

# The Study on Factors Affecting the Decline of Freight Movement: The Case of Sri Lanka Railways (SLR)

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**Abstract**— *The freight movement by the Sri Lanka Railways has had a dramatic decline over the last three decades. The freight market share of the Sri Lanka Railways(SLR) has come down to 0.7% in the recent past, which was 32% in 1979 showing a drastic decline in the efficiency and competitiveness of SLR in handling freight, relates the Draft National Transport Policy of Sri Lanka. This study focuses on the factors that might have affected this decline. SLR has played a pivotal role for the development of the economy of the country three decades ago as most of the business relied on SLR. It is significant to restore the lost business of SLR in terms of reviving the economy of the country. With this in mind, this study was carried out to identify the reasons that would have resulted the failure of the freight business of SLR.*

**Keywords:** Sri Lanka Railways, Decline, Freight Movement

## I. INTRODUCTION

Sri Lanka Railways (SRL) is a government department under the Ministry of Transport. It is a major transport service provider and is the only rail transport organization in the country. At its inception, railway was carrying more freight than passengers. But today, it is passenger oriented. SLR's market share for passenger transport is about 6% and about 0.7% for goods transport. It could be observed that freight market share has had a great decline over the last three decades. This study focuses on identifying the factors that might have contributed towards this freight decline by SLR. The identified hypotheses are as follows: Substantial development of motorized road transport, lack of inter modal infrastructure facilities connecting railways, presence of freight forwarding firms, lack of competition and private participation, lack of container cargo segment, time delays and reduced speed of the SLR, under investment in rolling stock,

lack of customer oriented services, inefficient pricing mechanism for road transport, lack of active regulator, lack of technological aspect and lack of safety.

## II. LITERATURE REVIEW

Taylor (2000) says that the substantial development that the roads have achieved in most of the developing nations has led towards the decline of usage of freight by railways. Baumoul (1977) reports that lack of intermodal facilities connecting railways in most rural areas reduces the interest of the people to transport freight by railways. The registration of freight forwarding firms in Sri Lanka and its business activities have captured much of the cargos of Sri Lanka railways, relates Sri Lanka Freight forwarding Association (2010).

Having an active state regulator and the financial support given by the regulator (government) is the prime reason for the success of the Indian Railways (INR) which provides much customer oriented services for both passengers and freight. It can be noted that 60% of the revenue is obtained by INR through freight business, relates, Ministry of Commerce and Industry, Government of India.

## III. METHODOLOGY

After the problem was well defined and the hypotheses were developed using study materials based on foreign experiences, primary data was collected from vegetable wholesalers in Pettah market about what had restricted them to use railways to transport their goods from the origin. A visit was made to Pettah and the secretary of the wholesalers Association of the Pettah market was interviewed to get those primary data. A meeting with two main officers of Sri Lanka Railways (General Manager and Operations Manager)

yielded some general overview of the Sri Lanka railways freight division and why it is running on loss. Secondary data was collected from Sri Lanka Railways on the revenues of the freight business of SLR. More secondary data was gathered from Central Bank Annual Reports and from the website of department of Motor Traffic. Data was analyzed using softwares like SPSS and E-Views.

#### IV. DATA ANALYSIS

SLR is having monopolistic market from its inception. It has not had any competitor right from the beginning. Hence it does not have much interest on its business. Thus its provision of customer oriented services is also less. This is one of the main reasons for the decline of freight business of SLR as freight business needs much customer oriented services. In terms of the freight forwarding firms, they take the goods at customers' doorstep and safely transport. They have facility that customers can track transit of the goods. The goods are delivered to the doorsteps of the customers. Hence customer does not have to worry of the goods that he sends. But whereas in SLR, customers have to worry of the cargo throughout the transit. The goods are not delivered to the doorstep of the customers.

Road pricing does not implicit the entire total cost incurred. Thus it does not include economic cost. Hence the charges by the lorries, trailers that transport freight inland is less than real cost incurred. This is also a reason for the shift of freight from SLR to road though the freight rates of SLR are cheaper comparatively.

(dependent variable) and the road kilometers (RDKM), no of motor vehicle registered (MVREGD), railway passenger kilometer (RWPSKM) and all road kilometer (ALRDKM) (independent variables). The respective data was collected for nine consecutive years from 2004 to 2012.

The following model fits enough under the 5% confidence interval. This can be illustrated as follows:

ANOVA  
Table 1: Model Fitting Test

Model	Sum of Squares	Df	Mean Square	F	Sig
Regression	1710.672	4	427.668	11.334	0.037 <sup>b</sup>
Residual	113.203	3	37.734		
Total	1823.875	7			

Table 1 points out that model fit enough for testing the independent variables.

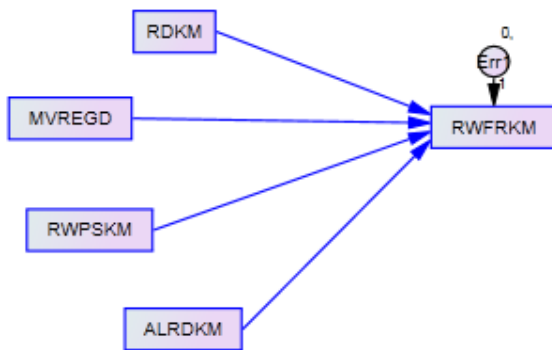


Figure 1: Conceptual Framework

Figure 1 shows the conceptual framework made between the Railway Freight Kilometer (RWFRKM)

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error			
Constant	1125.73	286.031		3.936	.029
RDKM	-.117	.030	-1.127	-3.87	.030
MVREGD	.000	.000	1.070	5.382	.013
RWPSKM	.064	.014	.976	4.583	.020
ALRDKM	.002	.002	.174	.888	.440

a. Dependent Variable: RWFRKM

**Table 2 : Significance test**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
Constant	104.328	307.726		3.403	.042
RDKM	-.105	.030	-1.008	-3.84	.040
MVREGD	.000	.000	1.134	2.552	.084
RWPSKM	.062	.019	.944	3.167	.051
TRAILOR	-.001	.011	-.040	-.082	.940

a. Dependent Variable: RWFRKM

**Table 3: Significance test**

These coefficients portray that increase of road kilometer has resulted in decline of freight movement by SLR. It can be further explained that substantial development of motorized road transport has taken much of SLR's freight. Since the standard errors of the coefficient are high, it can be confidently predicted that there are many other reasons that can result in the reduction of railway freight kilometer other than these identified factors. Those kind of factors have been analyzed quantitatively later.

This test points out that there is a negative relationship between the increases of number of registered trailers against the decline of freight movement by SLR. This can be connected to our another hypothesis that increase of freight forwarders in Sri Lanka has also resulted in the

decline of freight movement by SLR as a large number of trailers are used by freight forwarders in Sri Lanka for the movement of freight.

Lack of intermodal infrastructures connecting railways is also a reason for the decline of freight movement by SLR. For instance, if a parcel of garments need to be sent to Kalmunai from Pettah by railways. SLR will lead upto Batticaloa only. The customer has to go to Batticaloa physically from Kalmunai to Batticaloa for taking this shipment to Kalmunai. He can take this down to Kalmunai by a bus. He needs to arrange a three wheeler to take it to his home after getting down from Kalmunai main road.

But when this shipment is given to a lorry operator at Pettah, it directly goes to the doorstep of the customer in Kalmunai where he pays for the carriage. How easy and comfortable is this? Hence the difficulties undergone by the customer when transporting goods via SLR when there is a lack of intermodal infrastructures is immense. In today's fast moving world man needs his desires completed quicker. Hence this factor also leads to the decline of freight movement by SLR.

## V. CONCLUSION

Through this study, results that affect the decline of freight movement of SLR have been identified quantitatively and qualitatively. Substantial development of motorized road transport and increase of freight forwarding firms have been proved as the reasons for the decline in freight movement by SLR with the 5% confidence level. And this has been analyzed quantitatively but since the standard error coefficient is high for the independent variable road kilometer, that itself suggests that there are many other factors that should have resulted in the decline of freight. Those possible factors have been analyzed qualitatively considering specific and reliable cases. Whereas lack of active regulator, improper price mechanism for road pricing, lack of technological aspects, lack of competition and lack of customer oriented services have also been explained the factors that could have affected the decline and these reasons have been approached with qualitatively.

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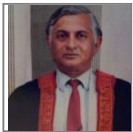
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