ABSTRACT

BPRDCO SME DIGITAL TRANSFORMATION BY DESIGNING INFORMATION SECURITY USING ISO 27001:2022

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In line with the advancements of the fourth industrial revolution, organizations like BPRDCo must undergo Digital Transformation (DT) to remain competitive. However, the primary challenge in this process is suboptimal information security, often a critical factor in DT failures. Previous studies highlight the importance of ambidextrous information security management (a combination of traditional and agile methods) for large banks as one of the seven key mechanisms for DT success, particularly in data management and information security. However, this approach has not been proven effective for small banks like BPR. Therefore, this study aims to develop and design an information security management solution that prioritizes SMEs organizations, estimates the enhancement of capabilities, and maturity levels to support DT success. The research employs the five stages of Design Science Research (DSR), including problem identification, requirement specification, design and development, demonstration, and evaluation. Data were collected through semi-structured interviews and document analysis, then analyzed using the ISO 27001:2022 Information Security Management System (ISMS) framework. Further risk analysis and mapping against previous studies identified PDCA controls and Annex A as priorities for BPRDCo. Based on the identified gaps in implementing these controls, essential solutions were designed following the ISMS code of practice. These recommendations were then formulated into an implementation guide, serving as a priority framework for BPRDCo, with the expectation of enhancing readiness for full ISMS implementation and certification in critical areas to support DT success. This research contributes to the knowledge of information security management for DT in small banks as a case study for SMEs and offers practical implications for the management of similar organizations.

Keywords*: Digital Transformation, Design Science Research, Information Security, ISO 27001:2022, BPRDCo.*