The variation management framework (VMF): A unifying graphical representation of robust design

In this article a framework for robust design and variation management is proposed by combining central models to Robust Design, namely, the Quality Loss Function, the Transfer Function, and the Domains of Axiomatic Design. The Variation Management Framework (VMF) shows how variation can be mapped from production variation right through to the quality loss perceived by the customer for a single characteristic chain. Seven levers which can be activated to increase product quality are described and positioned on the VMF and variation metrics are proposed.