

End-of-line delivery vehicle routing optimization based on large-scale neighbourhood search algorithms considering customer-consumer delivery location preferences

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ABSTRACT

Logistics is an important guarantee for economic and social development. Among the various aspects of logistics, the urban logistics end distribution link, which involves the direct connection between distribution personnel and customers, has a direct impact on customers' sense of experience and satisfaction with logistics services. At present, there are unscientific and unreasonable selection methods for logistics end distribution paths, often based on the subjective experience of distribution personnel, which often results in a mismatch between distribution paths and distribution needs, affecting market demand while further increasing the distribution costs of enterprises. Therefore, based on the characteristics of customer-consumers, this paper considers that consumers can select multiple receiving addresses, and each address has a corresponding time window limit. This paper finds that it needs to spend a lot of costs for the enterprise to improve the service level of distribution, and the enterprise can save the cost from time window, as well as obtain the better distribution time by using alternative addresses through the verification and analysis of an example. Based on the above analysis, this paper proposes the urban logistics terminal distribution path optimization path based on large-scale neighbourhood search algorithm, which can promote the further matching between logistics distribution enterprises and customer needs, so as to improve the probability of consumers receiving goods in time as well as reduce the cost of enterprises.

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