

Cosmetics purchasing behavior - An analysis using association reasoning  
neural networks

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Abstract

The research objective is to propose a novel association analysis approach using association reasoning neural networks (ARNN) to discover the association rules from cosmetics purchasing. ARNN is modified from multi-layered perceptron and back-propagation algorithm. The number of association rules is controlled by the rule threshold and the number of hidden units. To explore the possibility of producing useful and meaningful association rules using ARNN, our study uses the practical cosmetics transaction data. The results show (1) the predicted output values of ARNN are close to their desired confidence values, (2) reducing the number of hidden units of ARNN can inhibit the generation of association rules with low support, and (3) ARNN has the ability of discovering the cohesion and expansion commodities and this information could be used to make pricing strategy. Therefore, ARNN could be a promising alternative approach for association analysis.

Keyword : Data mining; Artificial neural network; Association rules;  
Cosmetics