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产品创新开发技术

基于改进BASS模型的短生命周期产品需求预测模型

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Demand forecasting model for short life cycle products based on improved BASS model

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摘要 针对短生命周期产品需求预测中历史数据缺乏、需求影响因素考虑不充分导致的预测精度较低等问题,提出一种改进的BASS模型,用于短生命周期产品需求预测。提出基于特征重要性的产品相似度度量方法,应用模糊聚类—粗糙集实现了产品相似特征权重分配|利用系统相似度量方法度量了产品相似性,为相似产品历史销售数据的获取及整理、相似产品权重的确定提供了依据。综合考虑消费者偏好和季节对需求预测的影响,对BASS模型进行改进,提出一种应用于短生命周期产品需求预测的改进BASS模型。以某手机需求预测实例验证了该方法的科学性和有效性。

关键词 : 短生命周期产品, 产品相似度, BASS模型, 需求预测

Abstract : Aiming at the problem that low forecasting accuracy leaded by historical data deficiency and demand factors consideration insufficiency in demand forecasting of short life cycle products,an improved BASS model for demand forecasting of short life cycle products was proposed.The product similarity measure method based on importance of features was put forward,and the weight distribution of products similar features was achieved through the application of fuzzy clustering-rough sets.The similarity of product was measured by the system similarity measure method,which provided evidences for the acquisition and consolidation of similar products'historical sales data and the determination of similar products weights.By considering the influence of consumer preferences and seasonal factors on demand forecasting,the BASS model was improved,and a demand forecasting model for short life cycle products based on improved BASS model was proposed.With an example of demand for a mobile phone forecasting,the scientificity and validity of proposed method was verified.

Key words : short life cycle products product similarity BASS model demand forecasting

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