

An integrated innovation design approach- By combined with QFD, TRIZ and  
FMEA

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### Abstract

QFD is a customer-oriented approach, a systematic process for motivating business to focus on her customers. But, among the design process, a designer would hardly create innovative concept and solve the conflicting problems if no systematic process to be followed. Recently, TRIZ was developed to assist designer in finding innovative solutions to technical problems in product development processes, and has been proved that TRIZ is a powerful method. A few literatures have combined QFD with TRIZ, However, These researches do not consider the potential problems in the production.

This research describes a new approach, which systematically combine QFD, TRIZ with FMEA and not only enables the effective and systematic creation of technical innovation for new products, but also reflect the needs of customers and consider the potential failure mode in production simultaneously. This approach, the concept of Innovation design, voice of customer and production capability all are comprehended, furthermore it's easy to be understood and implemented.

Keyword : Innovation Design 、 TRIZ 、 QFD 、 FMEA