

ABSTRACT

PT. XYZ is one of the leading, largest, and most trusted companies in the concrete works division in Indonesia. PT. XYZ is located in Kab. Bandung and was founded in 2007 due to market needs and Indonesia's geographical conditions. PT. XYZ makes product innovations that are strong and lightweight, creates construction materials with styrofoam as the base material in the development process, which can be used as walls, roofs, floors, or stairs with the sizes and specifications desired by consumers with consumers spread throughout Indonesia to Papua and have been exports its products to several countries, including Malaysia, Brunei, Timor Leste, India, and Peru. In the delivery process, PT. XYZ has 5 transportation fleets with different specifications and uses third party logistics or 3PL as shipping partners if the delivery destination is outside Java or abroad. PT. XYZ experienced delays in the delivery process due to a lack of understanding of route characteristics that affect the operational costs of delivery. Solving the problem can be done with VRP with heterogeneous fleet and time windows to determine route planning that can reduce shipping costs by considering the operating hours of consumers and companies.

Keyword: delays, vrp, vehicle routing problem, time windows, heterogeneous fleet