SKRIPSI

PERAMALAN *INTUITIONISTIC FUZZY TIME SERIES* MENGGUNAKAN *COMPUTATIONAL BASED PARTITIONING* DAN $\boldsymbol{STRONG\ (\alpha, \beta)\ -CUT}$

INTUITIONISTIC FUZZY TIME SERIES FORECASTING USING COMPUTATIONAL BASED PARTITIONING AND $STRONG\ (\alpha, \beta)\ -CUT$

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ABSTRAK

PERAMALAN *INTUITIONISTIC FUZZY TIME SERIES* MENGGUNAKAN *COMPUTATIONAL BASED PARTITIONING* DAN $\boldsymbol{STRONG\ (\alpha,\beta)\ -CUT}$

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Perkembangan metode peramalan dengan menggunakan metode *fuzzy time series* sudah banyak dilakukan. Namun, belum dapat menjawab masalah non-determinasi karena adanya nilai keragu-raguan. Munculnya metode peramalan *intuitionistic fuzzy time series* dianggap mampu menjawab persoalan tersebut karena dalam kontruksinya memperhatikan nilai derajat keanggotaan dan derajat non-keanggotaan dari suatu himpunan. Proses dalam mempartisi semesta pembicaraan dan membentuk IFLR menjadi hal yang sangat penting untuk dilakukan. Metode *Computational Based Partitioning* digunakan untuk mempartisi dan menentukan jumlah interval yang berdasarkan pada proses stastistika sederhana. Sementara pendekatan *Strong* $(\alpha,\beta)-cut$ digunakan dalam mengonstruksi IFLR dimana prosesnya mempertimbangkan relasi yang terbentuk pada himpunan *intuitionistic fuzzy*. Penulis mengimplementasikan metode ini untuk meramalkan harga saham Bank Mandiri Persero Tbk (BMRI) dimana diperoleh tingkat keakuratan peramalan dengan menggunakan *Mean Absolute Percentage Error* (MAPE) sebesar 0,36%.

Kata Kunci: metode peramalan, *intuitionistic fuzzy time series*, *computational based partitioning*, *strong* $(\alpha,\beta)-cut$.

ABSTRACT

INTUITIONISTIC FUZZY TIME SERIES FORECASTING USING COMPUTATIONAL BASED PARTITIONING AND STRONG $(\alpha, \beta) -$CUT

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The development of forecasting methods using fuzzy time series methods has been widely done. However, it has not been able to answer the problem of non-determination due to the value of doubt. The emergence of intuitionistic fuzzy time series forecasting methods is considered capable of answering these problems because in its construction it pays attention to the value of the degree of membership and degree of non-membership of a set. The process of partitioning the universe of speech and forming IFLR is very important to do. The Computational Based Partitioning method is used to partition and determine the number of intervals based on a simple statistical process. While the Strong $(\alpha, \beta) - cut$ approach is used in constructing IFLR where the process considers the relationship formed in the intuitionistic fuzzy set. The author implements this method to forecast the stock price of Bank Mandiri Persero Tbk (BMRI) where the level of forecasting accuracy is obtained using the Mean Absolute Percentage Error (MAPE) of 0.36%.

Keywords: forecasting method, intuitionistic fuzzy time series, computational based partitioning, strong $(\alpha, \beta) - cut$.