

## INTISARI

Pertumbuhan industri kecil menengah (IKM) yang signifikan diikuti dengan berbagai kendala yang dihadapi pelaku. Para pelaku industri membutuhkan peningkatan kemampuan dalam rangka membangun daya saing IKM. Daya saing melalui pengembangan inovasi dan produk dianggap sebagai alat yang strategis. Produk baru yang sukses di pasar persaingan membutuhkan proses pengembangan produk yang baik. Sehingga dibutuhkan sebuah kerangka kerja perencanaan sebagai sarana pengembangan produk baru untuk mendukung kesuksesan produk di pasar persaingan.

Penelitian ini menerapkan fase 1 *quality function deployment* dengan metode *house of quality*, dan dekomposisi fungsional yang dilakukan secara paralel dengan pendekatan *pugh selection matrix*, *function means tree* dan *axiomatic design*. Penerapan metode dilakukan pada industri kreatif kategori fashion, dengan produk tas tangan dan sarung tangan olah raga yang ada di Yogyakarta.

Pengembangan kerangka kerja mengacu pada tahapan design science research, yang menghasilkan tahapan deskripsi konsep teknis dan diikuti tahapan dekomposisi fungsional konsep teknis. Hasil evaluasi penerapan dekomposisi fungsional menjelaskan bahwa *pugh selection matrix* mampu menyaring dan menilai setiap konsep teknis, namun tidak dapat mendeskripsikan setiap konsep teknis ke dalam domain fungsi dan sarana yang lebih detail. Untuk menghadapi keterbatasan tersebut, dilakukan penambahan metode secara paralel. Metode tersebut terdiri dari dekomposisi konsep berdasarkan fungsi dan sarananya dengan pendekatan *function means tree*, dan sintesa solusi teknis dengan pendekatan *axiomatic design*. Sintesa solusi teknis tersebut dapat memberikan informasi posisi sarana terhadap fungsi secara spesifik dan independen, sehingga sarana tidak saling tumpang tindih dan proses desain lebih mudah ditangani.

Kata kunci: industri kecil menengah, *quality function deployment*, *pugh selection matrix*, *function means tree*, *axiomatic design*.

## **ABSTRACT**

Significant growing of small medium enterprise (SME) followed by the constraint faced by industrial players. Industrial players need to increase their capacity in order to develop competitiveness of SME. Competitiveness, through innovation and product development, is considered as a strategic tool. Success of new product in the competitive market needs a good product development process. Thus, a planning framework is needed as a new product development tools to support the success of product in the market competition.

This research applied first phase of quality function deployment by house of quality method, and implementation of functional decomposition that was done simultaneously by pugh selection matrix, function means tree and axiomatic design approach. The implementation were conducted on the creative industry of fashion category in Yogyakarta, with handbags and sport gloves as the products.

Framework development referred to the stages of design science research, which produced the technical concepts description step and followed by functional decomposition technical concepts. The evaluation of functional decomposition implementation explained that the pugh selection matrix was able to screen and score technical concepts, but could not describe technical concepts into the detailed domain functions and means. To overcome these limitations, the parallel method was necessary to be added. The parallel method consist of concept decomposition based on the function and the means with the function means tree approach, and technical solution synthesis with the axiomatic design approach. The technical solution synthesis could provide the position information of the means to the specific and independent functions, therefore the means would not be overlap and the design process would be easier to handle.

**Keywords:** small medium enterprise, quality function deployment, pugh selection matrix, function means tree, axiomatic design.