ABSTRACT

IOT GOVERNANCE FRAMEWORK FOR SMARTCO'S DIGITAL TRANSFORMATION IN LINE WITH AMBIDEXTROUS COBIT 2019 TRADITIONAL AND DEVOPS FOCUS AREA

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Digital transformation is a crucial strategic step for companies to enhance efficiency, competitiveness, and adaptability to technological changes. One of the key technologies driving this process is the Internet of Things (IoT), which enables automation, real-time data collection, and extensive device connectivity. However, the implementation of IoT also presents significant challenges, particularly in terms of security, privacy, and regulatory compliance, thus requiring adaptive governance. This study designs an IoT governance solution for SmartCo using an ambidextrous approach, which combines traditional COBIT 2019 (focused on control and compliance) with COBIT 2019 DevOps (emphasizing agility and the integration of development and operations). The Design Science Research (DSR) method is employed to design various artifacts, including security testing procedures, role structures for DevOps and data custodians, as well as formal documentation. Based on the analysis of design factors, regulatory alignment, and DevOps focus areas, three governance priorities are established: DSS05 (Managed Security Services), APO01 (Managed I&T Management Framework), and BAI02 (Managed Requirements Definition). All design outputs are compiled into an implementation roadmap. The estimated results indicate an improvement in SmartCo's governance capability from 3.50 to 3.60, reflecting enhanced IT governance maturity.

Keywords: IoT *Governance*, *Digital Transformation*, *Design Science Research*, COBIT 2019, *DevOps*, *Ambidextrous*, SmartCo.