

ABSTRACT

IOT GOVERNANCE TO SUPPORT ENERGYCO DIGITAL TRANSFORMATION BASED ON TRADITIONAL AND DEVOPS AMBIDEXTROUS COBIT 2019 PRINCIPLES

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The Rapid digital transformation in the energy sector drives the need for effective governance of new technologies such as the Internet of Things (IoT). This research aims to design an ambidextrous IoT governance that integrates the Traditional COBIT 2019 framework and the DevOps Focus Area. The case study was conducted at EnergyCo, a state-owned energy company in Indonesia that is undergoing digital transformation. A Design Science Research (DSR) approach was used with data collection methods in the form of semi-structured interviews and structured questionnaires to stakeholders, as well as validation through triangulation of internal documents such as annual reports, sustainability reports, and corporate governance guidelines. Seven governance components were analyzed to identify gaps and formulate improvements based on three priority Governance Management Objectives (GMOs), namely DSS05, APO01 and BAI02. The determination of GMOs considers COBIT design factors, DevOps focus areas, national regulations, namely SOE Ministerial Regulation No. PER-2/MBU/03/2023 and KOMINFO Regulation No. 5 of 2021 as well as literature on IoT governance. Recommendations include strengthening roles, strengthening structured policies and procedures to ensure quality review, monitoring IoT devices, and integrating Active Directory-based identity management solutions. Implementation of this model is projected to increase EnergyCo's IoT governance capability score from 3.40 to 3.60. This research contributes to the development of an IoT governance model that is auditable, balanced, and can be implemented strategically and sustainably in the energy sector.

Keywords: *Ambidextrous, IoT Governance, Digital Transformation, COBIT 2019, DevOps, DSS05, APO01, BAI02, Design Science Research, EnergyCo*