INTISARI

Transformasi digital telah menjadi agenda strategis bagi organisasi sektor publik dalam upaya meningkatkan kualitas layanan, transparansi, dan akuntabilitas. Namun, implementasi transformasi digital di sektor publik menghadapi tantangan unik yang berbeda dari sektor swasta, termasuk kompleksitas regulasi, budaya birokrasi, keterbatasan sumber daya, dan resistensi terhadap perubahan. Penelitian ini bertujuan untuk menganalisis implementasi transformasi digital di sektor publik dengan mengambil kasus Direktorat Jenderal Perbendaharaan (DJPb) melalui sistem SPAN (Sistem Perbendaharaan dan Anggaran Negara) dan SAKTI (Sistem Aplikasi Keuangan Tingkat Instansi).

Penelitian ini menggunakan explanatory case study dengan mengacu pada Technology-Organization-Environment (TOE) Framework. Berbeda dari pendekatan deskriptif, penelitian ini secara spesifik menguji lima proposisi teoretis (P1-P5) yang dikembangkan untuk menjelaskan mekanisme kausal dan interaksi antar dimensi TOE dalam transformasi digital. Proposisi ini diuji melalui pattern matching dan explanation building menggunakan data kualitatif yang dikumpulkan dari wawancara mendalam dengan informan kunci di berbagai level (direktur, kepala subdirektorat, system analyst, business analyst, dan pengguna sistem), studi dokumentasi komprehensif, dan observasi partisipatif. Analisis data dilakukan secara interaktif mengikuti model Miles dan Huberman yang diperkuat dengan teknik pengujian proposisi ala Robert K. Yin,

meliputi reduksi data, coding berdasarkan proposisi, pattern matching, explanation building, dan penarikan kesimpulan.

Temuan penelitian menunjukkan bahwa keberhasilan transformasi digital DJPb dipengaruhi oleh interaksi kompleks antara faktor teknologi, organisasi, dan lingkungan. Dari dimensi teknologi, SPAN dan SAKTI telah mencapai tingkat digitalisasi 80% dengan *relative advantage* yang signifikan, terbukti dari pengurangan kebutuhan SDM sebesar 53,8% dan SLA ketersediaan sistem 99,9%. Namun, *complexity* sistem tetap menjadi tantangan yang dimitigasi melalui strategi pelatihan komprehensif dan *user experience* design yang baik. Dari dimensi organisasi, *top management support, change management* yang adaptif, dan pengembangan *absorptive capacity* terbukti menjadi faktor paling determinan. DJPb berhasil menerapkan "*Adaptive Phased Implementation Model*" yang meliputi fase *preparation*, pilot *testing*, familiarisasi, *rollout* bertahap, dan *stabilization*. Dari dimensi lingkungan, DJPb berhasil menavigasi kompleksitas regulasi melalui strategi "*preserve principles, adapt procedures*" dan membangun "*Strategic Vendor Partnership Model*" yang menggabungkan *structural, relational*, dan *cognitive governance*.

Analisis berdasarkan Teori Difusi Inovasi mengungkap bahwa atribut-atribut inovasi tidak bekerja secara independen, melainkan berinteraksi dalam pola yang kompleks. Penelitian ini mengidentifikasi empat jenis interaksi: (1) *trade-off relationship* antara *relative advantage* dan *complexity*, (2) *reinforcing relationship*

antara *compatibility* dan *trialability*, (3) *multiplicative effect* antara *observability* dan *relative advantage*, dan (4) *antagonistic relationship* antara *complexity* dan *mandatory nature of adoption*.

Kontribusi teoretis penelitian ini meliputi perluasan TOE *Framework* dengan menambahkan *data analytics capability*, *organizational agility*, dan *vendor governance mechanism* sebagai faktor kunci. Penelitian ini juga memperkaya Teori Difusi Inovasi dengan mengusulkan konsep-konsep baru: *engineered compatibility*, *temporal complexity, constructed trialability*, dan *engineered observability*. Secara praktis, penelitian ini memberikan rekomendasi untuk optimalisasi *data analytics capability*, penguatan *continuous improvement mechanism*, dan *sustainability planning* untuk vendor partnership bagi DJPb, serta panduan bagi K/L lain dalam mengadopsi model implementasi yang efektif.

Kata kunci: transformasi digital, sektor publik, TOE *Framework*, difusi inovasi, SPAN, SAKTI, Direktorat Jenderal Perbendaharaan, change management, adopsi teknologi mandatori

ABSTRACT

Digital transformation has become a strategic agenda for public sector organizations in efforts to improve service quality, transparency, and accountability. However, implementing digital transformation in the public sector faces unique challenges that differ from the private sector, including regulatory complexity, bureaucratic culture, resource constraints, and resistance to change. This research aims to analyze the implementation of digital transformation in the public sector by taking the case of the Directorate General of Treasury (DJPb) through the SPAN (State Treasury and Budget System) and SAKTI (Agency-Level Financial Application System) systems.

This research employs a qualitative approach with a single case study strategy. The theoretical framework used is the Technology-Organization-Environment (TOE) Framework to understand factors influencing technology adoption and implementation, and Rogers' Diffusion of Innovation Theory to analyze the process of innovation diffusion within organizations. Data were collected through in-depth interviews with 10 key informants involved in SPAN and SAKTI implementation, documentation study, and observation. Data analysis was conducted interactively following the Miles and Huberman model, including data reduction, data display, and conclusion drawing.

Research findings indicate that the success of DJPb's digital transformation is influenced by complex interactions among technology, organizational, and environmental factors. From the technology dimension, SPAN and SAKTI have achieved 80% digitalization with significant relative advantage, evidenced by a 53.8% reduction in human resource requirements and 99.9% system availability SLA. However, system complexity remains a challenge mitigated through comprehensive training strategies and good user experience design. From the organizational dimension, top management support, adaptive change management, and absorptive capacity development proved to be the most determinant factors. DJPb successfully implemented an "Adaptive Phased Implementation Model" encompassing preparation, pilot testing, familiarization, gradual rollout, and stabilization phases. From the environmental dimension, DJPb successfully navigated regulatory complexity through a "preserve principles, adapt procedures" strategy and built a "Strategic Vendor Partnership Model" combining structural, relational, and cognitive governance.

Analysis based on Diffusion of Innovation Theory reveals that innovation attributes do not work independently but interact in complex patterns. This research identifies four types of interactions: (1) trade-off relationship between relative advantage and complexity, (2) reinforcing relationship between compatibility and trialability, (3) multiplicative effect between observability and relative advantage, and (4) antagonistic relationship between complexity and mandatory nature of adoption.

The theoretical contribution of this research includes expanding the TOE Framework by adding data analytics capability, organizational agility, and vendor governance mechanism as key factors. This research also enriches Diffusion of Innovation Theory by proposing new concepts: engineered compatibility, temporal complexity, constructed trialability, and engineered observability. Practically, this research provides recommendations for optimizing data analytics capability, strengthening continuous improvement mechanisms, and sustainability planning for vendor partnerships for DJPb, as well as guidance for other ministries/agencies in adopting effective implementation models.

Keywords: digital transformation, public sector, TOE Framework, innovation diffusion, SPAN, SAKTI, Directorate General of Treasury, change management, mandatory technology adoption