

ABSTRACT

In the digital era, the telecommunications sector is one of the main sectors that relies on solid IT infrastructure to provide reliable services to customers. PT XYZ is one of the largest telecommunications operators in Indonesia which is currently carrying out a transformation by conducting a feasibility analysis in the process of migrating to cloud computing. The challenges faced include high infrastructure costs, lack of scalability and flexibility, limited innovation in meeting increasing consumer needs, difficulties in evaluating non-financial benefits, and the risk of wrong and unplanned decisions. This research was conducted to assess the feasibility of cloud computing migration using the cost-benefit analysis method so that the strategy carried out is in accordance with the stated objectives. This analysis evaluates the use of cloud computing by measuring the costs incurred versus the benefits received. The feasibility assessment is measured using several categories, including operational excellence, security, reliability, productivity, and cost optimization. Data collection was carried out through interviews and direct observation of organizations to obtain pain points related to cloud computing migration. Testing was carried out to ensure this research was valid and reliable. The results of this research reveal that migrating to cloud computing using the cost-benefit analysis method can provide significant benefits to telecommunications companies in terms of operational efficiency, saving costs, increasing scalability and flexibility. However, the cost-benefit analysis results also show that this migration's success is highly dependent on factors such as mature strategy and planning, application compatibility, effective change management, performance monitoring and management, and support from executive leadership. It is hoped that this research can improve the quality of assessing the feasibility of cloud computing migration and provide strategic suggestions for implementation in the telecommunications industry.

Keywords— *Telecommunications industry, Cost-benefit analysis, Migration of cloud computing, IT infrastructure, Total Cost of Ownership (TCO)*