عنوان مقاله:

Developing a model for managing the risk assessment of import declarations in customs based on data analysis techniques

محل انتشار:

فصلنامه پیشرفتهایی در ریاضیات مالی و کاربردها, دوره 7, شماره 4 (سال: 1401)

تعداد صفحات اصل مقاله: 24

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خلاصه مقاله:

In customs management, the main problem is balancing the needs of trade facilita-tion as a process of simplifying and accelerating foreign business on the one hand and countering illegal trade, reducing government revenue, capital sleep and the level of controls and interventions on the other. Also, due to the financial crisis in recent years, risk management has been reconsidered, although this attention is related to various financial branches. Since risk analysis and identification is the main component of risk management, developing a suitable model for data analysis is of particular importance. The purpose of this study was to use data data analysis techniques to develop an intelligent model to timely predict the risk of import declarations in customs and thus prevent irreparable losses. In this study, data analysis techniques have been used according to the statistical population which is data-driven. Statistical data were extracted from www.eplonline.ir with ۵۷۵۰۰۶ import declarations of all Iranian customs during ۲۰۱۹-۲۰۲۰. having pre-processed and prepared the data using PCA, LDA and FastICA methods, attribute reduction and effective attribute extraction were performed using ۱۴ data analysis algorithms. Using Python software, algorithms were trained and modeled with ۸۰% of the final data. Then, ۱۴ obtained models were tested and validated with ۲۰% of the data. Finally, the results of these models were compared with each other and the model obtained from the random forest algorithm was selected as a comprehensive model for predicting and determining the level of risk of import declarations at customs.

کلمات کلیدی:

Risk, risk management, Data Analysis, Customs, import declaration

لینک ثابت مقاله در پایگاه سیویلیکا:

https://civilica.com/doc/1509682