

[ED03]

Automated low cost house demand forecasting for urban area

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The proportions of urban population to total population in Malaysia have risen steadily with 26% in 1965 to 70% by 2020. Therefore, there is a need to fully appreciate the legacy of Malaysia urbanization on affordable housing. This study focused on 2 districts of Selangor, Malaysia, including Petaling and Gombak, among the areas that have reached the highest urbanized level in the country. Monthly time-series data for 5 years have been used to forecast the demand on low cost housing using Artificial Neural Network (ANN) approach. The data was collected from the Ministry of Housing and Department of Statistic Malaysia. Factor analysis method has been adopted to analyze the data using SPSS 10.0 package. The performance of the Neural Network is evaluated using linear correlation coefficient (r) and the accuracy of the model is measured using Mean Absolute Percentage Error (MAPE). In conclusion, it was found the best Neural Network to forecast demand on low cost housing in Petaling is 2-8-1 and 3-11-1 for Gombak using 0.7 learning rate and 0.4 momentum rate with r value of 0.6796 and 0.8162 respectively. While the MAPE values for the ANN models are identified to be less than 20%. The computerized model was developed using Visual Basic.