

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



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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

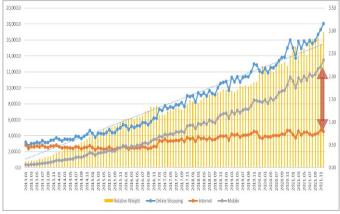
■ Consistent Growth of Online Shopping

- 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



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

< Online Shopping Sales by Purchasing Channel >

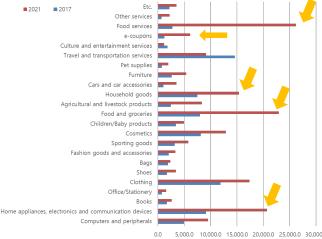


Source: Statistics Korea, Online Shopping Trends Statistics, https://kosis.kr.

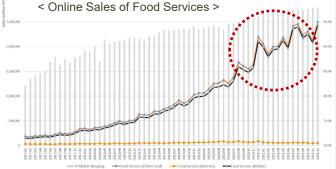
Changes in items purchased online

- mainly 'durable goods' to almost 'everything'
- notably more groceries and food services

< Online Shopping Sales by Group of Product >



Source: Statistics Korea, Online Shopping Trends Statistics, https://kosis.kr.

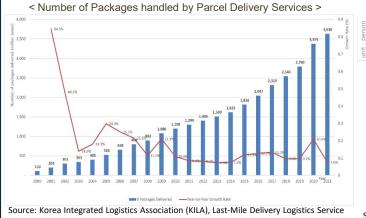


Source: Statistics Korea, Online Shopping Trends Statistics, https://kosis.kr.

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



< Employment and Sales of Instant Delivery Services > 23,000 6,500 21 696 6,000 Sales (100million KRW) 17,428 5 322 5,500 17,000 15.540 14 807 5.000 15,000 13.853 13,000 4.500 11,000 4.000 9,000 3,500 7 000 3.000 5.000 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 201

Source: Statistics Korea, Report on the Transportation Survey, https://kosis.kr

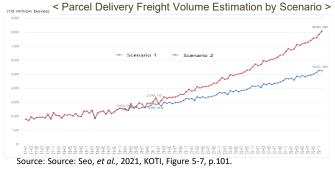
Statistics: Trends in packages handled by parcel delivery services, National Logistics

4. Impact of COVID-19 and Challenges

Home-based shopping customer preferences Two scenarios estimated to suggest keep reshaping last-mile delivery services

Demand-side Change Trends Diversified purchasing channels : more convenient, expansive age group of users Expansion of capacity Gradual increase by 10%+ every year Diversified purchasing product options Shortened delivery lead time durable goods → more groceries/fresh foods added minimize processing time from order to delivery Various arrival time options Flexible shopping time early morning/immediate/same-day deliveries almost always available, closing time extended Frequent purchase Diversified delivery services : Flexible by product handful, more frequent, periodical by subscription Source: Source: Seo, et al., 2022, KOTI, Figure 2-37, p.69. < Drivers of Change in Last-Mile Delivery Logistics Systems >

additional growth of parcel delivery volume



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.

