eCommerce and delivery disruption - good or bad?

Jacob Johnsen
Explosion in e-commerce
Disruption in delivery services
Good or bad for Sustainability?

Jacob Johnsen
The disruption from shops to e-shops

- The complete image
  - Carbon footprint
  - Use of resources
  - Disposal of used items
  - Recycling and reuse

We came from the brick-and-mortar model

- First the single-purpose stores
  - the butcher, the baker, the greengrocer, etc.
- Later multi-purpose stores
  - grocery stores, big box stores, retail outlets, shopping malls
- Stores are still both resource and capital intensive
- Some signs that e-shopping gives less CO₂ footprint
The move from the brick-and-mortar model

- CO₂ advantage for online shopping
  - unless you buy 24 items and go by bus¹
  - if shopping distance for one item is above 13.8 km²
- Delivery will create CO₂, but so will shipping to a shop
- Remember: e-commerce include re-selling, thus recycling
eBay, Amazon, Craigslist, ...

2: "Model Behavior - 20 Business Model Innovations for Sustainability" by Lindsay Clinton and Ryan Whisnant, sustainability.com, 2014
The disruption from shops to e-shops

THE CARBON FOOTPRINT
The Carbon Footprint

Many contributors

For e-commerce

- Computer networks
- Delivery
- Packaging

# The Carbon Footprint

## Sustainability Quotient Matrix

<table>
<thead>
<tr>
<th></th>
<th>Low Sustainability</th>
<th>Medium Sustainability</th>
<th>High Sustainability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consolidation of Products in an order</strong></td>
<td>Consolidation of items for &lt;40% orders</td>
<td>Consolidation of items for 40%-80% orders</td>
<td>Consolidation of items for &gt;80% orders</td>
</tr>
<tr>
<td><strong>Leveraging existing infrastructure of postal and 3PL firms for delivery of small goods</strong></td>
<td>For &lt;40% orders</td>
<td>For 40%-80% orders</td>
<td>For &gt;80% orders</td>
</tr>
<tr>
<td><strong>Long-distance transport</strong></td>
<td>Using air-shipping for &gt;80% orders</td>
<td>Use multimodal transport solutions with significant share for rail and road</td>
<td>Using air-shipping for &lt;40% orders; Giving consumers an option to choose the greenest delivery option which may be slower and charging extra for air-shipping</td>
</tr>
<tr>
<td><strong>Last Mile Delivery</strong></td>
<td>Using only motorized bikes and vans for delivery on a first-come first-serve basis resulting in multiple trips during a day</td>
<td>Optimizing routes and consolidating orders for motorized vehicles</td>
<td>Using non-motorized transport like bicycles whenever possible (for small packages) and cargo e-bikes for the rest</td>
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<td><strong>Packaging - Volume of Package</strong></td>
<td>Using standardized packaging irrespective of size of product</td>
<td>Using cube footage to optimize packaging</td>
<td>Using packaging that is specifically designed for the product</td>
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<td><strong>Type of Packaging</strong></td>
<td>Using predominantly plastic packaging and large amounts of bubble wrap even for non-breakable products</td>
<td>Using a mix of plastic and cardboard packaging</td>
<td>Using predominantly cardboard boxes (can be recycled through a proper channel) or packaging made from recycled material</td>
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<td><strong>Reuse/ Recycle packaging</strong></td>
<td>Packaging is not reused or recycled</td>
<td>Packaging is recycled</td>
<td>Packaging is taken back and reused as many times possible before recycling</td>
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<td><strong>Return of Shipment</strong></td>
<td>Separate return cycle</td>
<td>Option for Try and return on spot</td>
<td>Schedule deliveries such that for &gt;80% consumers Try and Return can be availed</td>
</tr>
</tbody>
</table>

Source: “Framing Sustainability for E-commerce”, Sustainability Outlook, Market Access and Insight Team, India, March 2015

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The Carbon Footprint

85% carbon emission comes from logistics¹ and accounts for 10-15% of all costs²

Logistics is in focus when improving e-commerce profitability

- Mode of transport
- Last mile delivery
- Own or outsourced delivery


The disruption from shops to e-shops

THE PACKING MATERIAL
The Packing Material

- Long-term environmental affect of e-commerce
- Faster delivery will create many smaller shipments
- Return shipping requires different packaging

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Source: Recology, San Francisco's main recycling plant collects 100 tons of cardboard every day (The New York Times)
The disruption from shops to e-shops

**RECYCLING, RE-USE AND DISPOSAL**
Recycling, Re-use and Disposal

Many e-commerce sites give the choice between new and second-hand items (eBay, Amazon, …)
- Items get a new or prolonged life

Delivery services will offer to take packaging back
- Either for reuse or for recycling

Many return services rely on re-use of packaging
- Reuse for return, and possible reuse for new shipment

Can e-commerce become green-commerce?
Every profession bears the responsibility to understand the circumstances that enable its existence.

- Robert Gutman
  Professor Princeton (1942-2009)
Who is this guy?

Jacob Johnsen

- Engineer, Master in Organisation
- 25+ years experience within mail and telecom
- Senior Expert in postal business matters
- Founder of Ipostes
  - Specialised independent consultancy
  - Experts in postal operations, hybrid mail, messaging
- Heading European standardisation (CEN)
  - Responsible for hybrid mail and postal electronic services
  - Heading the activities for more than 15 years

Previously
- Vice-president for International Data Post
- Numerous leading positions (CEO, CTO, Program Director) in large corporations within post, telecom, broadcasting
Thank you for listening

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