pendidikan Ganesha.*

This thesis has been approved and examined by: Supervisor I: Dr. I Gede Aris Gunadi, S.Si. M.Kom and Supervisor II: Prof. Dr. Luh Joni Erawati Dewi, S.T., M.Pd..

Keywords: *Smart city, Smart village, Smart governance, Enterprise Architecture, TOGAF ADM, Architecture Blueprint, Gianyar Sub-district.*

This study aims to develop a Smart village model based on the Smart city approach by focusing on the Smart governance dimension in Gianyar District through the development of an enterprise architecture blueprint to guide village government implementation. The study was motivated by the fragmented implementation of OpenSID, Siskeudes, and Prodeskel, which has resulted in data duplication, data silos, and inefficient administrative services. A qualitative multi-site case study was conducted in three villages selected through purposive sampling based on different levels of digital maturity: Siangan (advanced), Bakkaban (developing), and Serongga (emerging). Data were collected through observations, interviews, and document analysis, while the architecture was designed using the TOGAF Architecture Development Method (ADM), covering seven phases from the Preliminary Phase to Migration Planning. The resulting enterprise architecture blueprint positions OpenSID as the single source of truth and the central integration platform for village services, supported by an API Gateway, OAuth 2.0/OpenID Connect-based Single Sign-On, and synchronized population data. BPMN modeling of the as-is and to-be business processes eliminated three critical bottlenecks in administrative letter services. Application priorities were determined using the McFarlan Strategic Grid and translated into an implementation roadmap for 2027–2035 aligned with the Village Government Work Plan (RKP Desa) and Village Budget (APBDes). Validation through Focus Group Discussions (FGDs) confirmed that the proposed model is feasible for implementation. The study concludes that TOGAF ADM provides a systematic and contextual enterprise architecture blueprint to support effective, transparent, and accountable village governance. Future research may focus on prototype development, user experience evaluation of the Self-Service Portal and Smart village Dashboard, cybersecurity and data protection, and the extension of the model to other Smart village dimensions.