

## An Analysis of Logistics problems for Dhaka-Chittagong Highway of Bangladesh by using the ECR Method

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### Introduction

The Dhaka-Chittagong highway is the most important highway of Bangladesh. Recently, there has been a growing tendency to introduce better logistics in the transportation sector, especially in the goods mobility of Bangladesh. The concept of 'Logistics' has the potentiality for solving many difficulties and complicated problem. Logistics can be classified as the process and transport activity by the private company as well as the governmental organization considering the environment and the framework of its systems. The approach we have chosen to present a general over view of Bangladeshi peoples thinking about the problem of goods transportation and how to solve them on the priority basis. In this case, we have undertaken a field survey by the ECR method and experimental study. There is no previous work about such goods movement; therefore, this study is the first attempt to get a better understanding about the goods mobility of Bangladesh. In my previous study, the framework of physical distribution was discussed and so it is very important to follow and report the next analysis.

### Study objectives

This study aimed at building a unique service of goods transportation by the highway communication. Keeping lots of problems of transportation in mind, the present investigation was designed to identify the problems of physical distribution from Dhaka to Chittagong highway and to introduce the better logistics policy in Bangladesh.

### Applying ECR method

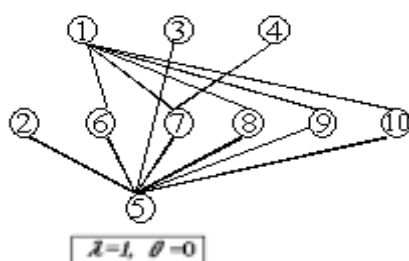
Simple Contribution Rule (SCR) is the main base of the Expand Contribution Rule (ECR) method. Using the plus minus 5-point method, result is evaluated on the basis of highest and lowest value. Here ECR method is presented:

$$g(c_{ij}^l, \dots, c_{ij}^m) = \sum_{l=1}^m w^l c_{ij}^l + \lambda \sum_{l=1}^m w^l \text{Min}(0, c_{ij}^l) - m\theta$$

This ECR method is followed the procedure in clarifying the preference group. Here  $g$  is preference group,  $c_{ij}$  preference the item  $j$  and  $i$  is decision maker 1,  $w^l$  weight of  $e$  of preference  $j$  and  $i$ ,  $(-)$ : high in respect of the agreement,  $(0)$ : the weak relation, which is removed. This is structured the importance and less importance and in particular, ISM method is required to calculate the result.

### Previous study of Container train

In the previous Dhaka-Chittagong container train services, we evaluated the public opinions by the ECR method and categorized the problems by the relationship link. Firstly we evaluated the positive value  $\lambda = 0, \theta = 0$ , from the 10 items of objectives. After that, we also



	The fare is cheap
	The number of trains are too many
	The diagram of train services is on time and straight
	For shipment expert hands are available
	In this freight transportation information technology is available
	Container services are enough for goods shipment in train
	Transportation time is very short for shipment
	Reduce the environment pollution and taking care policy is good
	Attitudes of the responsible workers are very sincere and safety
	warehouse is enough for shipment in the both cities

Figure 1. Schematic diagram of the container train evaluation result

evaluated the reverse opinion in twice value  $\lambda = 1, \theta = 0$ , the result of which is shown in the figure 1. This results means , and there are no other contradictory groups and these items are very important for logistics improvement, which is clearly exhibited in the figure.

### Problems of highway logistics in Dhaka-Chittagong

#### 1) The fare

The fare is the key item of logistics transportation. Presently there are some rules in maintaining the fare policy. In practice, the company doesn't follow the rule. People or customer negotiates for fixing the price of goods to the destination place.

Key word: Dhaka-Chittagong highway, Logistics problem, and ECR method

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## 2) Number of trucks

The number of trucks is seemed to sufficient in Dhaka-Chittagong route. For the logistics transportation, needs good management of them is needed to improve the quality services. This is very important for physical distribution of goods.

## 3) The diagram of truck services

The diagram of truck services is very important for logistics operation. As compared to other areas, highway connection of this region is very nice. But along the roadside, there are many open markets, which makes some time the traffic jams.

## 4) Expert hands

Expert hands are important for operating the logistics transportation. For loading and unloading the goods, lots of times are consumed and the public goods are damaged very often. Logistic transportation is very difficult with non-trained and inefficient workers.

## 5) Truck terminal and information technology

Terminal is prime for goods movement and information technology of Bangladesh is very poor in every sector. In logistic transportations, both are very important. Due to the lack of combination in many sectors, Dhaka-Chittagong truck services is not a unique one and the information systems are of poor quality as well. But for operating the logistics transportation, this is very important to develop.

## 6) Traffic safety

Safety plays an important role for logistics transportation. Safe transportation and safe shipment is one of the main requirements of goods mobility in Bangladesh.

## 7) Transportation time

Time is also an important factor for logistics mobility of goods. The rapid urbanization of Bangladesh has been a vital factor, and logistic transportation prefers the distribution of goods in time.

## 8) Environment pollution

Environment pollution is a very emerging phenomenon in all over the world and current systems detract the environments. Logistics is followed the recycle systems or recovering systems perfectly. Present services in Dhaka-Chittagong are not fulfilling the environmental demand. Logistics operation follows the environment carefully and minimizes the environmental pollution.

## 9) Responsible workers

Responsible workers are very important part of physical distribution. In establishing the logistics these persons are related to the distribution processing, loading, unloading of goods, information network and also the wrapping or packing processing. So, this item is important in transportation. Responsible workers can make the good logistics transportation.

## 10) Warehouse

In Bangladesh, there prevails a big gap between storehouse and goods transportation. All kind of goods is increasing and there is no combination between storage and goods mobility. So, it is a big problem for logistic transportations. Especially from truck terminal to warehouse there is no convenient warehouse, for logistics transport-planning warehouse is important for physical distribution. Dhaka-Chittagong truck transportation needs is to make the combination, because information system is very poor and warehouse to terminal is far.

## Proceed of questionnaire survey

In describing the lots of problems, we have the opportunity to understanding the depth of problems, especially goods sector in Bangladesh. But due to the shortage of available data, it is difficult to know the depth of problems. So, we are taking part in the field survey and to gathering the opinion of conscious people, which is actively moving now. This research is to carry out experimental study with the Bangladeshi people and their thinking to define the important problems. Regarding ECR method, it is very optimistic method in taking the peoples opinion as well as for analysis, how to settle the problems on the priority basis.

Our opinion is that, the above formation can make Dhaka-Chittagong goods mobility more unique, which is applied by the ECR method. For this, to take part in survey by questionnaire method and it is contained the problems of logistics as above.

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