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The Dynamic Analysis of Different Viral Contents in Facebook using Susceptible-Infected-Recovered (SIR) 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

One of the world's discoveries in the development of technology is Facebook. On Facebook, there are various types of content such as videos and breaking news. Viral content is a social sharing and website links that spread the content rapidly. It is the most effective way to share the information in a given time. The main objective of this study is to analyze the dynamics of the number of sharing from two different forms of viral content on Facebook which are breaking news and video. The sub-objectives are to determine the spreading process of different viral contents over time and to describe the growth and the decline of daily views of the contents based on the Susceptible-Infected-Recovered (SIR) model. The model of the system involves three state variables which are susceptible, infected, and recovered in the system of differential equations. In these three state variables, parameter β exists between susceptible and infected meanwhile parameter γ is present between infected and recovered. The SIR model that is being considered is without demography that excludes the rates of birth, death, and immigration. At the end of this study, the results showed that two different viral contents reached the difference in their number of people that have an interest in these two contents. There are four graphs that have been produced to show the dynamic of the population from two different titles of each viral content; breaking news and videos.

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