

**OPTIMIZATION OF WATER TANK DISTRIBUTION: CASE
STUDY OF WATER TANK DISTRIBUTION NETWORK AT A
REPUTED COMPANY**

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MBA in Supply Chain Management

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Dissertation submitted in partial fulfillment of the requirements for the MBA in Supply Chain
Management

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April 2019

Student Declaration

The work described in this research was carried out by me under the supervision of Dr. T. Sivakumar and a report on this has not been submitted in whole or in part to any university or any other institution for another Degree or Diploma.

.....

GHCS Amarasooriya

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Abstract

The study was developed based on the actual case study related to the details of Arpico Plc. The major purpose of studying this case was the company incurs huge cost on transport operation and logistics activities. The company has its own factories locate at three different locations including RPC Horana, Dambulla Factory, and Plashtishel Ltd at Pallekale. Further the company consist with one re distribution warehouse locate at Mattegoda. Horana, Pallekale and Dambulla factory has manufacture differently diversified product range at their premises and also they have different capacity of water tanks in the stores and mainly they have their own inventories in the same premises.

And also it was identified that the total company linkage has a distribution network error on their existing process. Therefore it was collected the data related to Distribution network including starting point and destination point with vehicle capacity, quantity demanded, date, distance, whether item has send by couple with some other good, and type of water tank for three months including November, December 2018 and January 2019.

Then to analyze situation of the company as the 1st step it was drew a map of existing situation and then identified few issues such as distance of distribution network, cost incur on the distribution network, and etc.

Then to find the solution, again drew a map by clustering the regions based on the center vise and shortest route vise. Then identified the distance based on the shortest path rules. Finally it calculated the total cost of existing project with all the centers, total cost of existing project without delivering to the centers and cost of newly planned project without delivering to the centers. Then, it was compered and identified that it could minimize cost of each cluster and then could minimize the total cost of distribution network.

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