

THE DYNAMIC ANALYSIS OF DIFFERENT VIRAL CONTENTS IN FACEBOOK USING SUSCEPTIBLE-INFECTED-RECOVERED (SIR) MODEL

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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 content 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 identify 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 SIR model. In this study, an epidemiological model known as the Susceptible-Infected-Recovered (SIR) model is included. 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. The result of the reproduction number for breaking news and video indicated that the content was widespread among a population of Facebook users at a particular time. 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. This shows that the SIR model is a dependable method for analyzing the dynamic of viral content.

Keywords: Facebook, Viral Content, SIR Model.