ABSTRACT

This research is conducted to find solutions for the issues and loopholes in the present vehicle management system of Sri Lanka Navy. It has been identified that there are number of issues significantly impact to the vehicle management system based on vehicle utilization, fuel consumption, administering considerations and driver management. Discrepancies of records of system incapability of monitoring caused to varieties of administration and functional difficulties. Hence it is obvious that it required systematic approach to develop present system based on modern technology. Even though considering the limitations and constraints to conduct study along wide speeded organization researcher selected SLN Heavy vehicle pool to conduct study. This research is conducted using qualitative research method and quantitative research method which ultimately gave a mixed approach to the research. As researcher selected mixed approach, primary data including data collected from interviews, questioners, observations and case study conducted on transport management system of KDU in view of aware about vehicle management system impact on similar organisation. Administration issues, maintenance issues, fuel management issues, driver management issues, vehicle utilization issues were identified as variables. Research questions were driver as appropriate to achieve the research objectives. By conducting a study on present system understood the loopholes then find suitable solutions were derived. Real time vehicle tracking module, vehicle requisition and approval module, online gate pass module, fuel management module, repair and maintenance module and report generation modules identified. ER diagrams for develop relevant modules were presented to developments vehicle management system. To develop this diagrams out of different system development lifecycles water floor method is selected by researcher. Because as per the organizational aspect it is suitable to work out with government procedures. Even this study is based on the heavy vehicle pool same system can be adopt to the entire Navy due all most all entities are following same procedure for vehicle management at present.

Keywords: Fleet management, IoT, Optimization, Sustainable transportation