

USE OF DATA MINING TECHNOLOGIES FOR EFFECTIVE DECISION SUPPORT RECOMMENDATIONS FOR TEACHER DEPLOYMENT

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Data mining (DM) is being a useful tool for exploring and analyzing big data in edification sector in order to improve the performance of students. The administrative domain of education sector had not been considered by many researchers in their research areas. Applying data mining techniques for effective decision making will benefit the students as well as teachers and for overall development of education in general.

Effective deployment of teachers has being a largely contributing factor for performances of students in schools. This research dispensed a solution for this ineffectively handling administrative problem. When appointing and deploying teachers among schools, the present manual system only consider about age old circulars and some variables like current appointment category and the current educational database does not support big data analysis of teacher details. Hence other sensitive and important variables that affect student performances and teacher performances were ignored. So to overcome this problem an education data ware house had been built by extracting, transforming and loading data from existing data sources, which helps to summarize and analyze data through various dimensions using data cubes. Data mining was used to analyze the current distribution of teachers and the patterns associated with this, the attributes that strongly contributing to the performance of students were been discovered. The simple and efficient k-means algorithm had been used for the teacher clustering. The identified attributes were used in the recommendation process. Teachers were filtered who fulfill requirements for deployment and grouped using clustering data mining technique for the recommendation purpose.

Content based recommendation approach had been used to match Teacher and vacancy profiles. Vacancy profile and teacher profile were matched using cosine similarity measure and teacher clusters were ranked according to resultant value. The system gives useful recommendations to education administrators for decision making for teacher deployment. The contribution of this system was validated using administrators and teachers and the teacher satisfaction degree shows a higher rate for the recommendations given by the system than the manual recommendations. The officials' user satisfaction ratings confirmed that the system actually assisted in administrators' decision making process.