Changes in Patterns of Home-Based Shopping and its Last-Mile Delivery Logistics Services in Korea

Sangbeom Seoa, Hanyoung Parkb, Seungju Jeongc, Jee-Sun Leed

a. Senior Research Fellow, Dept. of Logistics Research, Korea Transport Institute, Sejong, Korea, sbseo@koti.re.kr*
b. Researcher, Dept. of Logistics Research, KOTI, Sejong Korea, hany0419@koti.re.kr
c. Honorary Research Fellow, Dept. of Logistics Research, KOTI, Sejong Korea, sjj@koti.re.kr
d. Research Fellow, Dept. of Logistics Research, KOTI, Sejong, Korea, jeeslee@koti.re.kr*

* corresponding authors

1. Objectives of Study

- Explore the change trends in home-based shopping and last-mile delivery services
- Examine the impact of COVID-19 to understand the main driver of changes in “lifestyle logistics services”
- Propose strategies for sustainable logistics system to improve and enhance the last-mile delivery services

2. Home-based Shopping : Online Shopping

Consistent Growth of Online Shopping
- 1.34 trillion KRW (7.3% to whole retail sales) in 2006 → 19.02 trillion KRW (39.9%) in 2021
- mobile App-based shopping dominance

Changes in items purchased online
- mainly ‘durable goods’ to almost ‘everything’
- notably more groceries and food services

Source: Statistics Korea, Industry Statistics for Wholesale, Retail and Services, https://kosis.kr

< Growth of Online Retail Sales >


< Online Shopping Sales by Purchasing Channel >


< Online Sales of Food Services >

3. Last-Mile Delivery Logistics Services: Parcel delivery & Instant delivery

- **Rapid growth in last-mile delivery business**
  - (Parcel delivery) 1,198 million packages in 2010 → 3,630 million packages in 2021
  - (instant delivery) sales of 489.7 billion KRW in 2007 → sales of 607.9 billion KRW in 2019

Source: Korea Integrated Logistics Association (KILA), Last-Mile Delivery Logistics Service Statistics: Trends in packages handled by parcel delivery services, National Logistics Information Center

4. Impact of COVID-19 and Challenges

- **Home-based shopping customer preferences keep reshaping last-mile delivery services**
- **Two scenarios estimated to suggest additional growth of parcel delivery volume**

Source: Source: Seo, et al., 2021, KOTI, Figure 5-7, p.101.

5. Improvement Strategies for Sustainable Last-Mile Delivery Services

- **Strategy 1** Augment Transportation Capacity
  - modal shift; 11t hydrogen FEVs; division of labor
- **Strategy 2** Expand Capacity of Logistics Facilities
  - new development; expansion; fulfillment function integration
- **Strategy 3** Last-mile Delivery Infrastructure to establish Advanced Delivery Systems
  - “last-mile delivery station”; cutting-edge delivery strategies
- **Strategy 4** Sustainability in Labor Supply and Demand
  - job quality enhancement, training program for skilled labor
- **Strategy 5** Supportive Framework for System Innovation
  - Technical, financial and legal supports, etc.