People-Oriented Optimization Model of Warehouse Staff Scheduling Problem

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ABSTRACT

With the development of e-commerce, China is actively promoting the construction of logistics informatization and intelligence, and simultaneously promoting the standardized and efficient development of warehousing industry, one of the important links of logistics. It is clearly pointed out in the “Medium and Long Term Plan for the Development of the Logistics Industry” issued by the State Council that “The warehousing industry is not only the main body of the traditional logistics industry, but also an important part of the modern logistics industry. In the process of material flow, the level of storage cost has a greater impact on the development of the logistics industry.” This paper chooses Sinotrans Logistics Company as the research object. Sinotrans Logistics Company is the largest integrated logistics provider in China and a national 5A comprehensive logistics enterprise. The main problems in Sinotrans warehousing management include: increased operation difficulty of cross-warehouse inventory, large order volume and delayed processing, unreasonable scheduling of warehouse staff, more idle time for warehouse staff and large difference in human efficiency per hour, etc. The key elements of these problems are the work efficiency of employees. Therefore, warehouse management needs to carry out fine scheduling of warehouse staff to improve the completion rate of orders and reduce the waste of labor costs.

Keywords: Warehouse staff scheduling problem, integer programming, linear regression model, people-oriented