

システム情報工学研究科修士論文概要

年 度	平成 24 年度	学位名	修士(ビジネス)
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論文題目 Development of Sales Forecasting System for Management of Shopping Centers (ショッピングセンターの管理に関する売上予測システムの開発)			
論文概要 Shopping Center (SC), since it appeared in 1920s in the US, has been favored by more and more people at all ages, due to its large area, variety and other features. Nowadays, SC has already become a necessary part of people's daily life. With the rapid growth of SC as a new concept, a lot of problems about the management of SC presented. Accuracy sales forecast is not only able to provide accurate and effective data for budget reports to financial department, but also to control stock so as to control cost most effectively; meanwhile, it plays an important role on the operation and management of supply chain. In thesis analysis, taking a Tokyo SC as an example, sales forecasting system was developed, using the available collected data from Company X. The main forecasting approach in this thesis is ARIMA model and Multiple Regression analysis. ARIMA model is a significant milestone in time series analysis, propounded originally by Box and Jenkins in 1976. Multiple Regression analysis is an effective technique in multi-variable analysis. However, both of the mentioned approaches still have unavoidable errors in forecasting procedure, which is undesirable for managers of SC. The main purpose of this thesis is to build a hybrid model of ARIMA model and multiple regression model, which is not only has higher forecast accuracy than a single one but also has a relatively stable performance in forecasting. The combining approach is based on optimal linear weighted combination theory. Experimental results indicated that the hybrid model outperforms any single one and it can be applied to a SC management.			
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