Abstract

Air traffic flows and congestion has various type of pattern influence by many significant factors. High level standard on safety issues become main agendas in air traffic duty, the ATC officer's workload must compromise to reduce or substance fatigue cause in preventing accident and incident forthcoming. Hence, studies on polarity and changes in air traffic structure flows shall conduct towards efficiencies and effectiveness rely on precise configuration. This study aims to provide an overview of the traffic structure that focuses on significant domestic factors. The focus of studies is to find the significant clustering method approaches for time series dataset. With comparing three clusters methods that are: Hierarchical clustering, Partitional clustering and K-Shape clustering. Emphasizing on the properties of time series data in clustering algorithms, three distance measurement methods are used in this study: Euclidean distance (ED), dynamic time warping (DTW) and based shape distance (BSD). The inputs are the number of aircraft flying over Malaysian airspace. The study finds that Partitional clustering algorithm using the Dynamic Time Warping (DTW) is the best approach to comply an accurate picture of the structure of air traffic movements over a period of time. © 2020 SERSC.