

UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

**COMPARATIVE STUDY OF PREDICTING
DOMESTIC VIOLENCE CASES IN MALAYSIA
USING LOGISTIC, HYPERBOLIC AND
GOMPERTZ GROWTH MODELS**

P50S19

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IN THE NAME OF ALLAH, THE MOST GRACIOUS, THE MOST MERCIFUL

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ABSTRACT

Domestic violence is a violation of human rights and came to be a global problem. Many growth models that can be used to predict domestic violence cases however if not rigorously studied, may lead to incorrect conclusions and its characteristics can easily mislead even experienced researchers. There are three mathematical models which are the Logistic growth model, the Hyperbolic growth model and the Gompertz growth model that can be used to predict domestic violence growth in Malaysia. The error analysis of the models was calculated and compared to find the preferable model for predicting domestic violence cases in Malaysia from the year 2020 until 2030. The result shows that the Hyperbolic growth model gives better prediction since its mean absolute error is smaller compared to the Logistic and Gompertz growth model. Therefore, the Hyperbolic growth model is used to predict domestic violence from the year 2020 until 2030. From the result obtained, it shows that domestic violence cases increase throughout the year. Further research on domestic violence prediction needs to be done to better predict the future. There are many other growth models that also predict cases of domestic violence such as the Coalition model and the regression model.