

A Study of Maintenance Performance Indices for Taipei Metro Electrical Multiple Unit Using Balanced Scoring Card Method

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ABSTRACT

This dissertation first sets up maintenance performance indices(MPI) using balanced scoring card method, then by polling gains opinions from manager and employee. After data collection and analysis, 20 MPI's are selected and the way how to implement and its associated procedures are developed.

The questionnaire for this study was analyzed to obtain four core performance indices; they are financial items as cost, equipment benefit, and maintenance personnel efficiency, customer's satisfactory items as safety and amenity, internal procedural items as reliability and maintenance works accomplishing percentage, and developing items as employee learning and expertise developing. Single factor variation analysis shows no apparent difference exists between polled manager or

employee no matter their duties, years of experience, or education are.

Electrical Multiple Units(EMU) maintenance in Taipei Metro is divided into two categories: schedule and unscheduled, with Repair Request/Work Order as the main recording documents and important information from which MPI's can be established.

As the control center of Rapid Transit System, Operating Control Center(OCC) comprehensively records every aspect of system operation conditions, including available train no., accumulated mileage, Repair Request no, and event records, etc. A variety of MPI's for maintenance department can be deducted from these records.

Though various MPI's can be achieved from Repair Request/Work Order and operating records, it is still insufficient. To enhance the usefulness and representative of MPI's, and effectively respect the appropriateness of maintenance strategy, this dissertation proposes to, aside from those now existing, suitably amend and add statistical/analytical sheets to have an effective and integrated maintenance management for Taipei Metro EMU.

Key words: MRT, Maintenance Performance Index, Balanced Scoring Card