L’INSERTION DU E-COMMERCE DANS LA LOGISTIQUE URBAINE

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Four Modes of Insertion of E-commerce on City Logistics

1. **Distribution Pattern**
   - Growth in home deliveries.
   - Changes in last mile logistics (parcels).

2. **Real Estate Footprint**
   - Reduction of the real estate footprint of retail.
   - Growth of the real estate footprint of distribution.

3. **Logistical Facilities**
   - New types of logistical facilities (E-fulfillment, Sortation center, Urban logistics depot).
   - Automation of fulfilment and inventory management.

4. **Vertical Integration**
   - Development of 3PL and 4PL services.
   - Continuity of distribution with higher fluidity and velocity.
Main Forms of Urban Retail Goods Movements

<table>
<thead>
<tr>
<th>Deliveries to Retail Stores</th>
<th>Consumer Shopping Trips</th>
<th>Home Deliveries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boxes, pallets, roll cages</td>
<td>Bags</td>
<td>Parcels</td>
</tr>
<tr>
<td>Homogeneous loads</td>
<td>Heterogeneous loads</td>
<td>Heterogeneous loads</td>
</tr>
<tr>
<td>Trucks and vans</td>
<td>Walking, automobiles, public transit</td>
<td>Small trucks and vans</td>
</tr>
<tr>
<td>One stop (several for small stores)</td>
<td>One stop + trip chaining</td>
<td>Several stops (delivery route)</td>
</tr>
<tr>
<td>Own account and common carriers</td>
<td>Own transports</td>
<td>Postal, courier and parcel companies</td>
</tr>
<tr>
<td>Distribution centers to retail areas</td>
<td>Retail areas to residential areas</td>
<td>E-fulfillment centers to residential areas</td>
</tr>
<tr>
<td>Distribution center opening hours</td>
<td>Store opening hours</td>
<td>Unattended deliveries</td>
</tr>
</tbody>
</table>

Conventional

Emerging

5 to 10% of sales
The Two Layers of Evolution of Retail Logistics

1980s
Rationalization
Global supply chains, Warehousing districts

1990s
Global sourcing
Overseas suppliers
Regional supply chains, Logistics sprawl

2000s
Digitalization
Global supply chains, Logistics zones

Procurement
Global → National / Regional

Distribution
Metropolitan → Core

Procurement

Global → National / Regional

Distribution

Core → Stores

1980s
Rationalization
Suppliers / Wholesalers
Distribution Centers
Regional supply chains, Warehousing districts

1990s
Global sourcing
Overseas suppliers
Import Centers
Global supply chains, Logistics sprawl

2000s
Digitalization
E-fulfillment centers
City logistics and fast deliveries

Parcel hubs → Parcels delivery centers → Customer home
→ Collection point → Delivery point

Sortation centers → Local depots
Mail Carried by USPS and Parcels Carried by Major Carriers, United States, 2004-2017 (in billion units)
Purchase and Delivery Profile of Online Retail Users, United States, 2016

Frequency of Purchases by Method

- Single channel
  - Search and buy online: 16%
  - Search online, buy in store: 8%
  - Search and buy in store: 20%
  - Other: 4%

- Omni channel
  - Search in store, buy online: 14%
  - Search online, buy in store: 8%
  - Search and buy in store: 20%
  - Other: 16%

Preferred Delivery Location

- Direct
  - To retailer's store: 65%
  - To home: 8%
  - To workplace: 6%
  - To relative/friend: 5%
  - To relay point: 6%
  - To carrier's pickup location: 4%

- Indirect
  - To delivery locker: 5%

Buyer Activity Space

- Carrier Activity Space
  - Direct: 65%
  - Indirect: 35%

Single channel: 42%
Omni channel: 58%
Omni Distribution Channels for E-commerce

Fast deliveries: Using digital technologies to increase the velocity and flexibility of urban distribution.
- Pre-positioning of goods in urban distribution centers.
- Preparation of store orders.
- Consolidation of food deliveries (restaurants)
Footprint of Retail-Based and Distribution-Based Commercial Activities

- **Retail Footprint**
- **Distribution Footprint**
- **Total Footprint**

![Diagram showing the transition from Retail-Based to Distribution-Based activities](image-url)
Retail Space per Capita, 2017 (in square foot)

- Germany
- China
- France
- Sweden
- UK
- Australia
- Canada
- United States

The bar chart shows the retail space per capita in various countries, with the United States having the highest retail space per capita, followed by Canada. Germany has the lowest retail space per capita in this dataset.
Comparison Between Retail and E-commerce Cost Structures for a $150 Apparel Piece

### Retail Cost Structure
- Profit: $24.00
- Marketting: $15.00
- Other retail costs: $12.00
- Rent: $22.50
- Distribution to stores: $4.50
- Store Payroll: $27.00
- Factory Cost: $45.00

### E-commerce Cost Structure
- Profit: $45.00
- Marketting: $15.00
- Operating costs: $30.00
- Warehousing: $5.00
- Free shipping & Returns: $10.00
- Factory cost: $45.00
Logistics Facilities Supporting E-commerce

**E-Fulfillment Center**
- Large-sized facility.
- Cross-docking configuration common.
- High racks storage.
- Push towards automation.
- Access to a major parcel hub.

**Parcel Sortation Center**
- Large-sized facility.
- Cross-docking configuration for loading trucks.
- Automated and semi-automated sortation.
- Accessibility to regional distribution.

**Urban Logistics Depot**
- Medium to small-sized facility.
- Cross-docking configuration for loading vans.
- Periphery of metropolitan areas.

**Freight Station**
- Small or micro-sized facility.
- Store-like facility (pickup location).
- Locker banks (freight station).
- High density neighborhood locations.
Parcel Deliveries by Carrier, 2015-2018

- **2015**
  - Amazon: 15.1%
  - FedEx: 30.8%
  - UPS: 51.3%
  - Other: 0.0%
  - USPS: 0%

- **2016**
  - Amazon: 10.2%
  - FedEx: 29.6%
  - UPS: 46.8%
  - Other: 10.2%
  - USPS: 0%

- **2017**
  - Amazon: 11.0%
  - FedEx: 26.3%
  - UPS: 42.9%
  - Other: 10.7%
  - USPS: 0%

- **2018**
  - Amazon: 10.7%
  - FedEx: 13.4%
  - UPS: 24.0%
  - Other: 19.3%
  - USPS: 17.2%
Conclusion: A Disruptive Transition for City Logistics

- Four dimensions in the insertion of e-commerce into city logistics
  - Distribution patterns
  - Urban footprint of logistics
  - Logistical facilities
  - Vertical integration