# Integrating Expert Knowledge in Product Design with Complex Data Structures

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**Abstract:** The present paper proposes a new technique to integrate expert judgment in new product development decision process. In particular within the garment industry main product evaluation data come mainly from expert or consumer panels. Treatment of aggregate data could be difficult as some measures seem to be contradictory. The sequential fitting (SEFIT) approach is applied to include the whole set of data. SEFIT methods attempt to explain the variability in the initial data (commonly defined by a sum of squares) through an additive decomposition terms in the model. Data form expert evaluation of a set of products, concerning six predetermined fashion themes (design criteria), are treated to determine the importance level of each criterion.

*Keywords:* decision making, product strategy, regression analysis, sequential algorithm, weighting functions, membership functions.