ABSTRACT

With regard to the Supply Chain concept, every company should give attention to the information flow and coordination among trading partners. A lack on it will make a distortion of information, one of this kind of distortion is a forecast unreliability. Ordinarily, safety-buffer stock will be kept in every channel of Supply Chain to anticipate the forecast unreliability. On the other hand if there is a significant forecast unreliability, safety-buffer stock strategy will not be effective and even it will make substantial effect on the financial aspect.

This study will focus on the forecast accuracy, which is exclusively to improve it's performance (~30%) by the end of December 2002. And DMAIC (Define, Measure, Analyze, Improve, and Control) as a close loop improvement phase will be implemented to achieve that goal. In the Define Phase, the problem will be well defined and the forecast system will be described clearly. For the Measure (M) Phase, the key characteristic of quality will be defined, in this study forecast accuracy is the key that will be measured based on 4 primary metrics, the first primary metric is Product Family Measurement, the second is Mix Forecast Measurement, the third is Individual Item Forecast Measurement, and the last is Overall Forecast Measurement. The result of measurement will be assumed as a baseline performance, from the result of above measurement and combined with several discussion with Company’s Management, can be resolved that forecast accuracy should be improved to support the smoothness of information and goods flow in the Supply Chain area. In the Analyse Phase, the root causes of the forecast unreliability will be defined through some discussion with the Management of Company and Distributor. After that the alternative of improvement plans will be distinguished as well as their prioritization, in this case Failure Mode and Effect Analysis (FMEA) will be fully applied, then followed by improvement plans implementation stage. During the implementation stage, performance of forecast accuracy will be continuously measured and control based on above primary metrics.

During and after that improvement plans implementation, can be found an improvement at the trend of forecast error percentage. And to keep this performance, company will release official procedure that will be assigned in every related part and will regularly audited.

Keywords: Forecast Accuracy, Six Sigma, DMAIC, Product Family Forecast Measurement, Mix Forecast Measurement, Individual Item Forecast Measurement, Overall Forecast Measurement, FMEA.