ABSTRAK

Nama : Arief Purnama L.K.
Program Studi : Magister Manajemen
Judul : Pendekatan *Artificial Neural Network* Metode *Backpropagation* Dalam Pemodelan Pergerakan Harga Saham, Studi Pada Kemampuan Ketepatan Memprediksi Pergerakan Saham-saham Indeks LQ45 Menggunakan *Artificial Neural Network*.

Tujuan dari tesis ini adalah untuk berkontribusi dalam pengembangan sistem kecerdasan buatan (*artificial intelligence*) untuk memodelkan pergerakan saham yang bersifat tidak liner dan penuh ketidakpastian. Pendekatan yang digunakan adalah model *Artificial Neural Network* (ANN) metode *Backpropagation.* Sebagai pembanding, digunakan model *multivariate* ARIMA. Penelitian akan membuktikan bahwa model ANN dapat lebih tepat memprediksi pergerakan harga saham di Indonesia, khususnya saham-saham anggota indeks LQ45, dibandingkakan model *multivariate* ARIMA. Penelitian ini adalah penelitian observasi model. Penelitian menghasilkan kesimpulan bahwa model ANN signifikan secara statistik lebih akurat daripada model *multivariate* ARIMA.

Kata Kunci : Prediksi, *Time Series*, *Artificial Neural Network*, *Backpropagation, Multivariate* ARIMA, Harga Saham, Indonesia, indeks LQ45

ABSTRACT

Name : Arief Purnama L.K.
Study Programe : Magister Management
Title : An Artificial Neural Network Approach Using Backpropagation Method in Modeling Stock Price Movement, a Research on the Prediction Performance in *Forecasting* LQ45 Stock Price Movement Using Artificial Neural Network.

The objective of this thesis is to contribute the development of artificial intelligence system in modeling stock price movement which highly non-linier and uncertain in nature. Our approach is using Artificial Neural Network (ANN) with Backpropagation method. In comparing the accuracy of the model, we use multivariate ARIMA method. This research intend to show that ANN model is more accurate in predicting Indonesian stock price movement, especially LQ45 index, compared to multivariate ARIMA model. This research is using observational method in selecting the best model. The result of the research is that ANN is statistically significant and more accurate compared to multivariate ARIMA model.

Key words: *Forecasting*, *Time Series*, *Artificial Neural Network*, *Backpropagation, Multivariate* ARIMA, Stock Price, Indonesia, *LQ45 Index*