

Universiti Teknologi MARA

**Analyzing The Dissemination of Rumors
During Pandemic Through Facebook Using
The Susceptible-Infected-Recovered Model**

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STUDENT'S DECLARATION

I certify that this report and the research to which it refers are the product of my own work and that any ideas or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.



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ABSTRACT

Social media has gained popularity as a platform enabling users to receive breaking news from around the world during the COVID-19 pandemic. The Conditional Movement Control Order (CMCO) was declared by the federal government of Malaysia on the 14th of October 2020. During CMCO, a lot of rumors with regards to education, entertainment, and economy came about on Facebook. The purpose of this study is to investigate the spread of rumors via Facebook. Specifically, this study attempts to formulate a model for the spread of rumors via Facebook using the epidemic model. This study also attempts to conduct a numerical experiment on the effect of the number of likes, comments, and shares of the rumor. The Susceptible-Infected-Recovered (*SIR*) model is used in this study. The data has been collected every hour on the 15th November 2020. The N parameter is considered constant for this case study. The result of the study shows that the information posted on the three chosen Facebook pages; SAYS, ROTIKAYA, and Siakap Keli went viral. Furthermore, the increase in the value of the number of likes, comments, and shares prolonged the duration of the rumor being viral. The issue that was the most viral during CMCO was the issue pertaining to the economy posted on Siakap Keli Facebook page. For future work, it is recommended that the researcher uses N that is not a constant, based on the Logistic Growth Model which changes over time.

Keywords: Rumors, Facebook, Susceptible-Infected-Recovered (*SIR*) model, Social media, COVID-19.

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