

Evaluation of Experimental Plans Using Factor Relationship Diagrams

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Abstract

Historically, technical personnel in organizations have been taught statistical tools such as Statistical Process Control (SPC), Design of Experiments (DOE), Components of Variation (COV), multiple regression and others for the purpose of process improvement. With the recent interest in Six Sigma (and its derivatives), new attention has been given to these statistical tools, with a focus on DOE. In general, the managers of technical personnel are not trained with the same depth of training provided to their people. This truth is unfortunate, as these managers are responsible for resource allocation, project selection and guidance, and the evaluation and development of technical personnel. It is a gross under-utilization of resources when the technical manager is *the* subject matter expert. In this paper, we discuss the use of a visual tool, the Factor Relationship Diagram (FRD), to facilitate technical managers involvement in evaluating DOE plans and discuss the types of questions they must ask. Of course understanding how to communicate the experiment plan to others is an important task for the engineer.