

## **Validating the relationship between lean dimensions and wastes: a pilot study of Malaysian industries**

### **ABSTRACT**

Lean production or lean manufacturing has become one of the most well-known paradigms for the elimination of waste in the manufacturing industries. Past research in lean shows that there are some set of techniques, tools and practices which have been applied to certain levels across firms according to the respective understanding of lean production of the persons in charge of lean initiatives. This scenario led to various versions of leanness measurement in the manufacturing industry. This paper describes a pilot test analysis in validating a conceptual framework for measuring leanness in the manufacturing industry. This conceptual framework has been developed based on a new definition of lean in the context of Malaysian industries. The right perception of lean is crucial in order to develop the right measurement of true lean. An in-depth study of literature consisting of books, journals and conference articles contribute to the development of the conceptual framework. There are seven main dimensions in measuring leanness in lean manufacturing practices such as manufacturing process and equipment, manufacturing planning and scheduling, visual information system, supplier relationship, customer relationship, workforce management, and product development & technology. In addition, the framework also shows how lean dimensions in the manufacturing system relate to eight types of wastes. A questionnaire has been developed in this study to collect data from the respondents as part of the framework validation process. Descriptive analysis is used to compute the evaluation of data that have been rated by the respondents by using the five-point Likertscale. Respondents of this study are experts from the domain of lean manufacturing in Malaysia.

**Keyword:** Lean manufacturing, Lean production; TPS; Leanness; Lean indicators; Lean assessment; Wastes; Muda