# **ADAPTIVE DATA CLUSTERING METHOD BASED ON ARTIFICIAL BEE COLONY AND K-HARMONIC MEANS**

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***Abstract***

*Various methods have been made to cluster the data. One such method is K-Harmonic Means Clustering* (KHM)*.* KHM *is a clustering method that improves K-Means Clustering* (KM)*.* KHM *method was able to reduce the problem of* KM *in terms of sensitivity to the initialization of the initial center point nevertheless there is still a possibility that the result of*  KHM *is a local optimum. The local optimal problem can be solved by utilizing a method that has characteristic of a global search into* KHM *method. Artificial Bee Colony* (ABC) *is a swarm method based on foraging behavior of honey bee colony that has characteristics to avoid the possibility of local optimum convergence. In this research, a new method for data clustering based on* ABC *and* KHM(ABC-KHM) *is proposed. The performance* ABC-KHM *method has been compared with ABC and* KHM *by using five datasets. The results show that* ABC-KHM *method is able to optimize the position of the cluster center and directs the center to a global solution.*

*Key words: K-Means Clustering, K-Harmonic Means Clustering, Artificial Bee Colony, ABC-KHM.*