

ABSTRACT

The scale of transportation has been rapidly developed in Sri Lanka last decade. Railway is one of the main public transport modes in terrestrial transportation. Specially, it consists with some unique characteristics like large capacity, low cost, fast delivery, high safety level, and freedom traffic congestion. Sri Lankan railway is mainly used for passenger and cargo transportation. However both operations are still challenged by various difficulties. Maintaining the service quality level of railway transportation is not in a satisfactory level compared with other transportation modes. Among the two operations, the study focused on cargo transportation including the bulk freight and parcel distribution processes. The purpose of this research is to study the existing cargo handling operation in main line and find out the factors affecting to the operational performance. The study was initially driven through primary data to identify its existing challenges in the operation. Through direct observations, interviews with operational staff, management team, and survey questionnaire, the main issues were identified. Both bulk freight and parcel transportation have been limited to certain commodities due to lack of facilities. Several weaknesses such as less visibility, less infrastructure, difficulties in document preparation and discrepancies in rate structure have been identified. Six factors such as facilities, efficiency, employee satisfaction, user friendliness, IT based cargo management system, and charging rates for the cargo transportation have been identified as internal factors affecting the operation whereas government controls and political influences were identified as external factors. Most of the employees (95%) in railway satisfy about their current employment. Only 9% of the respondents satisfy with existing cargo handling operation. In evidencing to the aforementioned statement, 43% of respondents are not satisfied with the provided loading and unloading equipment for the operation whereas another 46% believe that the existing infrastructure is not sufficient to carry out the operation. These infrastructure issues may correlate with mostly affected factors for the train delays such as technical issues (34%) and speed restrictions (20%). Further, 71% of respondents mentioned that existing cargo management system need to be improved. However only 17% of respondents said that existing manual system is efficient to continue without any change. According to the results, 45% responded that railway cargo transportation is used due to low cost, but the majority (55%) of respondents are not satisfied with the providing rates. Hence, the rates have to be adjusted according to the competitive market rate. An 84% of respondents work additional hours due to heavy work load, existing manual system, and less resources. Majority of the respondents (85%) think that the privatization is essential requirement for some areas such as IT sector, parcel & freight operation, administration, communication & signaling etc. Among the factors related to the less consideration of an IT system, lack of financial resources, lack of technical and expertise knowledge, outdated mindsets, insufficient infrastructure facilities, and less management support were identified by more than 15% of respondents and 58% of them requested for an IT system during their service. However, 31% of respondents believe that the reason to remain in the manual system is due to the difficulties in process changes. Remarkably, 98% of the respondents possess the capability to work under computerized environment whereas 89% of them do believe that existing cargo management system can be improved through the implementation of new IT system. Finally, an automated IT based system proposal also delivered adhering to the current policies and practices which maintain the sustainability of cargo operation management system.

Keywords: railway, cargo transportation, bulk freight, privatization, intermodal