

Formalization of Tacit Knowledge of Field Engineers using Statistical Occurrence Prediction Model of Point Machines Lock Adjustment

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This study aims to estimate a mixed Weibull hazard model from inspection records of lock adjustment, which are a major inspection item for point machines with a short inspection cycle. Furthermore, we conducted a survey to verify whether tacit knowledge regarding lock adjustment held by engineers has been formalized through the statistical model. The result clarified that the characteristic of lock adjustment, wherein one adjustment triggers the next, has been formalized as acceleration parameter estimates for an initial defect type. In addition, ten of the sixteen point machines with large heterogeneity parameter estimates, were identified as being subject to frequent adjustments. This confirms that some of the explicit knowledge is consistent with the tacit knowledge of engineers.