Data Mining for Improving Decision-Making Facility in Vehicle Maintenance Management

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Declaration

We declare that is our own work and has not been submitted in any form for another degree or diploma at any university or other institution of tertiary education. Information derived from the published or unpublished work of others has been acknowledged in the text and a list of references is given.

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Abstract

One of the major problems associated with companies that manage large vehicle fleets is how to manage and operates their vehicle fleet more efficiently. However, the company can’t do it properly without a systematic procedure. Having an automated system for updating vehicle data and related operations of the vehicle's maintenance process, is a very effective way to manage the operations of a vehicle fleet. There are several key factors to consider when managing a fleet of vehicles. Decision-makers must consider Vehicle acquisition, Human, Fuel management, Maintenance, Health and Safety, Compliance. Accordingly, the factors of vehicle type, model, fuel usage, driving efficiency, vehicle condition, spare parts, breakdowns and accidents, vehicle repairs, and services should be considered. All of the above factors should be monitored and managed in the best possible manner. Therefore, using an automated vehicle management system to manage fleets, is very essential for a company that manages a large vehicle fleet. Therefore, this research will emphasize how data mining techniques can be used to analyze data related to vehicle maintenance and finding factors that affect the vehicle maintenance cost using the model identified.

Keywords— Vehicle maintenance, Vehicle fleet management, Decision making, Data Mining

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