

**PERAMALAN JUMLAH WISATAWAN MANCANEGERA MELALUI
PINTU KEDATANGAN BANDARA ADISUTJIPTO YOGYAKARTA
MENGUNAKAN FUZZY TIME SERIES MARKOV CHAIN DAN
FUZZY TIME SERIES CHENG**

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INTISARI

Pariwisata merupakan salah satu sumber perkembangan ekonomi yang cukup penting bagi suatu negara. Berbagai cara dilakukan pemerintah demi menarik perhatian wisatawan terutama wisatawan mancanegara. Begitu pentingnya kedatangan wisatawan mancanegara sehingga pemerintah perlu memiliki suatu metode peramalan demi menyusun strategi pembangunan sehingga tidak mengurangi kunjungan wisatawan mancanegara pada periode kedepan. Terutama pada kedatangan wisatawan mancanegara melalui jalur transportasi udara karena jalur transportasi udara merupakan pintu kedatangan yang paling sering digunakan, sehingga pemerintah banyak melakukan perbaikan infrastruktur dan pembangunan bandara baru yang dapat menampung kedatangan wisatawan mancanegara. Mengingat pentingnya perediksi kedatangan wisatawan mancanegara dalam menyusun strategi pembangunan, maka dalam penelitian ini dilakukan peramalan mengenai jumlah wisatawan mancanegara yang melalui pintu kedatangan bandara Adisutjipto Yogyakarta dengan menggunakan *Fuzzy Time Series Markov Chain* (FTS-MC) dan *Fuzzy Time Series Cheng*. Dari metode peramalan FTS-MC diperoleh hasil peramalan sebesar 10.836 kunjungan. Sementara jika menggunakan metode FTS *Cheng* diperoleh hasil sebesar 12.397 kunjungan. Dari kedua metode tersebut dilihat keakuratan peramalan dari nilai MAPE dan MSE. Dimana diperoleh hasil bahwa metode *Fuzzy Time Series Markov Chain* lebih akurat yaitu dengan nilai MSE sebesar 1788319,715 dan MAPE 12,69%.

Kata Kunci : Peramalan, *Fuzzy Time Series Markov Chain*, *Fuzzy Time Series Cheng* Wisatawan mancanegara.

**FORECASTING THE NUMBER OF FOREIGN TOURISTS THROUGH
ADISUTJIPTO YOGYAKARTA AIRPORT USING FUZZY TIME SERIES
MARKOV CHAIN AND FUZZY TIME SERIES CHENG**

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ABSTRACT

Tourism is one of the sources of economic development that is quite important for a country. Various ways are carried out by the government to attract the attention of tourists, especially foreign tourists. The tourist arrival is very important, so the government needs to have a method of forecasting for the sake of work on development strategies that do not reduce tourist arrivals in the period ahead. Especially in the arrival of foreign tourists through air transportation because it is the most frequently used for the arrival gate, so the government has a lot of infrastructure improvements and the construction of new airports that can accommodate the arrival of foreign tourists. Considering the importance of predicting the arrival of foreign tourists in developing of development strategies, forecasting the number of foreign tourists through the door of the arrival of Adisutjipto airport in Yogyakarta is done by Fuzzy Time Series Markov Chain (FTS-MC) and Fuzzy Time Series Cheng. From the forecasting method of FTS-MC obtained the forecasting result of 10,836 visits. While using the FTS method Cheng obtained a result of 12,397 visits. From both methods, the accuracy of forecasting of MAPE and MSE values is seen. Where the result obtained is the Fuzzy Time Series Markov Chain method is more accurate with MSE values of 1788319,715 and MAPE 12.69%.

Keywords: Forecasting, Fuzzy Time Series Markov Chain, Fuzzy Time Series Cheng Series foreign tourist.