

## Implementing Quality Function Deployment Tool for a Customer Driven New Product Development in a Kuwait SME

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**Abstract :** New product development (NPD) is the complete process of bringing a new product to the customer by integrating the two broad divisions; one involving the idea generation, product design and detail engineering; and the other involving market research and marketing analysis. It is a common practice for companies to undertake some of these tasks simultaneously (concurrent engineering) and also consider them as an ongoing process (continuous development). The current study explores the framework and methodology for a new product development process utilizing the Quality Function Deployment (QFD) tool for bringing the customer opinion into the product development process. An elaborate customer survey with focus groups in the region was carried out to ensure that customer requirements are integrated into new products as early as the design stage including identifying the recognition of need for the new product. A QFD Matrix (House of Quality) was prepared that links customer requirements to product engineering requirements and a feasibility study and risk assessment exercise was carried out for a Small and Medium Enterprise (SME) in Kuwait for development of the new product. SMEs in Kuwait, particularly in manufacturing sector are mainly focused on serving the local demand, and often lack of product quality adversely affects the ability of the companies to compete on a regional/global basis. Further, lack of focus on identifying customer requirements often deters SMEs to envisage the idea of a New Product Development. The current study therefore focuses in utilizing QFD Matrix right from the conceptual design to detail design and to some extent, extending the link this to design of the manufacturing system. The outcome of the project resulted in a development of the prototype for a new molded product which can ensure consistency between the customer's requirements and the measurable characteristics of the product. The Engineering Economics and Cost studies were also undertaken to analyse the viability of the new product, the results of which was also linked to the successful implementation of the initial QFD Matrix.

**Keywords :** Quality Function Deployment, QFD Matrix, new product development, NPD, Kuwait SMEs, prototype development

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