

# Time series modeling technique essay sample



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Abstract: sales forecast enable companies to make an informed business decision and predict short-term and long-term Performance. Sales forecasting system model based on Data mining, Grey -Markov prediction model, The Lead drove model, The opportunity drove model, The opportunity stages are driven, model. The time -series of sales are modeled multilayer perception network by using the backpropagation algorithm. For enhancement back -propagation algorithm has been two different manners such as serialized and parallelized. In this proposed model researcher define the forecasting goal, loading data, cleaning data, analysis of data, select the best model of the forecast, predicting the business problem statement related to forecast and predict the forecasting value.

Keyword's —sales forecast, time series, ANN, Data mining, backpropagation.

## **Introduction**

A sales forecast is an estimation of sales volume that a company can expect to attain within the plan period. A sales forecast is not just a sales predicting; it is the act of equal opportunities with the marketing efforts.

Good forecasting can help you develop and improve your strategic plans by increasing your knowledge of the marketplace such as sales planning, demand forecasting, inventory controls, supply chain management and marketing.

Sales forecasting uses a model of time series forecasting to forecast future events based on known past events to Predict data points before they are measured. Time series modeling technique is used to model a set of sales data in which seasonality causes distinct spike peaks.

Neural Networks can be used easier for the prediction of chaotic and noisy time series than statistical methods because they can learn the system dependencies on Their own [1].

Predictive analysis can be applied to any unknown Whether it be in the past, present or future. Predictive analysis technology that learns from experience (Data) to predict the future behavior of individuals to drive better decisions.

Time series models estimate difference equations containing stochastic components. Two commonly used forms of these models are autoregressive models (AR) and moving average (MA) models.

The Research Of Sales Prediction System

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### **Literature Survey /Previous Work**

In this paper, the researcher presented the time needed backpropagation algorithms for batch learning implementation and calculation of the matrix products (Neurons) in two different variants serialized and parallelized.

Although we only considered the trend component of the keyword frequency time series, for some topical keywords the fluctuation component of the keyword frequency time series from social media posting related to the predicted target brand may tend to show a high correlation with the fluctuation component of the e-sales history time series of the target brand[2].

Frank M. Thiesing, Ulrich Middelberg, Oliver Vornberger, [1], " The time-consuming backpropagation learning has been serialized and parallelized, another the approach releases the relevant time series take n into consideration".

Hyung -il Ahn, W. Scott Spangler, IBM Researcher - Almaden San Jose, USA[2], " The trend component of the keyword frequency time series and the fluctuation component of the frequency time series was a significant correlation between the monthly auto sales and forecast the sales.

TSAN -MING CHOI, CHI -LEUNG HUI, YONGYU[3], " In this paper sales data forecasting for the time series the methods of Artificial Intelligent (AI) in which a research agenda for studies around intelligent forecasting for the prediction of sales.

Yu -Shui Geng, Xin -Wu Du[4], " To verify the the correctness of the prediction system model, Eclipse is used as the integrated development environment, Based on the available data mining tools and prediction algorithms, this The article presents a sales forecast system model and Grey - markov prediction model is taken as an example to verify its feasibility theoretically.

Robert Fildes, Stuart Bretschneider, Fred Collopy, Michael Lawrence, Doug mark a. moon[5], " The forecasting of sales, it looks at business forecasting from a macro perspective by suggesting a way to audit all prediction Activities within an organization. The majority of work in forecasting, it does not focus on a particular forecasting the issue, but looks at business forecasting in a more holistic way.

## Conclusion

In this paper, we have reviewed the intelligent fast forecasting and sales time series, the artificial neural networks are applied to short-term forecasting problems of product sales based on social media analysis and time series analysis. This article presents a sales forecast system model And Grey - Markov prediction model, ETL ( EXTRACT - TRANSFORM -LOAD) tool are used in the integrated Development environment. The use of feedforward multilayer Perceptron networks with one hidden layer and back - Propagation training method. All parallelized and serialized algorithm are implemented. Also, the approach to reduce training time is to minimize the number of input neurons.

## References

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