Penilaian kompleksitas produk presed part dan analisis pengaruh terhadap kemampuan teknologi = assessment of pressed part produt complexity and analysis of product complexity influences to technological capability

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Abstrak

Indeks kompleksitas produk merupakan indikator dari suatu produk manufaktur yang menggambarkan produk didesain serta diproduksi dengan tingkat kerumitan atau kompleksitas tertentu. Pada penelitian ini dilakukan penilaian kompleksitas produk terhadap beberapa produk pressed part khususnya produk komponen otomotif. Penilaian dilakukan terhadap variabel kompleksitas produk pressed part berdasarkan aspek feature dan spesifikasi produk yaitu material, shape, geometri, tolerance, general surface finish dan hardness. Metode yang digunakan adalah metode yang diperkenalkan oleh ElMaraghy dan Urbanic dimana penilaian dilakukan berdasarkan atas jumlah informasi, variasi informasi dan isi informasi suatu produk. Selanjutnya, dilakukan analisis pengaruh variabel kompleksitas produk pressed part terhadap variabel kemampuan teknologi yaitu technoware,humanware, nfoware dan orgaware. Metode yang digunakan adalah analisa regresi linear berganda. Hasil penilaian kompleksitas produk menunjukkan bahwa produk Bracket, FRT Fog Lamp A LH mempunyai indeks kompleksitas produk sebesar 6,18. Produk Bracket, FRT Fog Lamp B LH mempunyai indeks kompleksitas produk sebesar 6,13. Produk Bracket, FRT Bumper C LH mempunyai indeks kompleksitas produk sebesar 4,78. Dan produk Bracket Air Box RH mempunyai indeks kompleksitas produk sebesar 7,06. Sedangkan hasil analisis regresi linear berganda menunjukkan bahwa technoware dipengaruhi oleh material, shape dan geometry. Humanware dipengaruhi oleh material, shape dan tolerance. Infoware dan orgaware dipengaruhi oleh shape.
<hr>Product complexity index is an indicator of a manufacturing product that describes the products are designed and manufactured with a level of complexity. In this research, assessment of product complexity was conducted on pressed part products, particularly on automotive component products. Assessment conducted on the variable of pressed part product complexity based on features of the products and specifications of materials, shapes, geometry, tolerance, general surface finish and hardness. The method in this project was introduced by ElMaraghy and Urbanic, where the assessment is based on absolute quantity information, diversity of information, and content of product information. Furthermore, the influence of pressed part product complexity variables was analyzed again technological capability variables such as, technoware, humanware, infoware, and orgaware. The method for research analysis was multiple linear regression analysis. The results of product complexity assessment indicated that the product of Bracket, FRT Fog Lamp A LH had a product complexity index of 6.18. Product of Bracket, FRT Fog Lamp B FRT LH had a product complexity index of 6.13. Product of Bracket, Bumper C LH had a complexity index of 4.78 products. And product of Air Box Bracket RH had product complexity index of 7.06. The results of multiple linear regression analysis showed that technoware influenced by the material, shape and geometry. Humanware influenced by the material, shape and tolerance. Infoware and orgaware influenced by the shape.