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OPTIMIZING CEMENT DISTRIBUTION IN THE NIGERIAN CEMENT MANUFACTURING INDUSTRY: THE CASE OF CEMENT DISTRIBUTION FROM SELECTED FIRMS TO MARKETS IN EBONYI STATE

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ABSTRACT

This study sought to optimize cement distribution in the Nigerian cement manufacturing industry with special interest in cement distribution from three selected factories to four markets in Ebonyi state. Sources of distribution were identified as Gboko, Port-Harcourt and Calabar, while destinations or markets were identified as Abakaliki, Onueke, Oha-ozara and Afikpo with a view to determining the shortest route that minimized the cost of cement transportation from Gboko, Port-Harcourt and Calabar factories to Abakaliki, Onueke, Oha-ozara and Afikpo markets respectively. The literature reviewed showed that transportation model could improve the shipment route at minimal cost. The study employed Descriptive research design of which secondary data were collected from the randomly selected cement producing firms and the data collected were analyzed with Excel solver. It was found that these companies incur cost following the transportation of cement from factories to number of destinations which subsequently affect per unit **cost** of their product. Therefore, high cost of transporting products from factories to their respective markets to a large extent increases the price of the product and therefore concludes that transportation model is an indispensable tool that could improve the cost efficiency required in the distribution net-work. it is against this background that the study recommends that cement producing firms should adopt this model as a tool in order to minimize cost of transportation by identifying the most efficient route.

KEYWORDS: Optimization, Transportation Model, Linear Programming and Solver-In