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Developing Structured Sizing Systems for Manufacturing Ready-Made Garments of Indian Females Using Decision Tree-Based Data Mining

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Abstract : In India, there is a lack of standard, systematic sizing approach for producing readymade garments. Garments manufacturing companies use their own created size tables by modifying international sizing charts of ready-made garments. The purpose of this study is to tabulate the anthropometric data which covers the variety of figure proportions in both height and girth. 3,000 data has been collected by an anthropometric survey undertaken over females between the ages of 16 to 80 years from some states of India to produce the sizing system suitable for clothing manufacture and retailing. This data is used for the statistical analysis of body measurements, the formulation of sizing systems and body measurements tables. Factor analysis technique is used to filter the control body dimensions from a large number of variables. Decision tree-based data mining is used to cluster the data. The standard and structured sizing system can facilitate pattern grading and garment production. Moreover, it can exceed buying ratios and upgrade size allocations to retail segments.

Keywords : anthropometric data, data mining, decision tree, garments manufacturing, sizing systems, ready-made garments
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