Illustration of *Six Sigma*· *A*ssistance on a Design Project

Pierre Bayle, Mike Farrington, and Brenner Sharp
Whirlpool Corporation
Cheryl Hild and Doug Sanders
Six Sigma Associates

Key Words: Six Sigma, statistical methods, design engineering, analytical modeling, simulation, design of experiments (DOE)

Abstract

Organizationally, for Six Sigma types of approaches to be sustainable, there must be an awareness that statistical methods are most useful when engineering theory, process and product knowledge, and statistical thinking and methods are merged. The authors illustrate this truth via a project discussion on the design and development of a brake subsystem for a new product. This project is used to clearly illustrate the role of statistical methodologies in facilitating the design process by validating engineering theory and providing scientific, empirical feedback to the designers. Just as importantly, the case study is used to discuss the boundaries of the contributions that statistical methodologies can provide and the criticality of engineering theory in product design.

· Six Sigma is a registered trademark of Motorola, Inc.