

ABSTRACT

The development of mobile telecommunication has fostered a new trend in the world of gaming, online-based games have evolved to follow the development of mobile telecommunications both in terms of smartphone devices or from the telecommunications infrastructure offered. Online-based games are now turned into mobile-based games with a promising rate of business growth when compared to traditional data businesses that only sell quota packages. Telkomsel as a telecommunications company sees the development of the telecommunications business tending to decline in 2019 and this forces Telkomsel to innovate to find new business spaces that are able to generate extra revenue through the current mobile communication ecosystem. Telkomsel digital games products with Dunia Games are offered to the public as a portal for game payments and also a gathering place for the Indonesian gamers community.

The purpose of this study is to find out to the users of the Free Fire game, what significant variables influence a person to make diamond purchases through Dunia Games by using machine learning predictive analytics. Four models are tested and evaluated by comparing confusion matrix result and then one model is chosen as the model used to predict potential buyers to customers who actually do not buy. Analysis of feature importance will give marketing insight into what variables must be followed up to increase customer awareness of diamond purchases through Dunia Games.

The method of data collection is done using customer activity data in using data service on their smartphones with a total of 117 unique variables per customer with a total of 390,908 customers. Modeling data processing using Python.

Based on data processing, it can be seen what are the significant variables of 117 unique variables that influence diamond purchases through Dunia Games with the top 10 variables, including the number of times customers visit the Dunia Games website. This variable is quite significant after the variables related to the use of Free Fire games themselves. Those who do not buy diamonds are indeed very rarely access Dunia Games website while those who buy vice versa.

Based on the research results, this research method can be used by Telkomsel as a method to get to know its customers so that they can determine the right promotion for customers based on the customer's behavior. Telkomsel can conduct behavioral targeting based on the results of predictive to be able to provide more effective and efficient promotion program..

Keywords: *Predictive Analytics, Behavioural Targetting, Feature Importance*