복수 터미널을 갖는 택배기업들의 영업소 통폐합 및 터미널 공유를 위한 절충적 네트워크 재설계

Compromised Network Reconfiguration Model for Service Center Integration and Terminal Sharing in Express Courier Services

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I. Introduction

1. Background

- The market of express package deliveries in Korea
  - High demand by e-commerce
  - Surplus of express package companies
  - Market share about 80% by a few major companies

- Small and Medium Enterprises
  - Infrastructure investment for global coverage of service
  - Low price competition by the big companies

- Productivity of express service network
  - Operations of service centers for collecting shipments
  - Managing consolidation terminal for sorting packages
  - Reducing operation costs at under-utilized facilities

- The objective of this paper
  - Reconfiguration of service network with respect to strategic alliance for SMEs

2. Literature review

- Strategic alliance related studies
  - Min(1996), Simchi-Levi et al., Chorpra & Meindle(2004) : sharing distribution centers, the tradeoff between transport and inventory costs for collaborating transport and delivery

- Cutoff time related studies
  - Cheung et al.(Interface 2002) : a hybrid optimization/simulation model for maximizing service coverage and service reliability
  - Ko et al.(ITOR 2007; IJICIC 2010; IJLSM 2010): an optimization model for designing a network considering cutoff time adjustments only