

## ABSTRACT

Indonesia is being one of Asia's countries with the significant growth of internet users that has penetrated to 12.5 percent of the population. To meet the challenges of the growing demand, PT Telekomunikasi Indonesia, Tbk have broadened their business by launched Speedy, their product of internet access service, in 2006. To maintain the service quality, PT Telkom has set a standard time of Speedy fault handling process which is not more than 3x24 hours. However, based on the company's record from October 2009 until March 2010, there are 2.058 problems that handled longer than SLG. Problem handlings that cannot meet the guarantee indicate that the process is not well performed. Thus evaluation needed to identify the causes by using Six Sigma method in order to minimize the *defect* in fault handling process. Another objective of this research is to propose some improvement actions for improving the service quality of Speedy fault handling Process.

Six Sigma is a structured methodology to improve business processes that is focused on reducing process variation and defects. Six Sigma, in this research, is conducted in four phases i.e. Define, Measure, Analyze, and Improve. At the define phase, voice of customer is collected to identify customers' needs and critical to quality (CTQ) is identified. The current performance of Speedy fault handling process could be discovered at the measure phase. In the analyze phase, the causes of defects are identified by using root cause analysis. After that, in the improve phase, some improvements are proposed in order to reduce defects and improve the quality of Speedy fault handling process.

The result of this research shows that Speedy fault handling process has 22.470 DPMO and 3.51 sigma level. Beside that, Speedy fault handling process is classified as an unstable process because there are 14 from 25 samples which are out of the control limits. The causes of defect in Speedy fault handling process are derived from many factors, such as procedure, personnel, equipment and the other external causes. To improve the performance, this research recommends some improvement actions, such as streamline the non added activities, develop the skill of fault handling process staffs by designing training and upgrading, and improve the monitoring action and maintenance for Speedy equipment.

For further research, benchmarking with telecommunication provider or another internet service provider could be performed while creating some recommendations. Besides, further research could be conducted until control phase thus the achievement of the recommendations could be proven.

Key words : Quality, Six Sigma, Speedy Fault Handling Process, CTQ, Process Capability & Stability