

## **ABSTRACT**

*Telkomsel as a Digital Telecommunication Company has released digital-based applications Virtual Assistant (VA) which is used to facilitate customers to make transactions and become one of information source about Telkomsel services. However, customers who have purchased through VA are very low compared to the total active VA users, so Telkomsel needs to analyze how to increase the number of buyers in VA.*

*The objective of this research is to provide an insight of customer characteristics by using prediction models based on historical data customer using Behavioral Segmentation such as Occasion, Benefits Sought, User Status, Usage Rate, and Loyalty Status. Data is analyzed using Random Forest algorithm by using two models, per segment data behavioral segmentation model and all segment data behavioral segmentation model.*

*Theoretical approaches that used in this research are marketing strategy, digital marketing, market segmentation, behavioral segmentation and customer behavior.*

*Random forest analysis with a total of 22 input variables and 130,388 records resulting all segment data behavioral segmentation produced the highest accuracy 96% with the number of customer predictions 49,948 which have the closest percentage to the target 37%. While, per segment data behavioral segmentation model produced the highest accuracy on segment data Loyalty Status compared to other segment data with accuracy 92% and the number of customer predictions 49,323.*

*The results of this research are expected to provide an insight of the characteristics and segmentation of customers in conducting interactions and purchases through VA in order to have marketing strategy actions so that increasing adoption and purchasing through VA.*

**Keyword :** *Virtual Assistant, behavioral segmentation, analytical data*