

The implementation of technical practices and human factors of the toyota
production system in different industries

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Abstract

The Toyota production system (TPS), or lean production, has been associated with many benefits for manufacturing firms that implement the system. However, to implement the TPS successfully, it is necessary to integrate the so-called “hard side” of the system (that is, the technical aspects of material handling) with the “soft side” of the program (that is, the aspects associated with human factors). The present study makes a contribution to such a holistic view of the TPS by proposing an integrated model that consists of the technical aspects of the TPS, together with elements associated with total quality management (TQM), human resources management (HRM), and certain identified “people factors.”

The study then uses structural equation modeling (SEM) to test this holistic model using data obtained from a questionnaire survey of 153 Taiwanese manufacturing firms. The empirical study confirms the appropriateness of the causal model, which is evaluated by several goodness-of-fit methods. The study confirms the proposition that the inclusion of the “people factors” together with TQM and HRM significantly improves the realization of benefits associated with the TPS practices of “just-in-time” (JIT) and “autonomation.” The conclusion is that such an integrated model provides a much more effective “lean system” and has the potential to produce significantly enhanced benefits for firms that

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Keyword : Toyota production system; Lean production; Total
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