

ABSTRACT

This research investigates the factors affecting the prolonged system restoration when NICTBB services are affected by breakdown incidents. The main goal is to reduce the time taken to restore NICTBB services.

The National ICT Broadband Backbone, NICTBB, is the government owned backbone infrastructure. The NICTBB aims to increase the usage of ICT for equitable and sustainable socio-economic development and accelerate poverty reduction. Provisions of ICT services require infrastructures that are stable, reliable and available throughout their life span. Failures and outages of the infrastructure are intolerable.

The study used both primary and secondary methods in data collection. Data was collected from TTCL, Ministry responsible for communication and information technology and other Telecoms operators who are the key customers of NICTBB infrastructure. Primary data were collected using questionnaires and analyzed by factor analysis and regression analysis. The confirmatory factors analysis was performed to confirm the factors affecting NICTBB restoration time and the strategies to improve restoration time. The current restoration time was confirmed by the analysis of secondary data.

The study revealed that it takes more than six hours to restore NICTBB services. The locality and accessibility to fault location, availability and readiness of restoration team and unsatisfactory preventive maintenance services were found to prolong the restoration time. To improve NICTBB restoration time, there is a need to enhance NICTBB operations and maintenance strategy. The strategy will enable NICTBB manager to align its internal processes to prioritize NICTBB maintenance works and provide key resources including availability of funds, proper training and availability of working tools and test gears at all maintenance centers.