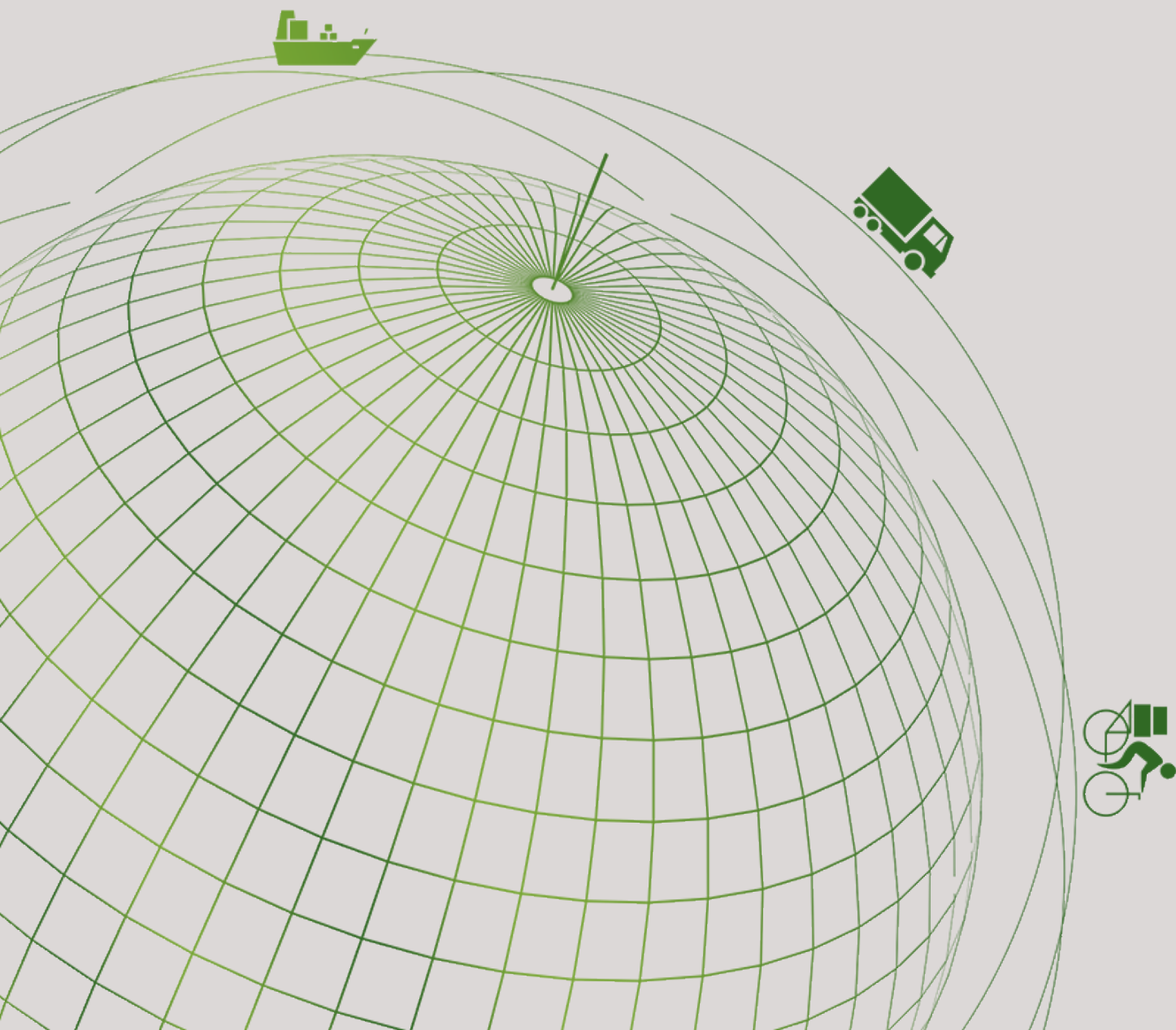


HOW PACKAGING CAN ADD VALUE IN E-COMMERCE

STEPPING AWAY FROM QUICK, CHEAP AND UGLY



EXECUTIVE SUMMARY

What role does packaging play in e-commerce today and what impact could this have on e-commerce tomorrow?

To explore these issues, innovation company NINE, on behalf of BillerudKorsnäs, has conducted this study in order to look at the complexities of e-commerce packaging across industries, channels and geographies and to provide key findings that may help shape the future of e-commerce packaging.

Globalization, new technologies and a higher degree of consumer savvy are quickly changing the e-commerce landscape. Consumers now expect to interact with brands and retailers anytime, anywhere. And increasingly, they expect the same seamless shopping experience that they are accustomed to in-store through web stores, too.

The aim of this report is to share knowledge obtained through qualitative research on how 17 e-commerce companies currently package durable and non-durable goods for sale, primarily in the European and Chinese markets. Based on key findings, it reveals weak points in the value chain and identifies opportunities where packaging can be

improved and thereby raise the perceived value of online retail brands in the minds of consumers.

Online shopping today still excludes many consumers. Although online sales figures are increasing, they are still marginal compared to offline sales. To reach a broader audience, e-tailers have an excellent opportunity to facilitate and simplify consumption through enhancing the packaging used.

The process

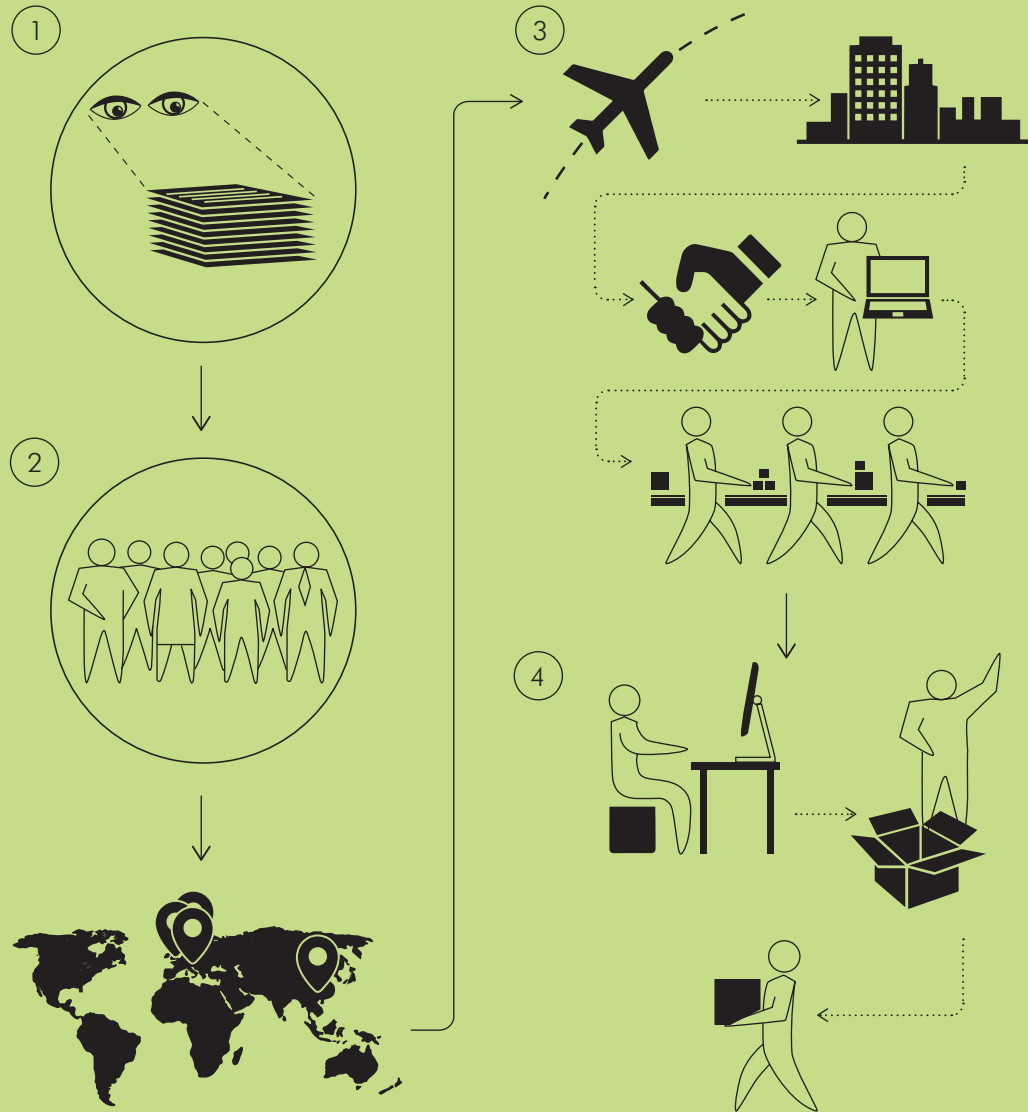
Qualitative research methods were used to collect data for this report, including:

- Comprehensive review of relevant background literature
- Interviews with experts in relevant disciplines from five countries
- Participant observation and in-person interviews of various stakeholders at 17 e-commerce companies, of which six are presented here
- Participant observation and in-person interviews of online consumers



Figure 1 - Overview of companies chosen for case studies, as well as activity types and product segment.

PROCESS OVERVIEW

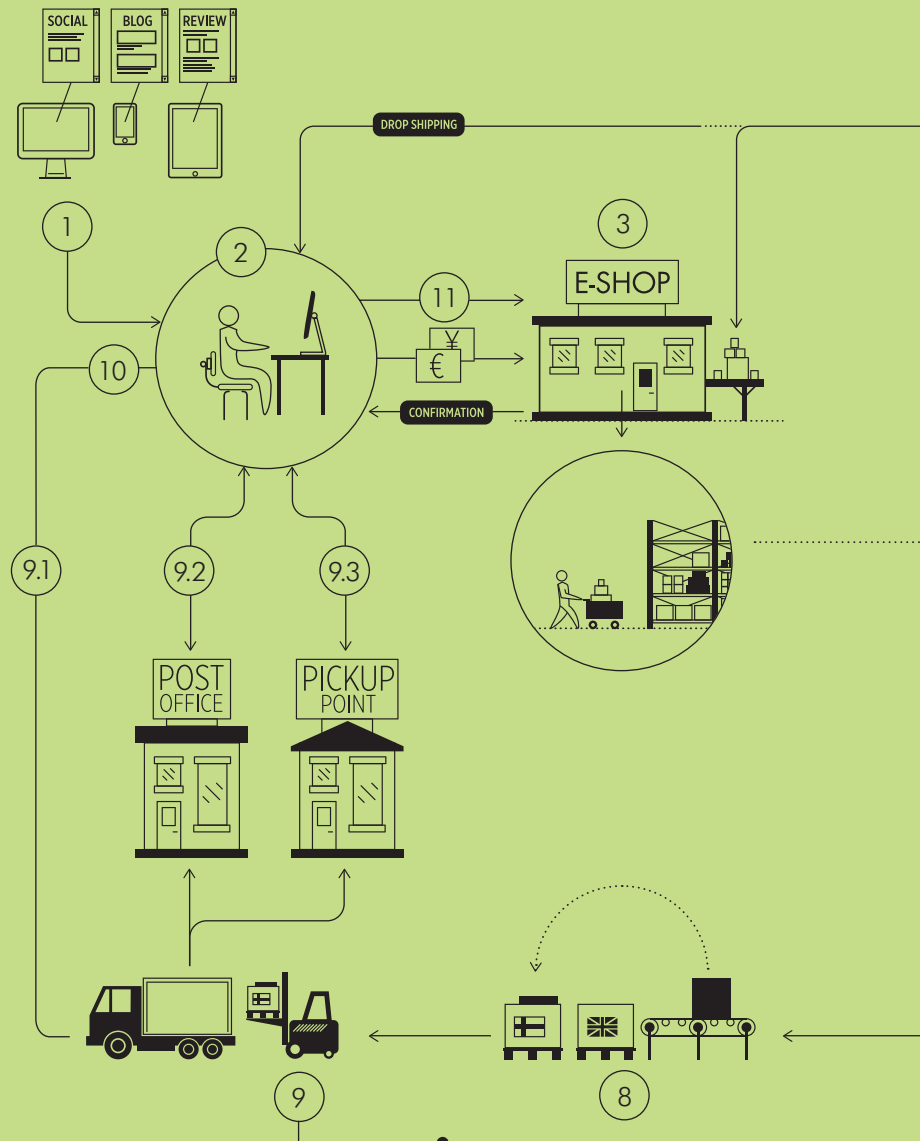


1. REVIEW OF RELEVANT BACKGROUND LITERATURE
2. INTERVIEWS WITH EXPERTS
3. CASE STUDIES
4. CONSUMER STUDY FOCUSING ON ORDERING AND RETURNS

THE JOURNEY

Little attention has been given to the consumer experience with packaging when buying goods online. Yet at each touch point along the way, there are gaps between consumer expectations and experience that can, and should, be narrowed in order to increase consumer satisfaction with the online shopping experience.

1. Consumer research
2. Order
3. Inbound logistics
4. Preparations of orders
5. Picking
6. Sorting
7. Packing
8. Shipment preparations
9. Outbound logistics
10. Order delivery and reception of goods
11. Returns



LAST MILE

Convenience for the consumer is an increasingly important aspect of e-commerce. Offering the consumer a means of delivery that suits their preferences is key to a seamless shopping experience. The mailbox is already widely used as a delivery point and it is predicted to be used even more in the future. So are also new kinds of pick-up solutions that are integrated into frequently visited public spaces, such as train stations and shopping malls, as consumer requirements on flexibility increase.



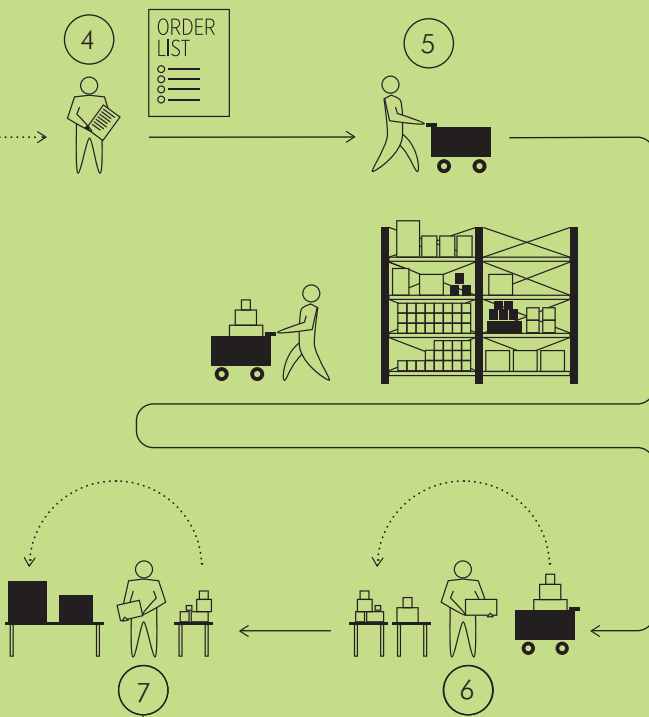
TRANSPORTATION

Most problems that occur after parcels leave the DC are caused by the sender not knowing how the last mile is handled. They therefore do not know what requirements the packaging need to live up to during transports. Parcels are many times handled quite roughly at carrier DC.



ORDER

Online consumers today expect seamless purchasing processes and want to be able to place orders at any time, on any device. Communicating a realistic image of a product's characteristics is one of the main challenges when presenting products online. Primary packaging plays a significant role in presenting products on a screen. So-called electronic shelves call for different requirements regarding a packaging's visual appearance compared to analogue ones.



PICKING

Picking is handled manually at the majority of the companies visited in the study. There are several different picking strategies used at different companies, depending on the size of the warehouse and the number of SKU's offered at the site.

PACKING

Packing is, just like picking, mainly handled manually. In addition to packing the products, it is common for packers to also choose what type of packaging to use. Choosing packaging is a complex task, where a number of factors must be considered, such as different sizes and shapes of items, different temperature requirements, order destination, branding, etc. Although there are automated systems for choice of packaging, the final decisions are often up to the packer, sometimes resulting in a trial and error process to find the right packaging for an order.



E-COMMERCE FROM THE INSIDE

Of the participating 17 online retailers, these six were selected to exemplify the use and issues with e-commerce packaging.

SF BEST

Protective packaging plays a crucial role for this Chinese high-end online food retailer. Consumer experience and reducing packaging costs are important, but extensive product protection comes first.

EMMAS ENKEL

This German-based hybrid grocer successfully bridges the gap between physical and virtual stores with options for cross-channel buying that meet consumer demands.

LEKMER

This Swedish online toy retailer faces challenges in meeting the demands of a rapidly growing consumer base and increased interest in online shopping especially during peak periods such as the Christmas season. The company tries to tackle inefficiencies caused by selecting the right packaging, which occasionally results in waste of both time and material.

GLOBUS

This upscale Swiss department store and grocer recently launched its web shop with the aim of keeping the same high level of consumer experience when shopping online as offline. Consumer experience is therefore highly valued and has a higher priority than rapid growth.

JD.COM

To increase speed, reduce costs and improve efficiency of order fulfillment, this Chinese e-commerce company is introducing automation at some of its warehouses. Packaging appearance and the consumer experience, however, remain a low priority for the company as long as orders arrive on time and intact.

COOP ONLINE

As one of the leading online grocers in Sweden, experiencing exponential growth, Coop Online face challenges to develop its logistics system to meet rapidly evolving customer behaviors and expectations.

KEY TOPICS

These six key research findings were identified as a result of extensive fieldwork carried out for this study.

1

NEED FOR A COOPERATIVE APPROACH

To capitalize on the growth of e-commerce, online retailers need a broader, more holistic approach to e-commerce packaging with tighter cooperation with all stakeholders throughout the entire value chain.

4

SUSTAINABILITY - SOME TALK, LITTLE ACTION

Most online retailers participating in this study show limited interest in environmental stewardship and it is seen as a marketing hygiene factor. There is much room for improvement in this area.

2

LOCAL BECOMES GLOBAL OR THE OTHER WAY AROUND?

The lure of globalization can prove difficult even for the most savvy online retailers. Establishing joint ventures with major domestic players that have local market presence can smooth entry into new markets.

5

ONLINE AND OFFLINE DYNAMICS

The blurring of lines between the on- and offline retail worlds calls for further development of omni-channel retailing. This presents many challenges, including those of packaging, but also presents a chance to identify new target groups and expand reach.

3

TARGETING DELIVERY, HANDLING AND LOW PRICE – NOT CONSUMERS

Speedy delivery, efficient handling and a low unit price remain the drivers for e-commerce packaging. Little attention is paid to packaging as a means to enrich the consumer experience or to convey the brand.

6

COMPLEXITY OF ONLINE GROCERIES

Re-creating the full sensory experience of in store shopping proves difficult online. This calls for, among other things, new approaches to online packaging, pricing and fresh, chilled and frozen food delivery.

OPPORTUNITY AREAS

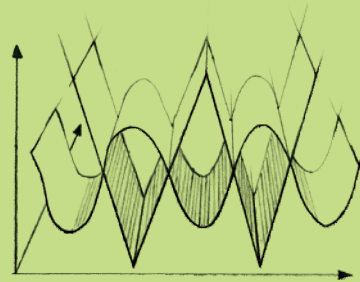
An opportunity area may be defined as a need or means to fulfill a need that provides a chance for progress or improvement. These areas provide a strategic direction to support

the growth and development of e-commerce packaging. By exerting influence over these areas, online retailers are better positioned to exploit business opportunities.

1

OPTIMIZE PACKAGING PERFORMANCE

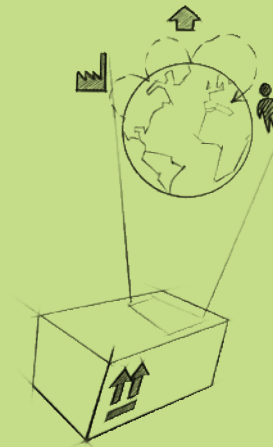
The physical performance of packaging can be improved, specifically with regard to monitoring packaging performance, selection of product-specific packaging systems and customization.



2

OPTIMIZE INFRASTRUCTURE

Online retailers should address obstacles in handling, distribution and overall infrastructure, specifically in these three areas: introducing product-specific metadata in the packaging; improving flow handling for increased delivery speed and higher consumer satisfaction; and adapting packaging to suit new parcel pickup options, such as click and collect lockers.



3

ENHANCE CONSUMER EXPERIENCE

Use e-commerce packaging to promote consumer intimacy and brand loyalty, meet consumer demand for self-affirmation on social media and capitalize on opportunities presented during unboxing to enhance the overall consumer experience.



4

360 DEGREE ECOMMERCE

As e-commerce continues to grow worldwide, it is important to engage consumers through the use of omni-channels to create seamless, consistent and personalized experiences. Bridging the divide between virtual shopping and physical shopping, building in sustainability throughout the entire value chain, and collaborating with stakeholders to meet future challenges are key to success.



5

ONLINE GROCERY MARKET

Handling increased demand, larger volumes and more frequent small quantity orders calls for fast, agile e-commerce solutions. This includes more flexible, multi-purpose packaging systems, sustainable waste management solutions and extending reach by capitalizing on omni-channels to increase consumer satisfaction.



Online shopping today still excludes many consumers. To reach a broader audience, e-tailers have an excellent opportunity to facilitate and simplify consumption through enhancing the packaging used.

INTRODUCTION

EXPLORING THE ROLE OF PACKAGING IN E-COMMERCE

...it's important to remember that the customer experience for e-commerce products includes the way the product lands in the consumer's mailbox or on their doorstep. That first impression can make the product better and the brand more desirable, or it can create a negative perception that will tarnish both.

—“How Your Packaging Improves Customer Experience,” Forbes magazine, 13 Oct. 2014

The overall purpose of this project is to explore the role of packaging in e-commerce and, more specifically, to look at how packaging can add value in e-commerce. Online shopping is a much-debated topic. Everyone – from retailers and brands to consultants and researchers – is talking about it. What exactly is e-commerce and how does it work? It involves a product that is bought online and subsequently packed and shipped to a consumer. However, the role and importance of packaging in the journey from distribution center to consumer has not attracted as much attention as other aspects of e-commerce. Still, packaging is integral to e-commerce. A product cannot be stored, packed or shipped if

there is no packaging to carry it along its way. Depending on its design and quality, packaging can either facilitate or complicate the handling of the product. Why then is the role of packaging for online purchases different from that of traditional brick-and-mortar stores?

A consumer's online shopping experience differs to a large extent from traditional retailing in various ways, particularly from a logistics perspective. Consumers cannot touch and feel products on the shelf, but rather must make a buying decision about them on a screen. Products are not shipped to a few stores but to many consumers, all with unique orders. Returning a product presents another type of consumer experience. Most of the time, a consumer must return a product bought online to the seller through the postal service rather than return it to a physical store. The challenges and opportunities presented by e-commerce packaging therefore deserve more attention.

Focus on e-commerce packaging for this project involves the packaging journey for durable (“hardware”) and nondurable goods. The former includes a wide range of products such as toys, furniture, consumer electronics and books; the latter includes foodstuffs, primarily groceries.

Compared to just a few years ago, there are many more different types of online products shipped today. This presents several challenges. One such challenge is environmental: How can you limit the empty space being transported and still ensure the safety of the product? Another is enabling consumers to have greater control as well as greater flexibility over where and when to pick up a delivery.

— Jonas Ogvall, CEO, Svensk Digitalhandel, the Swedish e-commerce association

The reasons for the choice of these two categories of goods are twofold. First, online sales of durable goods poses unique packaging challenges due to the number of mixed orders that include a variety of products packed and shipped together. Second, to ensure proper delivery for online groceries,

there are high demands placed on packaging, particularly with regard to protection, freshness and handling of chilled and frozen foods as well as branding.

This study focuses on the European and Chinese e-commerce markets and contrasts the two markets with regard to e-commerce packaging.

Research for this project includes various methods in order to obtain a truly unique and thorough understanding of packaging in e-commerce today. The report is intended to raise awareness of the importance of e-commerce packaging, bring new insights on how it can add value to any brand, and raise discussion about how to innovate to move the industry forward.

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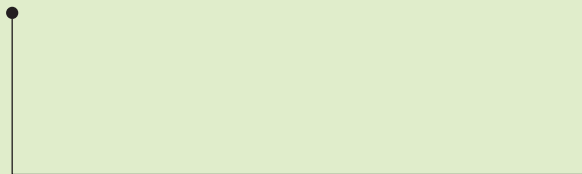
BACKGROUND

THE PROCESS

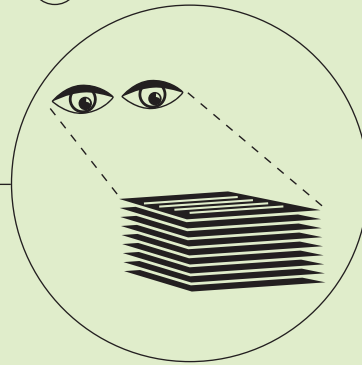
This project draws upon several different research methods, which together form the basis of knowledge and information from which conclusions are drawn.

REVIEW OF RELEVANT BACKGROUND LITERATURE

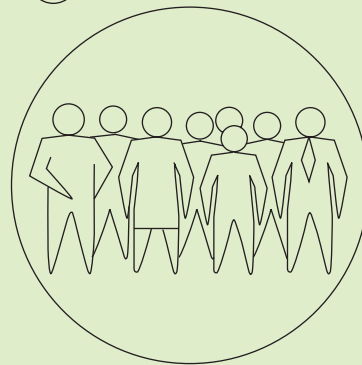
A comprehensive review of previous research and reports on the topics of e-commerce, packaging and related fields was conducted.



1



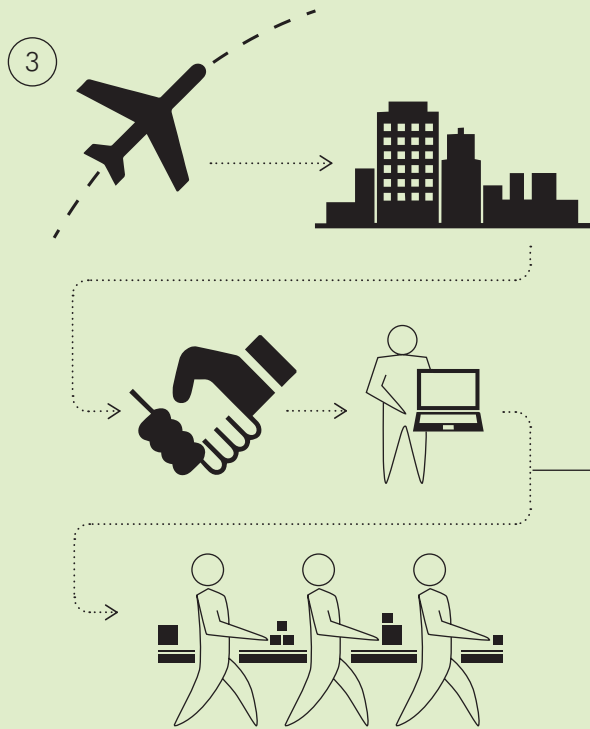
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INTERVIEWS WITH EXPERTS

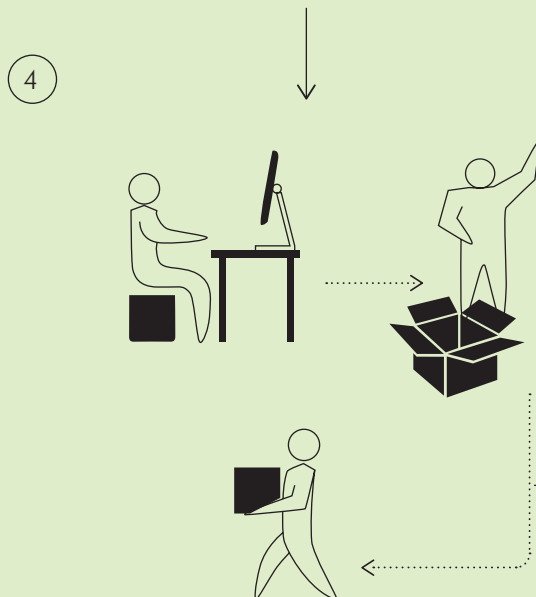
Interviews were carried out with 10 experts based in Sweden, the United Kingdom, Germany, China and who represent different but relevant disciplines. These interviews were used to shape subsequent research on companies included as case studies and as a means to verify the results of this research project.





CASE STUDIES

Direct observation of, and interviews with, stakeholders at 17 e-commerce companies form the core of the research project. Interviews were conducted during the fall of 2014 at companies in Sweden, the United Kingdom, Germany, Switzerland and China. Visual observation of packaging-related practices at the companies at e-commerce-related sites such as warehouses and distribution centers took place. In addition, at the companies interviews with a broad range of e-commerce stakeholders from CEOs, e-commerce managers and warehouse managers to warehouse pickers and packers took place to obtain varied perspectives on the challenges of e-commerce packaging.



**CONSUMER STUDY:
ONLINE ORDERS AND RETURNS**

To capture the consumer perspective of the e-commerce packaging journey, a study focusing on consumers' interaction with packaging when ordering and receiving products online was carried out in Sweden. The consumers were asked to: (1) order selected goods online; (2) receive the goods and open them; and (3) return them. After each of these three touch points, each consumer was interviewed to gain insight into the consumer experience.

SHORT BACKGROUND ON E-COMMERCE LOGISTICS AND PACKAGING

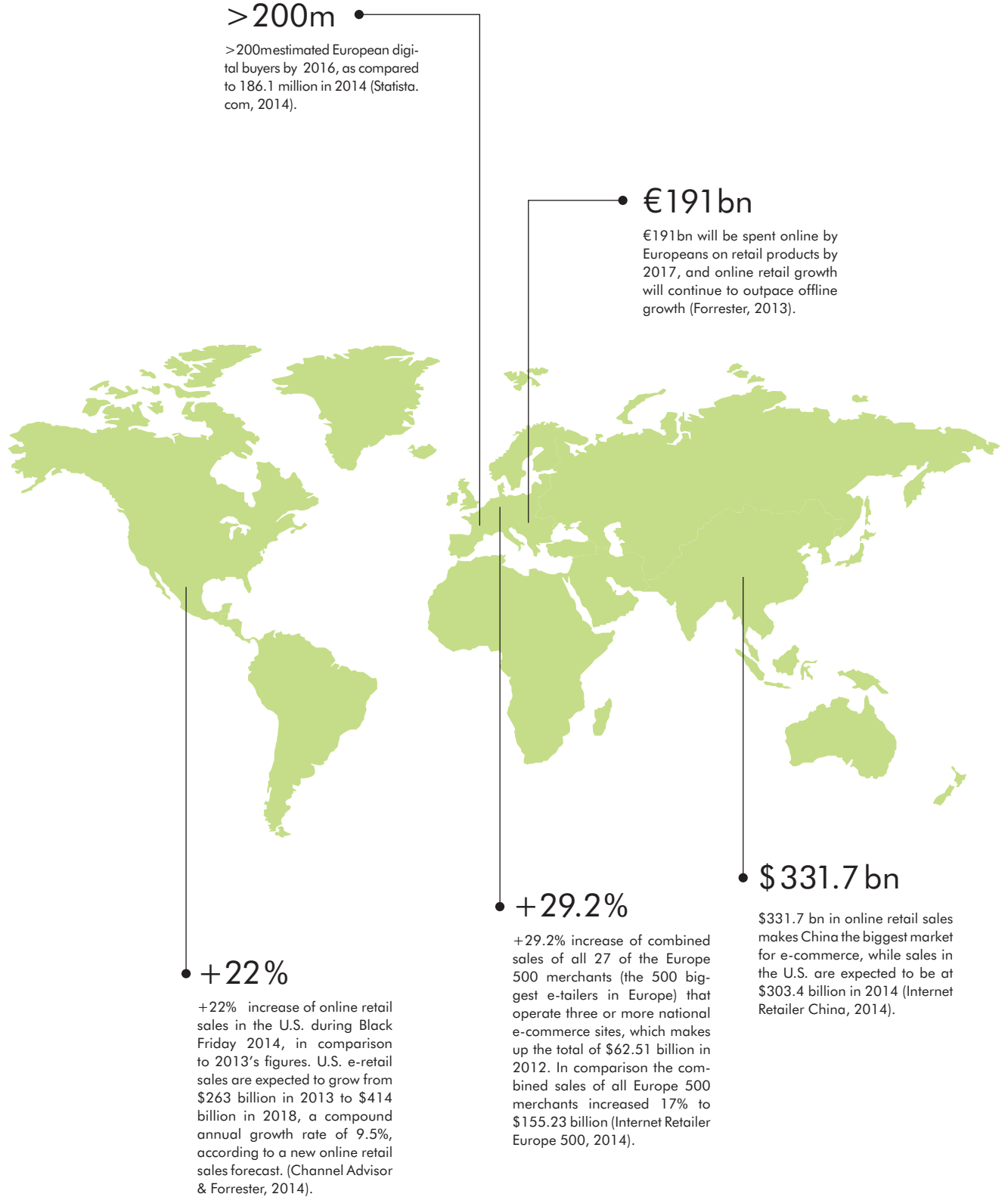
Over the last decade, e-commerce has increased in most global markets and e-commerce growth rates show no signs of slowing down. Entertainment products such as music, books and video games are by far the most popular online purchases while online buying of groceries, for example, lags behind because most consumers still prefer the in-store shopping experience over the online one. However, a recent study in Sweden indicates that 25% of the participants stated that they would purchase food online in the coming year (Swedish Digital Commerce Association, 2014). In a U.K. study about the potential of online grocery shopping, 27% of Britons interviewed said that they intended to buy food and drink products online in the coming months (Nielsen, 2012).

The forces behind e-commercialization are complex and driven by both market and consumer demands. Among the most important driving forces are: globalization, the increase in tech-savvy consumers, improved technology, and company investment in online divisions. Increasingly, consumers expect a seamless shopping experience that enables them to interact with brands and retailers anytime, anywhere. This includes the online shopping experience, which is taking place more often and on different types of devices. As a result, there are greater opportunities for online shopping than ever before (Figure 2).

% of consumers who researched online before purchasing a product in a given category in past 6 months



Figure 2 Correlation between online and offline research and purchase. Source: McKinsey 2012.



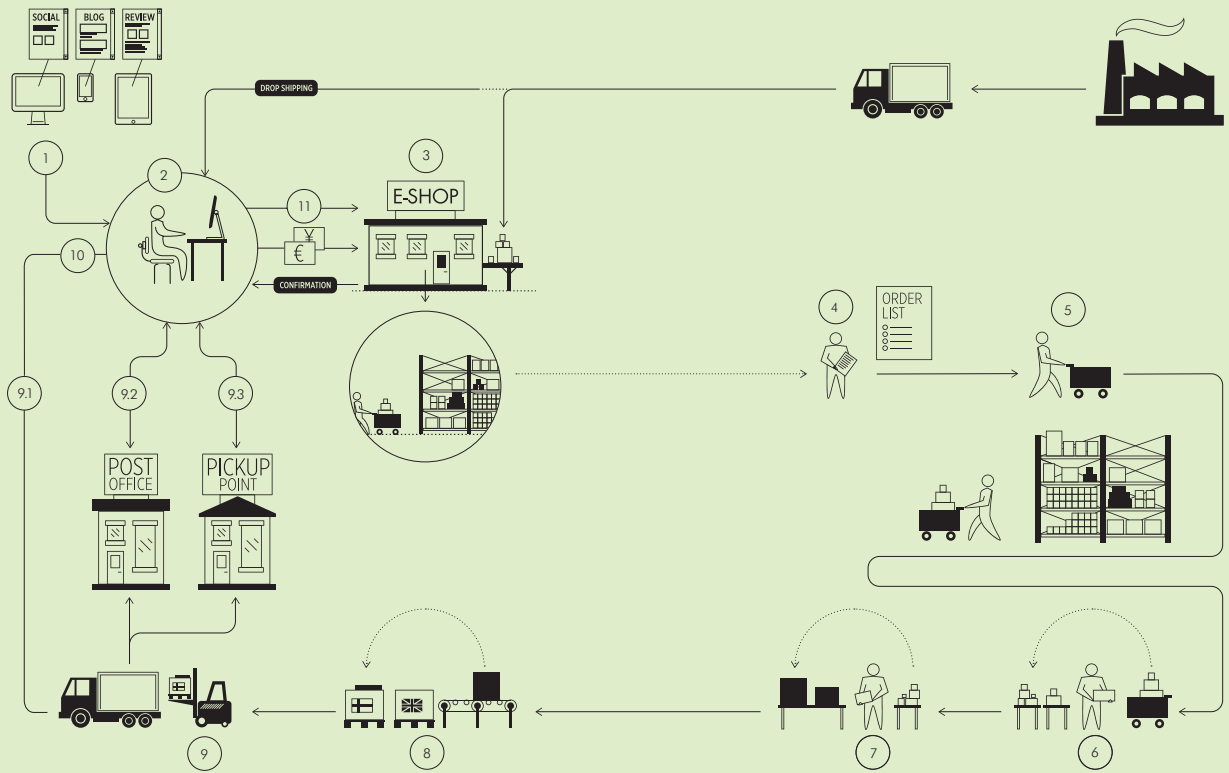
THE PACKAGING JOURNEY IN E-COMMERCE

There are several touch points for e-commerce packaging throughout the value chain. Described here are the most relevant ones, along with insights drawn from the qualitative research used for this study.

THE JOURNEY

There are a number of touch points for e-commerce packaging on its way through the value chain.

In this chapter the ones that were found most relevant are described. To map out the most interesting insights about each touch point, information was gathered from previous research, the field study conducted in this project as well as expert interviews.



- 1 Omni-channel research before purchase
- 2 Placement of order by consumer
- 3 Inbound logistics: arrival of goods, unpacking, storing and in-house fulfillment
- 4 Preparation of orders before picking
- 5 Picking of products for orders
- 6 Sorting of orders – if multiple-order picking is performed.
- 7 Packing of orders, including choice of packaging
- 8 Preparations before shipping the orders: e.g. compiling parcels into carts or on pallets
- 9 Outbound logistics: shipment of orders, handling at distribution centers and deliveries to pick-up points
- 10 Delivery of order to consumer
- 11 Return of orders

1 CONSUMER RESEARCH

According to a 2012 study carried out by professional services consultancy PwC, 69% of global online consumers consider themselves to be highly capable in terms of researching and purchasing online. As consumer demands increase, retailers are exploring new ways to lure online shoppers into their stores. Consumers today want to be able to buy what they want, when and where they want. It is then up to online retailers to meet consumer demand.

Omni-channel businesses are becoming increasingly more common, and consumers are using multiple channels to complete a single purchase more frequently. A consumer, for instance, may choose to research a product online and then purchase it in store, or vice versa.

The primary factor that influences a consumer's decision to buy from an online store is whether the store carries a specific brand or product. Store recognition is a secondary factor. Price comparison sites, search results and recommendations from friends and experts are also important factors influencing consumer choice in selecting online stores.

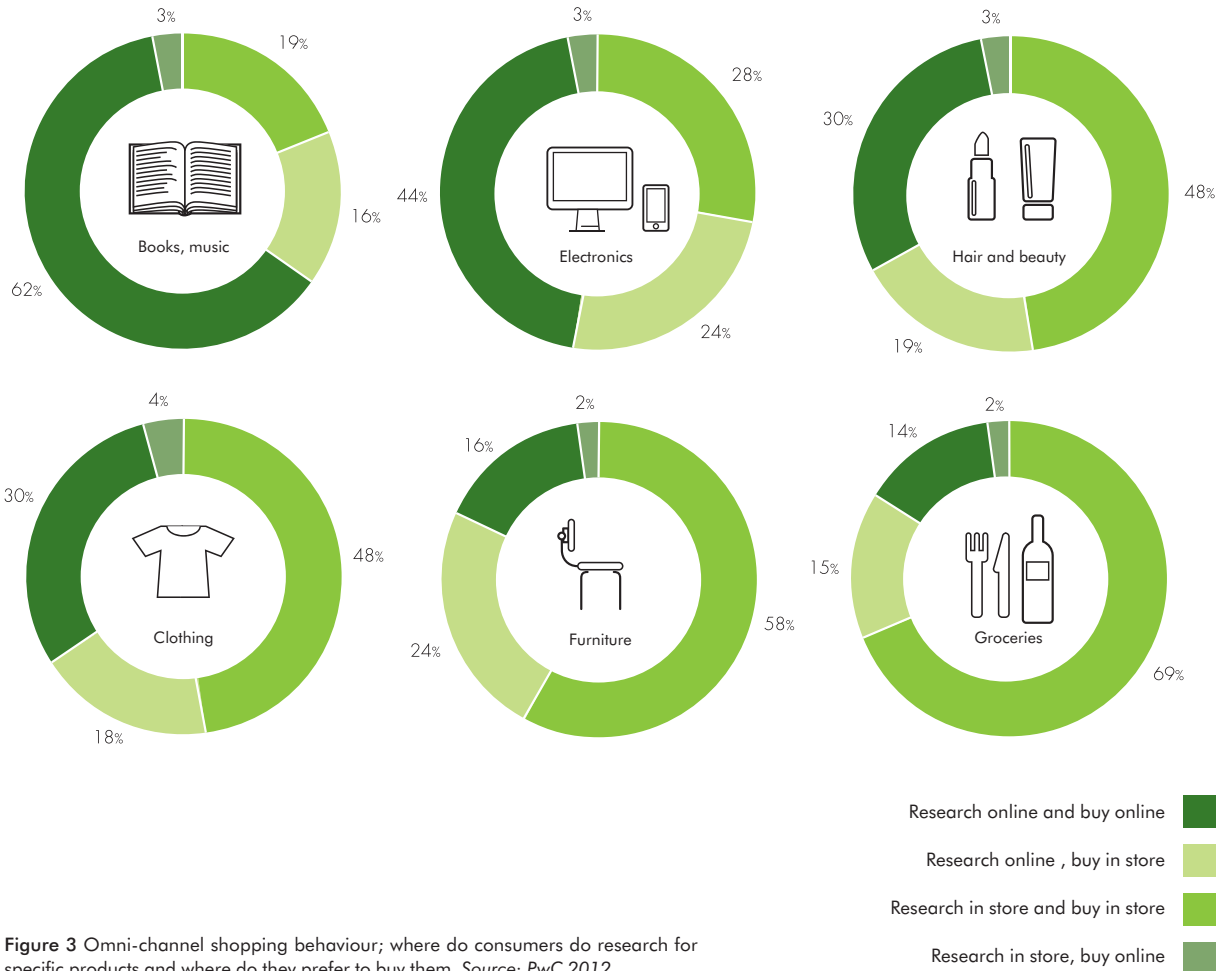


Figure 3 Omni-channel shopping behaviour; where do consumers do research for specific products and where do they prefer to buy them. Source: PwC 2012

One of the biggest e-commerce challenges today has to do with the seamlessness of the consumer experience. Consumers are generally impatient and want to decide what, when, where and how to make their buying decisions. Ultimately, it is more important than ever to let consumers feel that they are in control.

— Arne Andersson, E-commerce Advisor and Spokesman, PostNord

Differences between e-commerce and offline retail packaging

The reasons for visiting an online shop differ. In China consumers turn to other consumers and social media for recommendation on online shops in a higher extent than other countries (figure 4). Globally, the most important reasons for visiting an online shop are recommendations and price comparison sites. There are good reasons to believe that packaging, and the presentation of products online, could also have an effect on the choice of online shops.

When shopping online and offline, consumer expectations for packaging design differ.

One online grocer uses a simpler graphic design for its own brands, that are only sold online, compared to packaging designed for traditional retail. Easily finding, understanding

and navigating through the online products is essential to the online shopping experience; however, it is also important that these food products are easy to find on the cupboard shelves at home. The use of easily recognizable icons can help consumers quickly find the products that they are searching for.

Other factors, such as price and convenience, are becoming increasingly important for online purchases in general. For in-store purchases, physical product appearance is still the major factor. Consumer studies show that secondary packaging used for purchases from an online store does not seem to be an important factor for first-time online buyers. However, secondary packaging may play a role in whether a repeat online purchase is made because high-quality secondary packaging enhances the perceived quality of the brand.

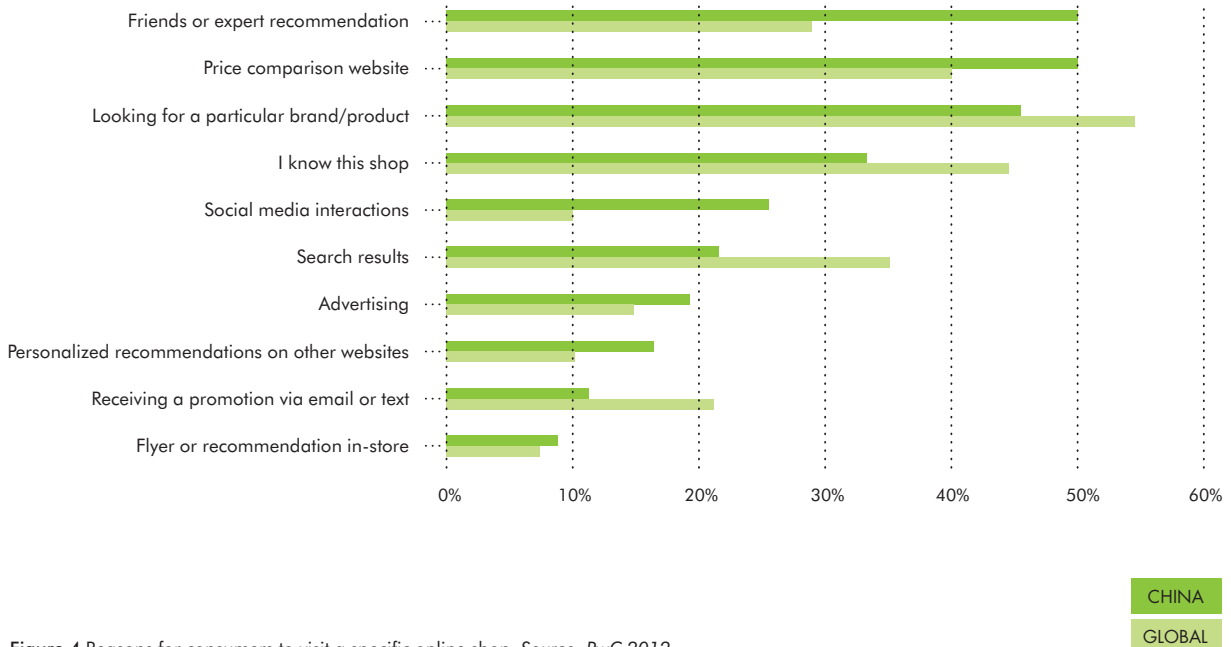


Figure 4 Reasons for consumers to visit a specific online shop. Source: PwC 2012

2 ORDER

CUSTOMIZED SHOPPING EXPERIENCE TO INCREASE PURCHASES

According to research by the UK company Baymard Institute, 68 out of every 100 potential online customers leave a website at checkout without completing their transactions. The reasons? Among them are pricing, time delays, unsuitable delivery options. Customizing the online shopping experience using multiple channels that offer consumers more choices during the order process may be one way to make sure potential customers actually buy. Omni-channel e-tailing gives potential buyers online opportunities to place orders – often based on products from their previous histories – wherever they are and on whichever device is most convenient. During the checkout process, they are presented with delivery options as well as payment options to best suit their needs and particular situations.

Packaging perspective

During the online checkout process, there are primarily two types of packaging offered: predefined standard packaging and, in some cases, a gift-wrapping alternative. However, some retailers are opting to take the branding experience a step further through the use of packaging options for online purchases. Two such retailers are Net-A-Porter and Globe

Hope. Upscale British fashion retailer Net-A-Porter prides itself in offering customers a premium online shopping experience from start to finish, including through its packaging. Like most other retailers, it offers a predefined packaging solution, consisting of a premium box sealed with a ribbon in which the product is wrapped in tissue paper; the premium box is then placed in a plain brown corrugated cardboard box for transportation. The premium box is designed to suit the demands of Net-a-Porter’s main target group. However, some customers may find this packaging extravagant and, therefore, a plain brown box without any unnecessary inner packaging is offered as an alternative. Shipping costs at Net-a-Porter are significantly higher than at other clothing retailers, reflecting the prices of Net-a-Porter’s high-end luxury products.

Finnish fashion retailer Globe Hope offers consumers the choice of reusable packaging that consumers return after use by placing the empty pre-paid packaging in a mailbox. This sustainable packaging solution rewards consumers with gift vouchers for future purchases when packaging is returned for reuse.

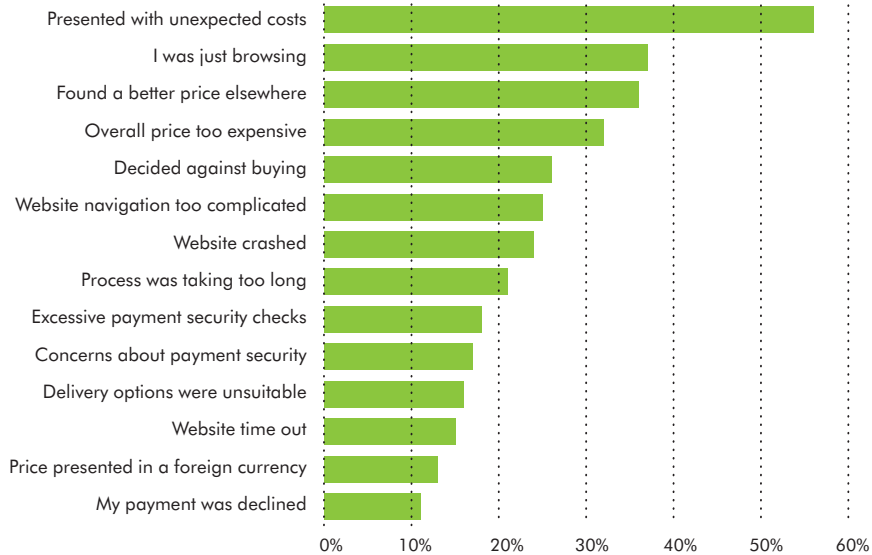


Figure 5 Reasons for not completing a purchase online. Source: Statista 2013

3 INBOUND LOGISTICS

Systems used for inbound logistics are arranged according to the characteristics of logistical needs, such as size of warehouse, packaging volumetrics, physical storage needs, frequency of orders, and type of goods handled. Most of the companies participating in this study handle the reception of goods from suppliers manually. Warehouse employees are responsible for unpacking, sorting and inspecting incoming goods, and placing them in storage.

American e-tailer Amazon is at the forefront of automated inbound logistics among pure e-commerce players. The company uses robotic systems in several of its U.S. fulfillment centers for sorting, picking and placing incoming goods from suppliers. However, the use of robots is still in its early stages of development, and many fulfillment tasks at Amazon are still performed by workers. According to interviews with stakeholders at Amazon, it is only a matter of time before the company invests in automated robots for use in other markets to shorten delivery time.

Arrival of goods

Goods usually arrive at the distribution center on pallets and are unloaded by teams of employees dedicated to inbound logistics. According to logistics company Kühne + Nagel, there are regional differences in how finished goods are packed and delivered to market. Goods arriving from China and India, for instance, are often packed straight into shipping containers without using pallets, while transports within

Europe are always packed on pallets. This affects the speed with which goods are unloaded and placed in the warehouse. Differences in labor cost account for these regional differences in practice.

Tertiary packaging is usually discarded before storing goods. Among the companies included in the study, there were primarily two methods employed for storage:

- Warehouse boxes: Products were placed in these boxes after removing the secondary packaging. Cut-outs in these warehouse boxes facilitate picking. If the original boxes from suppliers were used as internal boxes, employees cut out openings for easier picking in each box.
- Removal of the top of the secondary packaging for easier access to the goods.

It was observed that, incoming packaging is often opened using cutting tools or knives which can potentially damage the goods.



1.1 Creative use of tertiary packaging as storing unit. Part of front has been cut out to ease picking.

4 PREPARATION OF ORDERS

Order lists are usually printed by the e-tailer through the use of advanced real-time inventory management systems. For omni-channel retailers, allocating inventory from brick-and-mortar stores to fulfill online orders poses challenges. Due to these challenges, fulfillment of online orders is usually separated from inventory at brick-and-mortar stores.

For order handling, picking lists are prepared based on a company’s picking strategy. Picking generally involves several orders handled simultaneously, and the order lists can be sorted either by batch or be picked to order. In large fulfillment centers, order lists are sometimes divided based on picking zones in order to reduce the number of products and increase picking efficiency. In addition, sorting zones are used when picking orders simultaneously without sorting as well as when picking by zones. At larger fulfillment centers, picking staff usually are assigned designated and specialized tasks, whereas in smaller fulfillment centers picking staff usually handle multiple tasks.

5 PICKING

Picking is the process of selecting items stored in the warehouse and preparing the items for packing and shipping. Most e-commerce companies today have manual picking operations because investment in automated systems currently is not justified.

Speed, particularly during peak periods, is the biggest challenge of the picking process according to the companies interviewed. Tactical decisions such as warehouse and inventory control and path optimization can contribute to increased picking efficiency. Picking logic usually varies between category picking and picking for several orders in a single picking round. When category picking is performed warehouses are divided into picking zones, where

each picker is responsible for picking only from a limited amount of products. The other picking strategy consists of each picker working the entire warehouse, picking several orders simultaneously in order to minimize the picking time.

The picker normally places the picked goods in a cart. Human error is generally the reason for mistakes in an order picking process. However, many e-commerce companies have digital checkpoint systems that minimize error. In order to make the picking process more effective, internal storage boxes are either cut or perforated to provide pickers with easier access to the products. Warehouses are in general divided into different zones based on product categories. Because heavy and large items are often stored out of reach, a picker may need to use forklift trucks to access products.

6 SORTING

In most cases, the sorting process is handled manually. However, some large pure e-commerce players use conveyer belts in the sorting process. The sorting process is often

managed in several stages, e.g., with products sorted in a first stage by destination and then sorted by order in a second step.



1.2

1.2, 1.3 Different stages of sorting at Swedish e-retailer Lekmer.



1.3

The packing process starts with selecting the right box size and, during the picking process, we fill it. The focus in this process is on efficiency; manpower efficiency. We're always looking for which is the most efficient box. Like those boxes that you just squeeze and, in the bottom, they adjust automatically. We also use machinery to set up boxes automatically.

— Frank Schünemann, Business Development Manager, Kühne + Nagel

7 PACKING

Due to the rapid growth of e-commerce, the packing process is becoming increasingly complex. More orders include diverse items of different shapes and sizes; these must be packed in the same packaging for shipping. There are many factors to consider when selecting packaging for an order. Product protection, branding and safeguarding the product, including its freshness, are among them. After ensuring that all items in the order are present and accounted for, a packer places the order items normally with a packing slip into the package and labels it for shipping. Also of importance is sustainability, including minimizing the amount of packaging material used as well as the amount of air transported.

Due to the complexity of order fulfillment today, the packaging process focuses primarily on shipping logistics whereas consumer experience comes second. For e-tailers, packing speed, accuracy, product protection and size reduction are key. As a result, boxes are cut, torn and folded without consideration for packaging aesthetics or consumer expectations.

Choice of packaging is up to packer

Product size, weight and fragile or perishable nature generally dictate company recommendations for packaging in order to prevent damage to goods during normal handling and transportation. However, the final decision about which packaging to use is made by the packer. In order to make the process efficient, it is therefore critical that the packer is experienced. Process efficiency can be problematic during peak season when companies hire inexperienced temporary

employees to handle the high volume of orders. It is obviously more common for an inexperienced packer to use the time-consuming trial-and-error method to select packaging to fit an order.

Standard e-commerce packaging primarily consists of plain cardboard boxes and plastic bags. Most groceries also have standard packaging. Groceries in Europe are generally packed in paper or plastic bags while in China groceries are packed in cardboard or Styrofoam boxes. To protect fragile and perishable items, air fillers and additional protective packaging to keep foods chilled and fresh are used. Protective packaging was projected to grow to a \$22 billion industry in 2014 according to the research company Freedonia.



1.4 Parcel that has been packed and is ready for shipping from a Swedish e-tailer. Packaging aesthetics is not always a priority.

8 SHIPMENT PREPARATIONS

After packing, orders are typically sorted in carts by shipping destination. During the sorting process, packaged goods are sometimes carelessly handled, with items occasionally tossed into the carts without much thought given to ensuring that heavy items are placed at the bottom of the cart.

The goal of shipment preparation is to fill the shipping volume with as much product as possible to maximize the use of valuable space before vehicles leave the distribution center. Packages are often loaded onto carts or pallets and then rolled onto the trucks. In China, however, it is common to pack vehicles manually, package by package, for space optimization. In Sweden/Europe vehicles may also be packed manually, without carts or pallets, when parcels are packed for longer transports.



1.5 Orders packed in carts, ready to be shipped to consumers.

9 OUTBOUND LOGISTICS

9.1 Shipment - no one-size-fits-all

A one-size-fits-all approach does not work when it comes to e-commerce logistics. Many e-tailers use drop shipping as an integral part of their supply chain management strategy. This means that rather than to stock the item onsite to fulfill orders, e-tailers forward the order to the manufacturer and/or wholesaler who ships the items ordered directly to consumers. In most cases, e-tailers outsource shipping to third-party logistics companies (3PL), who handle shipments from e-tailer warehouses to the end-consumer. Some online retailers, such as Chinese SF Best and JD.com and Amazon, have access to their own delivery networks. Companies that offer same-day delivery normally opt to have total control of the shipment, without involvement from 3PL, throughout the entire delivery chain.

9.2 Distribution center - no distinction made when handling goods

The growth of distribution centers is largely driven by e-commerce. Distribution centers of 3PL companies primarily focus on freight forwarding and co-packing of products. Packages arrive from the warehouses in steel carts or on pallets. In some countries, such as Sweden, the carts are part of a return system where the carts never leave the country.

At the distribution centers, packages are sorted and the dimensional weight and freight costs are determined. At Swedish logistics company PostNord, this is an automated process involving the transport of packages on conveyor belts with data recorded on dimensional readers. Apart from parcels that have irregular sizes or shapes or are heavy or oversized

that are handled manually, there is no distinction made for handling of fragile items. Packages are transported on conveyor belts and slide down from the belts for loading at the right trucks. Packaging that tears or breaks either on the way to or at the distribution center is repacked and forwarded to the receiver; it is not returned to the sender and the e-tailer must deal with complaints, if any.

9.3 Pickup points - demand for any-time-pick-up

Missed deliveries, when the receiver is not present to collect a parcel, are one of the biggest and most time-consuming challenges for companies handling e-commerce shipments. Therefore many online retailers now offer click-and-collect services that provide online shoppers with the added convenience of parcel pickup at any time.

For omni-channel companies, consumers can decide to pick up their orders at a nearby physical retail store. While convenience and easy access are advantages, there are some drawbacks. Pickup points can be crowded, especially during peak times like Christmas. Another option that is currently being tested by online retailers is the use of lockers that store goods until consumers pick up their online purchases at a convenient time. Amazon is one of the companies using lockers that consumers can unlock using pick-up codes sent to their smartphones. The lockers are usually located in busy public spaces and shopping centers. Other online retailers are embracing innovative click-and-collect concepts, such as drive-through services. However, the click-and-collect services do not completely address consumer demands for prompt delivery of online purchases.



1.6



1.7

1.6, 1.7 Parcels at distribution centers are not always handled with care. At one Swedish DC carts are emptied automatically, pictured to the left, and parcels are transported on conveyer belts for sorting. The system does not take any particular consideration towards fragile goods, all parcels are handled in the same way.

10 ORDER DELIVERY AND RECEIPT

Because e-commerce is still at an embryonic stage, e-tailers have many challenges to overcome in order to meet consumer demands regarding deliveries. Impulse buying, consumer spontaneity and instantaneous gratification are areas where brick-and-mortar retailers still have the advantage over e-tailers. Consumer spontaneity is difficult at best when ordering online due to restrictions on delivery times and/or limited options for product delivery or pickup. Despite day- and time-definite delivery windows, home deliveries generally require consumers to be present to receive the package. At pickup locations, if consumers opt to pick up their packages at a nearby location, they may experience problems with accessibility and/or handling of large bulky packages, which make it difficult to take the packages home.

Same-day delivery is a competitive advantage

With the growth in e-commerce, e-tailers face new challenges. The increased number of online B2C orders also increases total shipment costs due to deliveries that are more decentralized with smaller quantities per stop. The frequency with which shoppers place online orders for small, inexpensive individual products will eventually have a major impact on the parcel service industry. Consumers are not yet willing to pay extra for deliveries, opting instead for less expensive standard delivery. However, in the future, consumers are likely to expect faster deliveries, especially among spontaneous and impatient millennials. According to Business Insider's research service BI Intelligence, one out of every four online shoppers in the U.S. will abandon a shopping cart if same-day delivery is not available. To address this issue, increasingly more e-commerce companies are forced to offer express delivery services. The complexities and costs involved present huge challenges.

Last-mile complexity

The last mile is often considered the most inefficient, but most critical, link in the supply chain. E-tailers without proprietary distribution networks relinquish control over final delivery to the consumer to 3PLs. It is therefore difficult to know the method used for last-mile delivery; it may be home delivery by truck, car or bicycle, by foot or parcel pickup at retail locations, lockers or other depots. With the increasing numbers of e-commerce consumers, it follows that there is an increasing number of delivery requirements. Convenience is key to most online consumers and, according to Arne Andersson, e-commerce expert at PostNord, consumers mostly want their online purchases to be delivered to their mailboxes and this trend will become even stronger in the future. When delivery to the mailbox is not possible, consumers want greater flexibility for parcel pickup. New solutions of automated around-the-clock pick-up points, such as automated parcel boxes located at for example train stations and at shopping malls, are therefore popping up.

Deliveries – a unique opportunity for brand owners

E-tailers whose marketing strategy relies in part on social media know that memorable unboxing experiences can strengthen a brand. How the box looks on the outside counts, as online community unboxing videos and Instagram images demonstrate. Outstanding packaging gets noticed, and the use of social media by unboxing communities and individuals alike contributes to broad exposure of well-packaged products among potential customers. Needless to say, expectations run high when ordering a premium product: consumers anticipate that order delivery and packaging will match their expectations. Deliveries and unboxing offer online retailers the opportunity to create an unmatched brand experience for consumers and enhance consumer intimacy and loyalty.

11 RETURNS

Return rates in e-commerce differ widely, depending on the product categories. Clothing tops the list, with return rates of up to 50%. Online retailers take different positions with regard to returns. Some encourage indecisive customers to place orders by offering free returns while others do not offer free shipping for returns because they believe it only encourages consumers to return items.

Return logistics

Omni-channel retailers and pure online retailers handle return logistics differently. Increasingly more omni-channel retailers offer free returns at their brick-and-mortar stores as well as through the postal service. In-store returns provide both a service to customers and a way to ease logistics operations. By offering returns in-store, retailers can keep better track of inventory and get products back onto the e-tailing shelves faster in order to resell them. It is also an opportunity to generate additional sales in the store.

Return packaging

Returns can be facilitated in two main ways: by designing an easy return process and by using packaging adapted for returns. Customers commonly use the original packaging when returning products, but some packaging is better suited for reuse than others. Packaging designed for e-commerce often facilitates package opening while at the same time preventing damage to the packaging during opening. In contrast, packaging used by many online retailers requires the use of tape to reseal them when returning products. Packaging used for returns is commonly discarded after use. However, reusable packaging is making slow inroads. Approximately 3.7 billion disposable packages are discarded each year according to Finnish sustainable packaging company RePack, one of the first companies in the world to offer reusable packaging that consumers are encouraged to return after use. Another example of reusable packaging is found in China where online grocer Yihaodian, one of China's leading e-commerce websites, gives customers credits for returning packaging. Yihaodian drivers are instructed to wait for consumers to unpack their groceries so that the packaging can be returned and reused.

E-COMMERCE FROM THE INSIDE

To provide a holistic view of e-commerce packaging today, six out of the 17 companies interviewed for this study are portrayed. These e-tailers have varied approaches to e-commerce and cover a broad spectrum of industry sectors and geographic markets. Each company therefore faces different challenges as well as different opportunities for further development of their strategy for e-commerce packaging.

Plastic is not a viable solution neither. A plastic bag does not fulfill the requirements for qualitative structure for stability; the groceries do not stand stable. We work with packing according to the Tetris Model.

— Niklas Zeitlin, Vice President, Coop Online

COOP ONLINE

FAST FACTS:

- Turnover: 132 million SEK (2013)
 - Employees: 10-19 at the Högdalen, Sweden, distribution center
 - Company's sales increased 38% 2013
 - Deliveries outsourced to 3PL
 - Major customers: schools, hospitals and other institutions; as well as consumers
-

As one of four large online grocery players in Sweden, Coop Online provides a complete range of everyday products for home delivery in the country's major cities. Part of Coop Sweden grocery retail group, Coop Online has one fulfillment center, in Högdalen, a suburb just south of Stockholm. The company also uses 10 brick-and-mortar stores for fulfillment of online orders. This hybrid model, combining distribution center picking and home delivery and in-store pickup, is one that the company believes provides the efficiencies needed for success.

Order handling

The cutoff time for orders at Coop Online is midnight. The consumer chooses a window of time for delivery and/or in-store pickup. Delivery orders are sorted according to destination, which naturally plays a role in the order delivery schedule. The company has a new digital personalized loyalty program system. This enables a profile to be created for each consumer so that communications with loyal shoppers are based upon previous shopping habits and relevant to their needs. Despite this, however, it is difficult to predict and consequently prepare for future orders due to the fact that consumer behavior changes and is often erratic.

Inbound logistics – similar to brick-and-mortar stores

For picking efficiency, the online stock flow is similar to Coop's brick-and-mortar terminal stock. However, fresh foods are

delivered from local suppliers following customer orders. Food waste is therefore minimal. The Högdalen fulfillment center has its own onsite butcher who cuts and packs the meat.

KEY TAKEAWAY – EXPONENTIAL GROWTH LEADS TO OUTGROWING OF LOGISTICS SYSTEMS

The Coop Online warehouse in Högdalen on average uses only 70% of its capacity. During peak seasons such as Christmas and other holidays, the company must limit the number of orders it fills in order to be able to handle logistics and deliver to consumers on time. Coop Online anticipates that the sizes of orders will decrease in the future because consumers will order fewer items more frequently; this will put more pressure on logistics and production costs.

To extend its reach to more customers, Coop Online tested a drive-through grocery pickup service as well as a click-and-collect concept. Both are seen as opportunities to reach consumers from rural areas and to be able to handle smaller orders with only a few items. To promote sustainable business and reduce waste in the form of paper bags left with the consumers, the company is positive it will find a solution that could offer a return system on delivery packaging in order to reduce packaging waste.

Automation is a question about investment capabilities. We need to grow quite a bit for it to pay off.

— Niklas Zeitlin, Vice President, Coop Online

2.1 Picking is divided and handled by zone and sorted by destination for route optimization. There is a checkpoint in every picking zone and packing station that confirms orders in a computer system.

2.2 Bags of dry ice keep orders chilled.

2.3 Groceries are stored on shelves in shelf-ready packaging provided by suppliers. The warehouse in Högdalen is divided into three temperature zones: a dried food zone, a frozen food zone and a chilled food zone, which also has a separate room for handling meat.

2.4 The internal boxes for chilled food can maintain the desired temperature for 12 hours. Approximately 90% of all complaints about product damage involves fruit and vegetables; damage occurs somewhere between disembarkment and delivery. Paper bags are currently used to pack fresh food inside the plastic boxes; however, the kind of paper used by Coop Online is not optimal because it is sensitive to both pressure and humidity.

2.5 For specific orders, cardboard boxes are used. The fruit box is designed for home display and multipurpose reuse.



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Getting to know your customers is very important; it takes time to establish a solid foundation. Our stores give our customers a shopping experience that is less anonymous and has more emotional appeal. By having a physical shop like this we are also able to introduce customers to Emmas Enkel, build brand experience and show them new products.

— Benjamin Brüser, Founder Emmas Enkel

EMMAS ENKEL

FAST FACTS:

- Brick-and-mortar stores: In Düsseldorf and Essen with a third opening in Berlin
 - Received attention in German media with their concept and ideas:
Winner of “Best Solution Award”
 - 20% of its supply is locally sourced
 - No automation
 - 500 self-service articles in the store
-

A cross-channel hybrid that combines a corner grocery shop with online shopping, Emmas Enkel has taken Germany by storm. Founded in 2012, the award-winning food retailer successfully combines the service and atmosphere of a traditional mom-and-pop grocery store with the convenience of modern technology. Two small retail shops – one in Düsseldorf and one in Essen – offer over 2,000 products that can be ordered using four different methods; a third shop is due to open soon in Berlin. Emmas Enkel delivers an innovative experience for consumers regardless of whether they shop by physical or virtual means.

Multichannel ordering methods

Depending on consumer purchasing habits, Emmas Enkel offers four different ordering methods:

- Over the counter, whereby a consumer can hand over a shopping list to a shop assistant who picks and packs the groceries for the consumer.
- Point-of-sale via tablet or smartphone in-store where by the store offers free Wi-Fi and consumers can have a cup of coffee while their orders are prepared and packed.
- Online from home, which provides free delivery within the Düsseldorf area, and there is an option to have the groceries delivered within two hours.
- Via virtual store shelf using QR codes for 400 products displayed on a wall outside the Düsseldorf shop.

2.6 The interior of the store is designed to visualize an old corner shop.

2.7 Point-of-sale via tablet or smartphone in-store whereby the store offers free Wi-Fi and consumers can have a cup of coffee while their orders are prepared and packed.

2.8 Via virtual store shelf using QR codes for 400 products displayed on a wall outside the Düsseldorf shop.

2.9 According to the company, sustainability is an integral part of the operation due to the small-scale production. Electric cars are used for deliveries and routes are optimized for efficiency. When possible, orders are delivered by bicycle.



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Distribution relatively small scale

Due to the relatively small distribution, Emmas Enkel staff manually pick the orders and deliver most of the orders using the company's own distribution network to homes within a radius of three to six kilometers. The company co operates with DHL for deliveries over six kilometers. It is also possible to get same-day delivery within a radius of 100 kilometers. The cold supply chain is a problem for deliveries over longer distances. However, most of the consumers are local and that is also how it is intended according to Emmas Enkel's business model.

KEY TAKEAWAY –
CLOSING THE GAP BETWEEN PHYSICAL AND VIRTUAL STORE

With its contemporary approach to food retailing, Emmas Enkel meets the demands of trendy urban consumers by offering a family-friendly corner shop with authentic locally sourced food products. Its cross-channel ordering methods meet the demands of this consumer group's fast-paced lifestyle as well as its demand for transparency about the origins of the products.

It is hard to bring emotions online. Therefore it is difficult to communicate premium and charge for premium for online products. We therefore saw the possibilities in having a physical shop where customers can see and feel the products the first time, and then they will have the courage to order the products online.

— Benjamin Brüser, Founder Emmas Enkel

Emmas Enkel's physical store serves as the gateway for its online business and lends emotion to the online shopping experience through carefully chosen, locally sourced products. When opening new stores in other cities, the company plans to use this same approach, bringing locally sourced foodstuffs and the small town feeling to the urban jungle.

2.10 Possibility to shop by themes where articles are gathered according to themes such as "Breakfast," "Girls Night Out," "Movie Night" or "Football Night."

2.11 Frozen groceries are packed in bags and then placed in Styrofoam boxes. The Styrofoam boxes are returned with the driver after delivery.

2.12 Items are stored in the back of the physical store in original secondary packaging from suppliers. There is no clear structure for storing, picking and packing due to the small-scale distribution.

2.13 For orders, paper bags are typically used, cardboard boxes more infrequently. For sensitive articles white wrapping paper with Emmas Enkel logos is used as filler. Vegetables and fruits are packed in triangular paper bags instead of plastic bags. According to the company, these methods are important elements for enhancing brand experience and for guaranteeing the consumer that the groceries are handled with care.



2.11



2.12



am Samstag, Sonntag und bis zum Montag. Mit unserem einzigartigen Frühstücksort, das, was zu einem aussergewöhnlichen Frühstück begehrt.

das heute wir liefern. Von den Bäcker gehen auch nach Hause!



2.10



2.13

On the one hand, we don't aim for a high return rate as this is cost driving. But on the other hand, if we offer the opportunity to return online ordered products at the store at no charge, customers will have the opportunity to exchange products, receive professional advice and buy additional products.

— Marco Grimm, Head E-commerce Logistics, Globus

GLOBUS

FAST FACTS:

- 2013 turnover (e-commerce + brick-and-mortar): CHF 797 million
 - Employees: 3,100
 - DC: 65,000 m²
 - Online order packing capacity: 150 orders/day
 - Current orders/day: 100 to 200
 - 2015 goal: 350 orders/day
 - Total pickers/packers employed: 6
 - Delivery time: 2 to 4 days
 - Tons of packaging material discarded at DC/year: 1000 tons
-

Established in 1907, this high-end Swiss department store is known for its upscale clothing, cosmetics, jewelry, household supplies and delicatessen but only launched its online store in 2014. Owned by Switzerland's largest supermarket chain Migros, Globus serves customers in Switzerland and Lichtenstein. Globus has one fulfillment center located in Zurich, which handles distribution to the 14 department stores in Switzerland as well as to online consumers. Globus has no plans for expansion abroad.

Two flows

For all of its fulfillment operations, Globus has one DC that is subdivided into two sections – one for offline sales and one for online sales. When products arrive at the DC, they are unpacked and then sorted by destination – brick-and-mortar stores or the web shop. Products assigned for the web shop are solely reserved for online sales. The same is true of products assigned to the physical stores; there is no crossover of products between the web shop warehouse and the physical stores. A robotic warehousing automation system handles storage and retrieval for Globus brick-and-mortar stores, whereas storage and retrieval for online orders is completely manual.

KEY TAKEAWAY –

CUSTOMER EXPERIENCE BEFORE RAPID GROWTH

Globus recently launched its web shop primarily to increase service to its customers. Plans do not include explosive growth online; the company strategy is to attract more customers to their brick-and-mortar stores. To encourage customers to visit their physical stores, Globus offers free in-store returns but charges return shipping fees for postal services.

Before launching the web shop, Globus developed and implemented a well-thought-through online concept, from packaging design and customer experience to its return systems. Attractive, practical packaging is important to customers as well as for logistics. Globus wants consumers to have the same shopping experiences and product presentation, regardless of whether they buy in-store or online. Clothing intended for e-commerce is prepared in the same way that clothing in brick-and-mortar stores is prepared for sale: Clothing is nicely packed and delivery is personalized with a letter to the buyer inserted into the package. There are various packaging options available to ensure that each product is correctly packed. Since Globus is still a small online retailer with a limited amount of daily orders, they do not experience any problems with their current packaging procedures.

2.14 Preparation of goods:

Upon arrival at the DC, all clothing is unpacked, equipped with security tags and folded or put on hangers. Items are sorted and placed into reusable plastic boxes – one for each of the department stores and one for the web shop. All items go through the same preparations. Merchandise destined for the web shop also gets security tags. The tags are only removed when the orders are being picked and packed, which of course adds to the packing time.

2.15 Pre-picking system:

Items for e-commerce orders that are picked from the offline warehouse are placed in a temporary cardboard storage unit next to the packing station until the orders are packed. The unit stands on pallets and is easy to move around if necessary.

2.16 Product-specific boxes:

Globus packaging design is suitable for e-commerce, and

at the same time meets different product requirements. There are eight types of boxes used for e-commerce. Pictured here is one used mainly for suits, which includes both a garment bag and a flat customized box. There are also two gift basket boxes as well as a wine bottle insert for use in several of the smaller boxes.

2.17 Gift baskets:

Popular web shop gift baskets/boxes usually include bottles of wine as well as fragile edibles. When ordered, the wine is always sent to the consumer in separate packaging, even if it is ordered together with other products. For products like the ones shown here, avoidance of damage during transit must be ensured and therefore several different handling and packaging steps are required. Gift baskets therefore have a separate distribution system and are always packed in strong outer packaging to ensure more careful handling than general parcels and safe transportation.



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LEKMER

FAST FACTS:

- Turnover 2013: 35 MEUR
 - Headquarters: Stockholm
 - Distribution center: Falkenberg, Sweden
 - Brick-and-mortar store: Stockholm, Sweden
 - SKUs: 20,000 (Falkenberg DC)
 - SKUs ordered: 3,000-4,000 per day; approx. 40,000-45,000 per day during peak season
 - Annual growth 2014: 53%
-

Founded in 2006, Sweden-based online toy retailer Lekmer operates in the Nordic countries and the Netherlands. Lekmer is a subsidiary of the CDON Group AB. The Lekmer distribution center is located in Falkenberg, Sweden, and it is shared with e-tailer Nelly.com, another subsidiary of the CDON Group. Although slated as a toy e-tailer, Lekmer also includes “everything for baby” – from car safety seats to diapers in order to extend its product line beyond the narrow market focus of toys.

Christmas is a crucial period for Lekmer

Peak season for Lekmer is Christmas. Inbound deliveries from Lekmer suppliers start in July in order to prepare inventory for the holiday shopping season, which starts mid-November. By then all focus should be on picking and packing; inbound logistics only focuses on refilling when required during this period.

By January, refilling stock inventory is problematic because the suppliers, who are mainly based in Asia, have difficulty keeping pace with deliveries to the distribution center due to the large number of items to be refilled.

Christmas is a challenge for us since there is a huge peak in orders. Staffing is a major issue. We are forced to increase staffing tremendously by employing temporary workers to meet our shipping and logistics needs, and they are only working for a short period. The amount of time available to educate them is very limited.

— Jakob Ejlersen, Operations Manager, Lekmer

Choice of packaging is up to the packer – hard to find the right box

Lekmer mainly uses cardboard boxes for secondary packaging. For less-fragile products, plastic bags are used. Both boxes and bags are branded with the Lekmer logo. Finding the right box is time-consuming because an order can contain a mixture of items of different shapes and sizes to be packed into the same box. This often proves to be an issue for the company, particularly for inexperienced packers.

It is hard to find a standardized system. All toys are unique with different shapes and sizes. Therefore we use perforated boxes that are easy to cut down. This has reduced the amount of filling material and the transportation of air.

— Jakob Ejlersen, Operations Manager, Lekmer

KEY TAKEAWAY –
PACKING PROCESS HAS ROOM FOR IMPROVEMENT

Lekmer’s packing process often becomes a bottleneck despite the company’s system which includes training, random checks and more. The company has tried several different strategies to increase packing efficiency. The current packing system only takes into consideration the total volume of an order, not the actual shape of the products, when calculating what packaging to recommend. Occasionally, a packer must try several different boxes in order to figure out which one will best fit all items in the order. This time-consuming process may result in wasted boxes and less time for the final packing process.

However, the company has recently decided to move their warehousing to a 3PL partner, where both robots and packing machines are used. This is expected to streamline the logistics operations considerably.

Orders are generally packed the day after order receipt. In worst case it can take up to three days before an order leaves the warehouse. The Lekmer model clearly works well most of the time. However, Lekmer will have to optimize logistics efficiency, particularly during peak season, as consumers continue to expect even faster deliveries when shopping online.



2.18

2.19 Items are stored on steel shelves mainly in boxes from suppliers, but occasionally as loose items. The warehouse is packed with items and is running close to full capacity as the Christmas season approaches.

2.20 It can be a hassle to pack parcels volume efficiently in the steel cages used for transportation.

2.21 Picker rounds are divided by country, and the warehouse is subdivided into six picking zones. Each picker has approximately half an hour to put all the items for about 100 orders into one cart.

2.22 According to Lekmer warehouse floor staff, items are sorted incorrectly several times a day, which creates errors in the system. Solutions such as color-coded carts to make sorting easier have been employed. After the initial picking, the items are sorted into six carts. During the final step of sorting, a new cart with 20 orders in each is employed and the carts are then divided by country.



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2.23 Co-packed parcels

2.24 The plastic bags used are fragile and often tear when packers detach them from the hangers.

2.25, 2.26 Perforations on the sides make it easier to reduce box size. However, cutting and

folding these boxes requires practice in order to get the box neat. In addition, there is a lot of waste since the boxes are folded and do not reduce the amount of material, only the size of the parcel.



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JD.COM

FAST FACTS:

- Turnover Q3 2014: 4.73 billion \$
 - Employees: 50,000+
 - SKUs: 26 million
 - Active customer accounts: 47.4 million
 - Number of warehouses: 97
 - Percentage of total revenue deriving from consumer electronics sales: 85%
-

Fieldwork included visits to two JD.com warehouses located in Beijing suburbs: one that handles grocery orders of dry goods and another that handles orders for electronics. The former has a capacity to handle up to 40,000 orders per day while the latter can handle up to 300,000 orders per day. Each order picker is responsible for between 400 and 500 orders per day. While the Beijing warehouse fulfills dry goods orders, the company uses drop shipping for fresh food and cold chain items so that items are shipped directly from the vendor. This means that consumers receive multiple packages for a single order.

As China's second largest B2C e-commerce company (only Alibaba is larger), JD.com sells mainly consumer electronics as well as nonperishable foods. The company was previously known as 360Buy, and it increased its sales by more than 60% in the third quarter of 2014 alone according to Reuters. While Chinese B2C online retailers, such as Alibaba and subsidiary Tmall, are dependent on 3PL for logistics, JD.com differentiates itself using its own network of couriers and warehouses to handle logistics.

Packaging is low priority

Although the packing speed is intense, there are no standardized guidelines for packing and the choice of packaging is up to the packer. The computer system provides the packer with information about whether an order is long-distance or if items are extra fragile. Items are typically packed in a white JD.com plastic bag and then placed with an order list into transparent plastic packaging, which is welded by the packer. Items too fragile for transport in plastic bags

are packed in reused cardboard boxes (packaging from suppliers) and sealed with JD.com tape. To reduce box size, packaging is sometimes torn, rather than cut, and taped. As a result, the packaging ready for shipping is often uneven. According to JD.com's packaging manager, consumer satisfaction with packaging is not a priority area; as long as the item is intact and on time when delivered, JD.com sees no need to change packaging or packing strategies.

Picking, packing and sorting: A fast-paced process

JD.com generally stores its products in cardboard boxes that are placed on pallets or shelves. There is no clear structure for box placements; some items are unpacked, while others are stored in the original box. The use of internal storage boxes with a cutout provides easier access for stock picking. Multiple orders are picked using a single cart; the picker then sorts items manually with the help of a screen that shows in which tray/slot an item belongs. The items in the trays/slots are then packed and placed on a conveyor belt for shipment sorting. The destination is indicated on a label, and the sorter puts the packaging directly into the right carts, which are then rolled onto trucks for delivery.

JD.com only offers home delivery. After choosing a delivery time, consumers are informed about a time window for delivery. To ensure efficient delivery, the company has its own distribution system with branded cars, trucks and auto rickshaws. Same-day and next-day deliveries put pressure on logistics, and packaging therefore plays an essential role in keeping products intact from warehouse to consumer. The last mile is often handled by foot or by bicycle.

KEY TAKEAWAY –
SPEED, COST AND EFFICIENCY

Chinese consumers increasingly turn to e-commerce, and e-tailers are penetrating small cities throughout the country, which requires a new perspective on the current systems of logistics. JD.com has a business model depending on cost efficiency. In the past, no priority had been placed on automated systems due to China's low labor costs. However, the company recently announced the launch of a highly automated warehouse in Shanghai to improve fulfillment efficiency and increase storage capacity.

To keep pace with the increasing number of orders from all over China and guarantee same-day and next-day deliveries, the company must ensure picking and packaging speed. For now, consumers do not seem to value packaging as long as their orders arrive on time with items intact. Return rates are low despite the fact that packaging consists of reused, often torn cardboard boxes that lack branding. JD.com therefore sees no need to rethink the way it packages its products.



2.27 JD.com has its own network of couriers.



2.28 Last mile can be handled by foot or by bicycle.

SF BEST

FAST FACTS:

- Handles 3,000-4,000 orders per day
 - 200 orders per picker/day
 - 12,000 SKUs: Dry food and cold chain
 - Typical order contains 7-8 items
 - Average cost per order: About 200 Yuan (break point for free delivery)
 - 70% of the products are imported from over 60 countries and regions
-

Online food retailing platform SF Best is part of the SF Express Group, one of the leading logistic companies with express delivery services in China. SF Express Group launched SF Best in 2012 to establish a premium brand that capitalizes on the company's well-established logistics and supply chain from sales to last-mile delivery. SF Best offers 24-hour door-to-door delivery service providing consumers in China with high-end quality groceries.

Top priorities: Service and quality

SF Best has modern refrigerated warehouses and temperature-controlled warehouses serving major cities including Beijing, Shanghai and Guangzhou. Located in Beijing and serving northern China, the SF Best warehouse observed in this study is characterized as being well organized and houses quality products originating from all over the world. The pace of picking and packing is relatively slower than other online food retailers observed, with attentive employees handling products with care. Cherries, for instance, are individually inspected and sorted to ensure top quality.

Protective packaging keeps groceries intact

Orders are packed in brown cardboard boxes, which are sealed with SF Best tape covering the opening and continuing around the box. Plastic bags used for non-fragile items are also sealed with tape in order to reduce packaging size.

Products requiring cold storage are packed in Styrofoam packaging or sealed in plastic boxes together with dry ice in order to keep the items cool during transport. The Styrofoam packaging used is designed to fit, for instance, a package of milk. SF Best is extremely accurate in the packaging process in order to keep the high-quality groceries intact (e.g., potato chips are well protected in cardboard boxes with air fillers in order not to break a single chip during transportation).

Ensuring top quality a challenge during transport

To store temperature-sensitive products, the SF Best's warehouse has temperature-controlled rooms for various products. There is a special storage room (16.7°C) for wine and chocolates, a refrigerated room for fruits (80% of the fruit supply is organic), a freezer room (-13.9°C) and a special seafood freezer (-55°C). Maintaining these temperatures during transport can be a challenge. However, because SF Best operates their own distribution with branded cars, trucks and auto rickshaws, the company has total control of the entire chain of activities involved in delivery. Occasionally, last-mile delivery is handled by bicycle or by foot. It is therefore important that insulated food delivery bags are used to keep items cool until it reaches its final destination.

KEY TAKEAWAY –
PACKAGING PLAYS A CRUCIAL ROLE

The company ensures same-day delivery for orders in the Beijing area. The longest delivery time is two days for the whole country. To ensure delivery of top quality premium foodstuffs, SF Best goes to great lengths to ensure protective packaging. The longer the distance, the more protective packaging is used. After receiving delivery, consumers therefore must dispose of the large amounts of Styrofoam and cardboard boxes for each order. SF Best does not currently provide any recycling services.

Improving packaging efficiency and lowering costs are the most important packaging issues for SF Best. Although the company wants to be perceived as a high-quality brand, it recently replaced its white cardboard boxes with traditional brown boxes to reduce costs. There are more than 30 different types of boxes, which means that one can usually be found to neatly fit the items of any order. The company also offers specially designed gift boxes, all of which carry the SF Best brand.



2.29 SF Express branded auto rickshaw.

KEY TOPICS

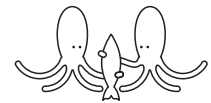
In this chapter the main findings from the study are presented, centered around six key topics that are the result of the research.

NEED FOR A COOPERATIVE APPROACH

The packaging journey today is faster and more complex due to the sharp upward trend in online and omni-channel retailing. The success of the journey depends upon actions taken at every step of the value chain – from order placement with the manufacturer to the last-mile delivery. Achieving cost savings, improving efficiencies, increasing sustainability, and satisfying or, better yet, exceeding consumer expectations requires cooperation not only among the various divisions within a company but also throughout the entire value chain. Without a broader, more holistic approach to e-commerce packaging, many online retailers may limit their ability to capitalize on the growth of e-commerce.

Lack of overview of logistics chain

Cooperation throughout the entire value chain is difficult – but not impossible. According to Swedish converter Peterson Packaging, there are many middlemen involved in the purchase of packaging for online retailers. Retailers may buy packaging from their 3PL, who buys from it from a wholesaler, who buys it from a converter, who in turn buys the material from a paper producer. Peterson Packaging stated that many companies do not have a full understanding of what their logistic chains look like and therefore have little understanding of current requirements for packaging or how to improve packaging in the future. Boxon, another Nordic converter, pointed out that small companies often choose



packaging based on the packaging unit price, whereas bigger companies look for packaging solutions that increase overall efficiency and can be easily branded. These large companies have a holistic approach to the value chain and realize that more expensive packaging can reduce packing times and shipping costs, which consequently lowers the total operating costs. According to Peterson Packaging, the industry is very conservative. In order to develop new systems and structures, key stakeholders must be willing to jointly take responsibility for the development process and to finance it.

Signs of more cooperative development

Some companies interviewed already realize the benefits that can be achieved by developing packaging solutions and systems together with suppliers, producers and other actors along the value chain. Amazon.cn in China puts pressure on producers and manufacturers to design primary packaging that is more suitable for e-commerce. Primary packaging that is optimal, according to Amazon, is easy to ship, open, recycle and has onscreen impact due to eye-catching graphic design.

One of the grocers points out that most of the damage occurs during the last-mile delivery, either in the delivery vehicle or when brought to the customer's door, since the delivery staff are not informed of whether contents are fragile. Owning or controlling the entire distribution chain is one way to solve the issues at hand; however, cooperation within the company

We try to look at all the channels from the perspective of the customer. What is important for the customer? The answer is seamless shopping. In the morning, my iPhone is my point of sale and, at lunchtime, it is my iPad. At noon, it is my desktop computer and, in the evening, I go to the store. This way of thinking about the customer journey is difficult for employees that are responsible for a specific area to grasp. It is more important to increase total sales than to increase sales from one device or channel. This is the big challenge right now.

— Susanne Sorg, Member and Advisor, POPAI

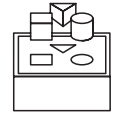
among the business units involved is still necessary to be able to solve issues that may arise. JD.com and Amazon.cn in China are working to achieve better control over the distribution chain. Although both companies have in place their own distribution networks, there are certain rural or remote areas where the use of 3PLs is required.

Standardization – enabling cooperation or hampering innovation?

When it comes to inbound logistics, in many cases standardization is required for effective and beneficial cooperation; however, it may also hinder packaging and system innovations. To guarantee quality and efficiency, Amazon has central standards. Companies in Germany, the U.K. and Sweden also adhere to standardized procedures and require their suppliers to do the same. Standardization is a necessity, especially for e-tailers that work with several suppliers and are likely to change suppliers frequently. Companies interviewed in China do not have any particular requirements for incoming packaging or for their suppliers in general, which makes handling the different product flows more challenging.

Some companies have taken standardization to the extreme in order to cut costs for their outbound logistics. Using only a few packaging sizes for all orders leads to countless situations where the packaging is too big for the product. This risks product damage as well as a lot of air being unnecessarily transported. Most companies tend to follow established standards rather than to challenge them.

LOCAL BECOMES GLOBAL OR THE OTHER WAY AROUND?



As e-commerce sales in China are booming and now exceed the sales figures in the U.S., China is becoming an increasingly lucrative market for many Western online retailers. Generally a company that wants to grow has two options: to grow locally or expand globally. The possibilities for global expansion of online shopping are huge. Many companies have already expanded their online businesses beyond their national borders. A recent e-commerce survey in Germany reveals that almost 90% of the companies surveyed already sell products in several countries (Germany Trade and Invest 2014).

Don't translate, localize!

Expanding beyond national borders promises not only to bring a wider customer base but also to bring new challenges. These challenges, whether cultural differences or market structures, have forced the exit of many companies looking to capitalize on fast-expanding emerging markets. A recent Internet Retail article lists the challenges of entering new markets – from language barriers, difference in consumer tastes and preferences, customs, tax systems, distribution channels, payment systems, technological development. The entire consumer experience must be localized – not just the company website.

Take payment systems, which differ radically from country to country. In the U.K., consumers usually pay for online purchases either with a credit or debit card; in France, on the other hand, debit cards are the only method of online payment. In China, payment is usually cash on delivery but only after the product is unpacked. Different preferences play an essential role in a company's success in a new market. Locally

produced goods and small-scale production are associated with high quality and premium products in many Western countries. In China, the opposite may be true, since several food scandals have turned Chinese consumers against locally produced foodstuffs.

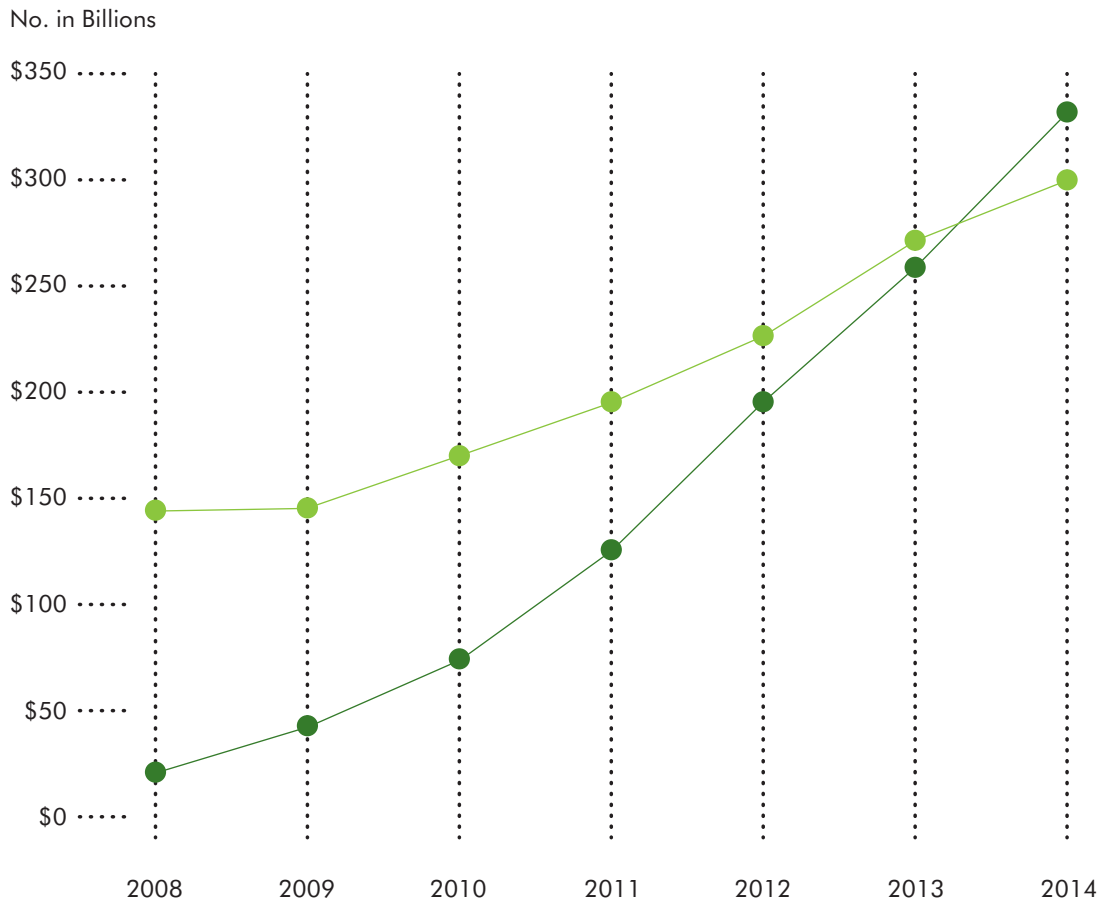
Several companies interviewed have ongoing discussions about the challenges involved when planning to expand, for instance local legislation. For example several countries ban the use of plastic bags, which are commonly used as e-commerce packaging, and therefore companies must explore other packaging options. Legislation in some U.S. states is even stricter: Not only is the use of plastic bags banned, but the packaging material used must contain at least 40% recycled materials.

Globalization, while alluring, doesn't always deliver on its promise of increased revenues and profits. Take Wal-Mart, for instance; establishing a foothold in Europe proved tougher than the company anticipated. Tesco sales in Asia suffered similar setbacks, and France's Carrefour didn't succeed as expected either. Establishing joint ventures with major players that have local market presence can reduce tensions and improve the likelihood of acceptance in a new arena.

Overcoming cultural differences, however, can prove to be more difficult even on the domestic scene. One U.K. company interviewed noted that online sales figures vary distinctively between geographical areas with large cultural differences. Reasons cited for lagging online orders in these areas include differences in shopping patterns as well as perceptions of what is culturally appropriate with regard to delivery and perception of parcels.

In German-speaking countries, people appreciate nice packaging, but not too much. They are quite interested in sustainability and they ask if it is organic, if the wrapping is needed, etc., whereas in Russia everything has to be shinier and have more bling bling.

— Susanne Sorg, Member and Advisor, POPAI



U.S.
CHINA

Figure 6 In 2014 China overtakes the US in e-commerce sales. Source: *Internet Retailer*, 2014

TARGETING DELIVERY, HANDLING AND LOW PRICE – NOT CONSUMERS



As previously discussed, there are many factors for retailers to consider when selecting packaging for products bought online. Ironically, the consumer is often ranked low on the list of priorities. Speedy delivery, efficient handling and a low unit price often overshadow the consumer experience.

Sweden is not there yet; price is still the main focus when it comes to packaging. Customer experience will be important in the future, but it will take a couple of years before we are there.

— Fredrik Lethin, E-commerce Manager, Boxon

According to a recent study by Dotcom Distribution, three out of 10 consumers have discovered a new brand after seeing another consumer carrying the brand's packaging in public. About 52% of the consumers surveyed said that they were likely to make an additional in-store purchase of products delivered in premium packaging. Why then is packaging for products purchased online not more important to e-tailers?

Perceived needs vs. "real" needs

In the rapidly developing world of e-commerce, packaging development has had low priority. There is a discrepancy between what retailers perceive as consumer needs and actual consumer needs. In other words, there is plenty of room for improvement by retailers to meet the needs of consumers.

Speed of delivery is, and will become, an increasingly important factor to consider. Another key factor is that consumer expectations about e-commerce packaging vary from shop to shop, depending on product category, price, and brand. A box that is well received by consumers when sent from one store (e.g. mass market) may be highly unsatisfying when sent from another (e.g. high-end). In other words, it is difficult to set up general guidelines for what is "acceptable" packaging because there are many variables to consider with regard to consumer expectations. For instance, many online shoppers do not necessarily require next-day delivery as illustrated by the quote by Ogvall on the opposite page. There are differences across countries. For instance, speed of delivery is not yet as important among Swedish consumers as it is in the U.S. where e-commerce is more developed and quick deliveries are the norm. However, generally it seems to be more important to consumers to know where and when the order will arrive in order to plan to be available for delivery or pickup. Recent studies looking at the future of online shopping, however, indicate that there will be increased demand for same-day-deliveries.

Everyone talks about speed, but consumers think that two to three days delivery time is okay. Now it's more about being in control of where and when. The consumers want to decide how to get something delivered or when and where to pick it up.

— Jonas Ogvall, CEO at Svensk Digital Handel

Where is the focus today?

Today online retailers focus on price when selecting e-commerce packaging. In China, the reuse of packaging has obvious benefits in terms of cost savings. One of the Chinese companies interviewed stated that Chinese consumers are not very conscious about packaging in general. Chinese retailers JD.com and Yihaodian reuse packaging as much as possible. They maintain that the drivers for reuse are primarily cost reduction and partially sustainability. JD.com stated that on time delivery is much more important than the packaging.

Another company interviewed stated bluntly that it doesn't consider the consumer perspective at all with regard to packaging. It delivers some of its products to consumers in the original packaging without any branding, letting

a valuable marketing opportunity slip away. Two other companies stated that they just want their packaging to be "good enough." They want to live up to the consumers' expectations, but see no point in exceeding them.

It's a big and ugly box. It says '... is beauty' on it, and then you find loads of [void filling] that looks like toilet paper inside. It feels cheap.

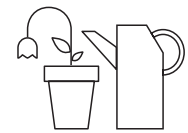
— A consumer commenting on a delivery of makeup in a box with a fill ratio of less than 10%

Many companies use large quantities of fill material in e-commerce packaging and cut the edges of cardboard boxes to be able to fold them more tightly and reduce the volume of air. The result is a trade-off between packaging aesthetics and use of a limited number of packaging alternatives.

SUSTAINABILITY – SOME TALK, LITTLE ACTION

Sustainability was certainly not top of mind for the majority of the companies interviewed. When asked about sustainability, most stated that they wanted to become more sustainable; however, none voluntarily shared their company's position on sustainability unless asked. Sustainability seems to be more of a selling point than a genuine goal. To please consumers, companies collect green scores and ensure packaging design appears to be sustainable, even if it is not. There are ongoing discussions about e-commerce, sustainability and whether online retailers have a higher degree of awareness about the issue compared to their conventional retail counterparts. Regardless, there are many steps e-commerce companies can take to reduce their carbon footprint.

Research on the environmental impact of e-commerce appears to be mixed since both total energy usage and CO₂ emissions are influenced by many factors and can vary widely depending on the individual consumer. Therefore e-commerce may not have an absolute environmental advantage over brick-and-mortar stores. Packaging and last-mile delivery are the most significant parameters related to e-commerce, representing between 22% and 32% of the total e-commerce energy usage, respectively (figure



7). Another study published in the International Journal of Physical Distribution & Logistics Management compares the carbon footprints of conventional and online retail with a particular focus on last-mile delivery. It concluded that neither conventional nor online retail have an absolute environmental advantage when it comes to the last-mile delivery.

Consumers drive the discussion

Many e-tailers and retailers are not talking about sustainability for the sake of the environment; consumers are driving the discussion due to increasing consumer demand for sustainable products. According to the 2013 e-Commerce Packaging Survey by Dotcom Distribution, 60% of U.S. consumers surveyed consider sustainable packaging to be "important" or "very important." Moreover, respondents want to be regarded as environmentally conscious consumers who buy products from retailers who have sustainability high on their agendas. About 84% of those surveyed stated that they try to reduce the impact of packaging waste by reusing branded packaging. Green is the new black.

It is important to communicate the positive value to the consumer, for instance, the reduction of CO₂ emissions. The level of education and culture affect how much the consumer cares about sustainability.

— Susanne Sorg, Member and Advisor, POPAI

A product uses ten times more resources than the packaging so the main issue for packaging is to protect the product so that it is not damaged. Otherwise, all the energy, water and materials used in making the product and transporting it was made for nothing.

— Jane Bickerstaffe, Director of Incpen (Industry Council for Packaging and the Environment)

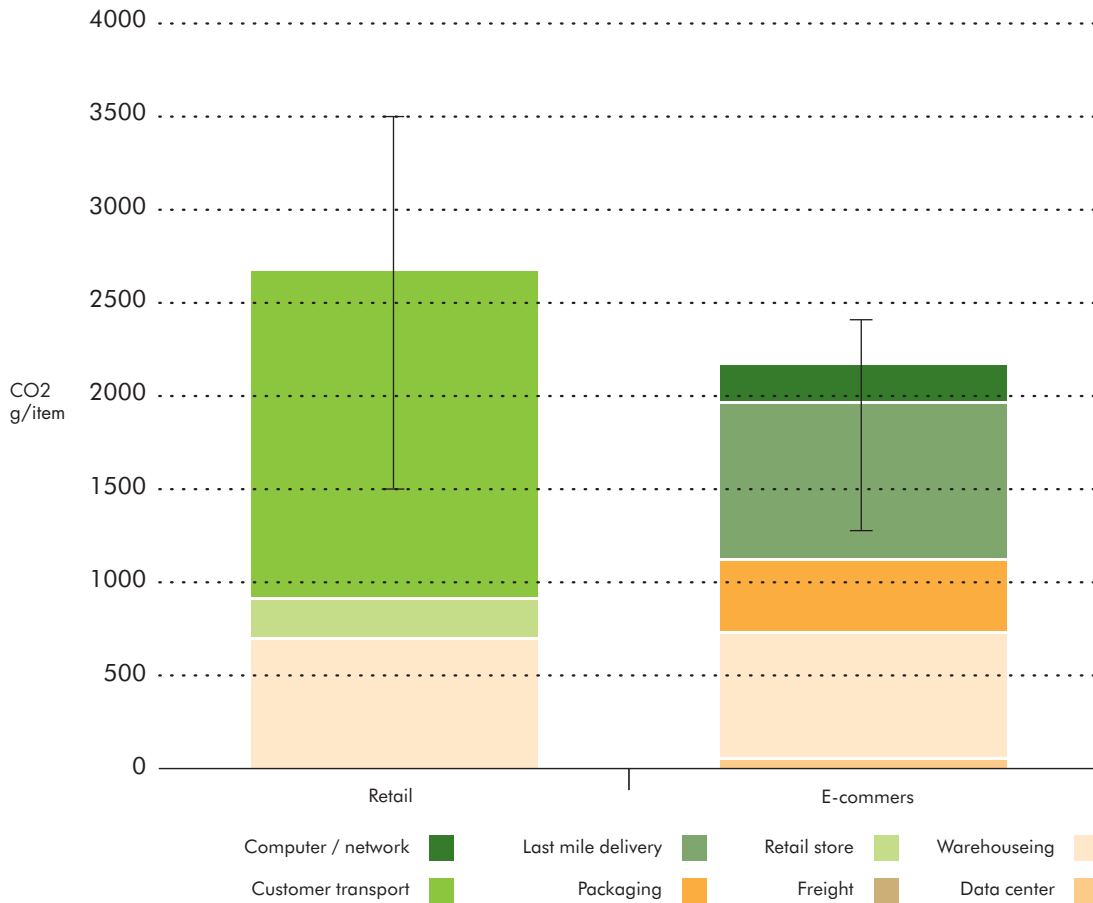


Figure 7 Comparative analysis of carbon footprints of conventional and online retailing delivery systems: A “last-mile” perspective. Source: International Journal of Physical Distribution & Logistics Management 2010

First, PostNord drives by, then DHL and then Schenker during the same day. Will the legislators think that this is OK in a couple of years? Transportation is a topic that is especially easy to raise. People see three delivery cars and can question the logic in this, from a sustainability perspective, and ask if it's really necessary to have all three cars deliver on the same day.

— Jonas Ogvall, CEO, Svensk Digital Handel

Overpacking versus product damage

Sustainability is an unavoidable, but complex topic. Finding the right balance between overpacking and providing sufficient protection is part of the complexity. Many of the companies interviewed stated that they prefer to use too much packaging to protect the product rather than risking damage because the product itself has a larger carbon footprint and higher costs than the packaging. Delivering a damaged product may also damage the brand, especially for an e-tailer. The practice of putting a pre-packed item in secondary packaging and sometimes even in a third is aptly referred to as the “Russian doll” approach by Mark Dancy, president of WasteZero, a U.S.-based waste reduction company, in an 2014 interview in the *Guardian*.

From disposal to reuse

Food waste is one of the biggest environmental issues that is very high on the global political agenda. The waste hierarchy established by the European Union includes prevention, preparing for reuse, recycling, recovery, disposal and other levels. Many of the companies interviewed talked about recycling and waste disposal, but less about preparations for packaging reuse and almost not at all about the prevention. As mentioned, reuse and cost savings were the main drivers for Chinese companies; their reasons for reuse were cost savings rather than environmental concerns.

Holistic sustainability

German grocery retailer Emmas Enkel, a company notable for its holistic approach to sustainability, strives to minimize the negative environmental impact of transportation by using electric cars and bicycles for delivery and by delivering as many orders as possible in a single round. Emmas Enkel also reuses boxes from manufacturers as interior decorations inside the store, and has replaced plastic fruit bags with paper bags. However, the company is operating a small-scale retail business where a sustainable logistics model might be easier to maintain than for the larger e-commerce companies with larger order quantities.

Inefficient delivery routes are a major issue today. Often, the density of home delivery orders is not sufficiently high. Many couriers operate in the same areas, which results in a high number of transports delivering a low number of orders. To reduce the number of transports in the city center a Gothenburg, Sweden-based project, Stadsleveransen, consolidates deliveries of goods by providing joint distribution to several companies. Several experts interviewed foresee such partnerships between last-mile service providers as a future trend.



3.1



3.2

3.1, 3.2 German grocer Emmas Enkel aims for sustainable transport by using electrical cars and bikes for deliveries.

ONLINE AND OFFLINE DYNAMICS



With the online and offline worlds merging, it is increasingly important for retailers operating in both markets to be aware of differences in dynamics. Online sales will continue to increase, and consumers are becoming accustomed to being able to shop wherever, whenever and however they want to. This calls for further development of omni-channel retailing.

Different flows/systems

Companies often have different flows for their online and offline shops. According to logistics company Kühne + Nagel, inventory tracking using a single flow for online and offline stock is often very complex. Online consumers want to buy products that are actually in stock. This can be difficult if inventory tracking for store replenishments and online orders are handled in the same flow.

The big challenge, from a retailer's point of view, is that you need to make sure that the product is really available. You know this feature in an online shop that exactly tells you they have 5 pieces available right now. If you order, you expect that one of these 5 pieces is yours and that you will get it tomorrow. So to be able to have this exact stock, it drives us to split between normal retail operations, shop deliveries and e-tail operations to end customers, to be able to have this visibility of stocks.

— Frank Schünemann, Business Development Manager, Kühne + Nagel

One of the companies interviewed stated that its system is not adaptable for single-flow handling. Its e-commerce section originates from its mail-ordering section, and the system used for this channel was established in the 1970s. Products sold both online and offline have different article numbers for each flow, making it impossible to return items bought through e-commerce to brick-and-mortar stores.

German omni-channel grocery store Emmas Enkel has an all-through omni-channel flow. Consumers have various ways to shop – online and offline, in-store and at home. Regardless of channel, products are picked and packed by the staff even when consumers are shopping in the brick-and-mortar store. Emmas Enkel has adapted the concept of the corner shop where you shop over the counter and mixed it with omni-channel methods.

... However the decorations on it, a box of cereal needs to fit onto the shelf; now you are not constrained by that anymore. You can do different designs and make it more resource-efficient. This is a real challenge and possibility: a possibility to innovate

— Jane Bickerstaffe, Director, Incpen

This approach goes hand in hand with two current trends: a small local shop and shopping on demand. Consumers have a good overview of the stock, and the staff keeps track of all products being picked.

Omni-channel packaging challenges

It is important to understand the different requirements of online and offline packaging. There are differences in how the products are displayed and in how consumers perceive the products. It may be difficult to reproduce packaging colors online, since the resolution on screen differs from print; in addition, products designed for high shelf impact may not attract attention or have the same impact when presented in a small photo for an online store.

There are also different requirements for packaging strength and durability. Some companies, like mymuesli, have designed packaging that is suitable both as presentation packaging on a shelf and transport packaging for e-commerce. Postal labels can be placed directly on the primary packaging, and

We have built our [online] business around a system framework that we started in the 1970s. It is working well, but it does not always offer the flexibility to re-program.

— Jonas Norén, Procurement Manager, H&M

there is no need for extra protection. However, the packaging has its flaws, since its cylindrical shape is not optimal from a logistics point of view. It risks rolling around when placed on a conveyer belt, and the filling ratio when co-shipped is lower than for rectangular or soft packaging. The product may also be considered as over-packed when not sent as a separate parcel. (Image 3.3)

There is a need for packaging to suit the different channels while at the same time maintaining a consistent brand image. Today many companies try to replicate brick-and-mortar store packaging even though it is not suitable for the online channel. To retain a strong and consistent brand image, online retailers must take an innovative approach to e-commerce packaging.

Know your target

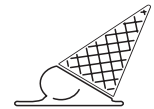
Differences in target groups are a significant factor when it comes to online and offline dynamics. Several companies mentioned that the age ranges of their online and offline customers vary. Some companies stated that the online target group was older, while others stated that it was younger. Some also mentioned that there are differences in customer segments in the two channels: Customers shopping offline are more prone to buy premium products while online customers are more price-conscious.

It is important for retailers to recognize that with new ways of shopping, new target groups can be found. Swedish wholesale company and converter Boxon launched its B2B web store, in part, to reach out to a new customer segment. The company initially targeted large businesses, but through its web store now reaches small businesses.



3.3 Grocery brand mymuesli uses a robust and eye-catching primary packaging that can also be used as transport packaging when the products are bought.

COMPLEXITY OF ONLINE GROCERIES



In Sweden, online grocery shopping is not common and accounts for only 1% of the country's total food sales. In the U.K., this percentage is not significantly higher; online grocery shopping accounted for only 5% of the U.K.'s total food sales in 2014. However, 25% of Swedes surveyed stated that they will buy groceries online in the coming year.

None of the big chains in Sweden have really made a real effort yet. When it comes to online groceries, it will not take off until they do it centrally and market it properly. On the other hand, there will be pressure from the 'digitalists'. But we are also not that many people in Sweden – it's easier to reach people in, say, London.

— Jonas Ogvall, CEO, Svensk Digital Handel

John David Roeg, Senior Analyst, Rabobank, states in a Business Wire interview about online grocery shopping, "In theory the online grocery market should be a place for everyone to sell everything". In practice, online grocery operators face countless challenges – from securing the cold chain to delivery systems and thinking about e-shelf impact. A recent report from the Swedish Digital Commerce association listed the main challenges of food shopping in Sweden. Warehouse handling and picking routines, presentation of goods (e-shelf impact), deliveries, delivery times and returns are the main challenges that the industry faces. Changing consumer behavior and breaking away from the traditional habit of in-store grocery shopping are two major challenges for online grocers. Consumer willingness to pay more for deliveries has also been a much-discussed topic. Consumers

still place high value on the in-store experience, especially the full sensory experience which contributes to consumer satisfaction.

E-shelf impact requires online-proof products and packaging

It is essential that online grocery sellers develop products that are "online-proof" and adapt their strategies to new realities and changing needs according to the Dutch Rabobank 2014 report on online grocery shopping. Otherwise, online grocers run the risk of being relegated to the back of the e-shelf. Roeg emphasizes that even the most popular products can suffer from decreased visibility online. It is of course important to make it easy for consumers to find the products they need at the online grocery store.

Many companies do not yet recognize that new strategies and solutions are needed online. Most companies use the same primary packaging online as in stores. Emmas Enkel, the German multichannel grocery store, is one of the few companies interviewed that brought up e-shelf impact, noting that consumers have difficulty relating to the scale or size of online packaging. The company also pointed out that communicating and being able to charge for brand premium is much more difficult online than in conventional grocery stores.

It is difficult for smaller e-tailers to have an impact on primary packaging because the volumes bought are still insignificant compared to offline retailers. E-tailers who carry private brands may adapt their packaging for online sales, but it is mainly up to brand owners to differentiate their brands.

...one of the main reasons why online groceries are not yet big in Germany is the fact that grocery prices in Germany are the lowest in Europe. There is really strong competition among discounters such as Lidl and Aldi and there are no margins to offer extra services. Food and e-commerce don't work right now.

— Frank Schünemann, Business Development Manager, Kühne + Nagel

Delivery and cold chain are challenges that go hand in hand

Delivery and delivery times rank high among the challenges faced by online grocers according to the Swedish Digital Commerce association. Companies have created different strategies to handle deliveries in the best possible way. British grocer Morrisons, for example, prepares all the fresh goods in the stores closest to the consumer when ordered online. However, it still finds delivering the goods in bought-in-store condition a challenge. SF Best in China uses different branding on delivery boxes, depending on the products purchased, and helps the consumer when unpacking the boxes at home.

The cold chain has an essential, but extremely challenging, role in the delivery process. Most online grocers either outsource delivery of cold chain foodstuffs to 3PL or decide to handle only dry food and use drop shipping for cold chain items. Others have created complex systems to handle and distribute cold chain items. Online grocer SF Best has four different temperature-controlled storage zones to keep fresh produce and frozen foods at precisely the right temperatures. Proper handling even extends to the last-mile delivery where delivery people on foot or bike carry groceries for delivery in insulated food bags or packs until the groceries reach the consumer.

Entering country of discounts

Germany is perhaps the country with the largest number of discount chains, including companies like Lidl and Aldi. German customers are price sensitive and look to get the best deal; this contributes to making food prices in Germany among the lowest in Europe. For this reason, grocery e-tailers have had difficulties entering the German market; most of them have failed. Increased handling and logistics costs, due to smaller and more frequent orders and home deliveries, as well as an unwillingness from consumers to pay extra fees is a great challenge. In order to be successful, e-tailers must develop an efficient logistics system for online groceries.

You have to remember – Germany is the inventor of the discounter chains.

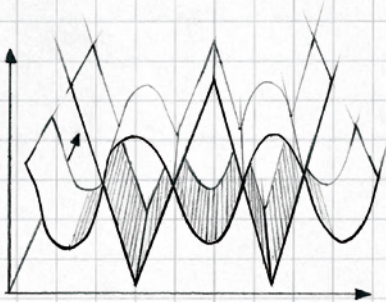
— Philipp Blome, Head of Multichannel, Real

OPPORTUNITY AREAS

Five opportunity areas have been identified as a result of this study. Each area has been divided into three sub-categories. Together these opportunity areas address a wide range of future business opportunities.

OPTIMIZE PACKAGING PERFORMANCE

Optimizing the physical performance of packaging has been identified as a potential area for improvement, specifically in these three areas.

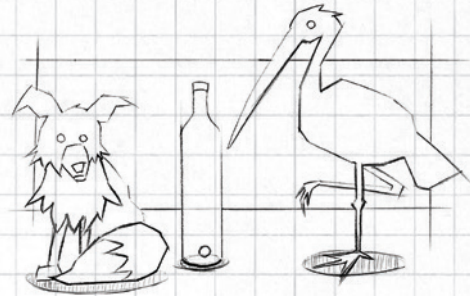


Monitoring packaging performance over time

Investments in packaging are compromised over time for the sake of cost savings. Packaging systems degrade until the packaging is no longer able to provide the performance required. Monitoring packaging performance over time is one immediate remedy that helps reveal weak points in the value chain, improve procedures and enable collaboration with other actors along the value chain.

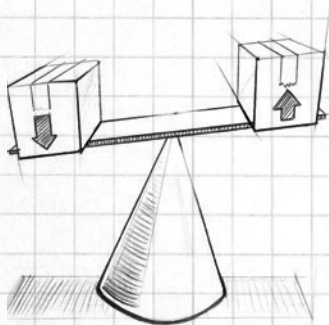
Selection of product-specific packaging systems

The use of standard packaging systems that are not designed for specific needs is one reason behind poor packaging performance. Over time, the use of standard packaging solutions tends to create thresholds from a logistics and handling perspective. The use of a virtual pack-selector, which takes into consideration performance, logistics and handling, may improve packaging performance. However, this requires a holistic approach to packaging throughout the entire value chain.



When customized solutions are feasible

E-commerce companies tend to hesitate before investing in customized solutions. A reason for this is uncertainty of the actual ROI. Based on learnings from research and studies about sustainability a matrix offering tailored solutions as opposed to standardizations can be developed for this very reason, to help companies decide what packaging to use.



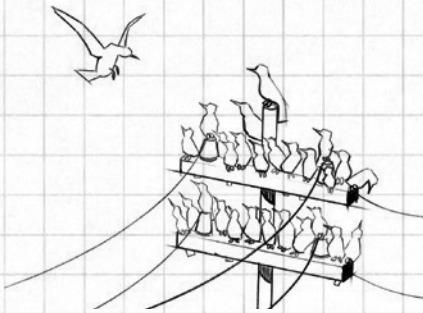
OPTIMIZE INFRASTRUCTURE

The major challenges for e-retailers are related to their abilities to address bottlenecks in the handling, distribution and overall infrastructure. This includes merging an existing flow with online-

specific flows, synchronizing and making transports sustainable and effective, duplicating DCs and handling returns. We have identified three areas with opportunities to improve infrastructure.

Product-specific metadata in the packaging

Most systems today use static article numbers. The use of item-specific ID tags may contribute to more detailed control of the order – from handling the packed product to the end-consumer in a single coherent flow. Product-specific ID tags could provide a unique identification key for recipients and, in addition to providing product-specific data upon receipt, address tampering, counterfeit and traceability issues, if necessary. These tags may also help address issues associated with online and offline dynamics and enable separate flows to be combined, thereby improving production line efficiencies.



Flow handling utilizing existing infrastructure

There is a strong trend to decentralize distribution and use smaller, often manually operated store networks, and other speedier distribution points. There is also a great opportunity throughout the chain to evaluate existing infrastructure, including areas intended for other purposes, for use as distribution hubs. Increasing flexibility in the flow-handling process in this way may facilitate order handling during peak season, increase delivery speed and boost consumer satisfaction.

Click and collect: new challenges for packaging features

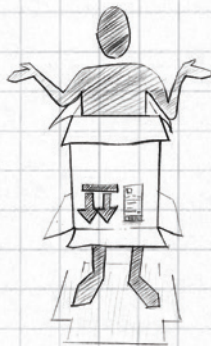
One of the biggest e-commerce challenges is the so-called last mile. This is primarily due to the negative environmental impact and high energy consumption associated with home delivery service. Recently, click-and-collect initiatives have surfaced around the world. The front-loading parcel lockers generally have a luggage locker design which often is not optimal for package storage. Here lies another opportunity to develop packaging that meets increasing consumer demand for convenient parcel pickup and fits into lockers used for click-and-collect services.



ENHANCE CONSUMER EXPERIENCE THROUGH PACKAGING

Few retailers pay attention to consumers after they place their orders. In the best case scenario, retailers feature their logos on the packaging and enclose a brochure in the box as the sole means of communicating with the end-consumer. The unboxing experience, however, provides an unmatched op-

portunity – temporarily free from competing media clutter – to communicate with the end-consumer in his or her home environment. Here are three areas in which the consumer experience could be further enhanced.

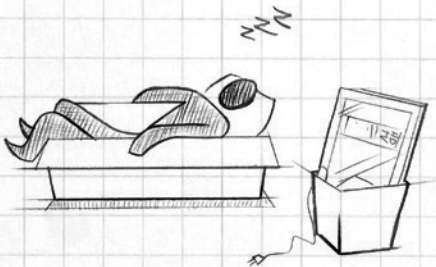
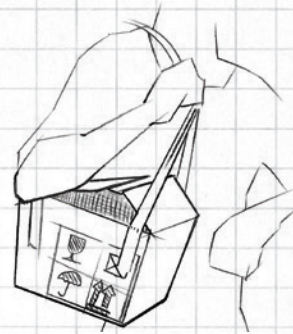


Convey brand values

Conveying brand values may seem overwhelming to some e-tailers. It usually requires the use of resources that are not yet in place. E-commerce packaging presents many opportunities to enhance the consumer brand experience and increase brand value. Packaging can provide consumers with a multi-sensory branding experience. This experience should match the brand's look and feel with regard to tactile perceptions, printability and the unboxing experience as well as adapted semiotics with category, tonality and brand storytelling.

Meet the demand of self-affirmation

Research shows that, no matter the outlet, humans are highly social beings who constantly seek affirmation from their peers. People therefore use social media to document and display online purchases and packaging, wherever and whenever – after pickup at a convenient location, neatly stored at home, or when reusing packaging for other purposes. Developing e-commerce packaging to play a pivotal role in consumer self-affirmation process and its power to persuade will become increasingly important.



Seize the moment

Capturing the consumer's full attention for a full 60 seconds is a rare occasion for a brand today. Yet e-commerce presents this opportunity every day. Seize the moment to engage the consumer and promote the brand.

360 DEGREES OF E-COMMERCE

The global readiness for e-commerce is gradually increasing. However, bearing in mind the findings from this study, the channel still has a few challenges. These are translated into opportunities below:

Discrepancy between visualization and real product

Translating product characteristics of a 2-D depiction into a physical product is difficult for most online consumers; tools that help consumers succeed in visualizing the actual product can support the decision to buy online. Although these 3-D visualization tools exist, it is still impossible to convey the tangible factors, such as size, tactility, perceived quality and the support of a salesperson, that contribute to decision making. Bridging these discrepancies at every touch point is a big task not only for software developers, but also for all stakeholders – including packaging designers. Product demonstration, benchmarking, proof of product claims via features and post-purchase follow-up are among these touch points.



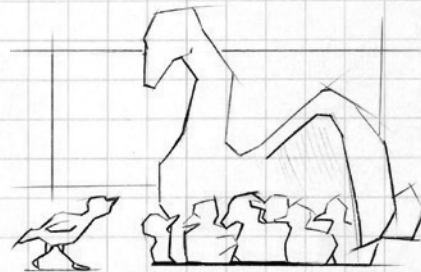
Shared platform, shared challenges

Drop shipping, 3PL and other cooperative approaches are gaining ground, especially for startups, niche categories and companies entering new markets. However, the real opportunity lies in creating cooperative networks throughout the entire chain, sharing investments, challenges and goals among companies and organizations in order to develop together.



Sustainability perspective throughout the entire value chain

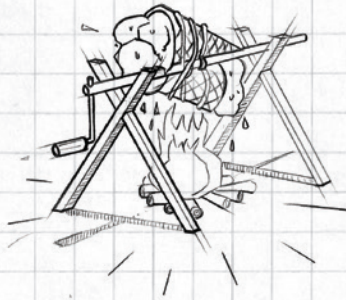
E-commerce is struggling to establish itself as a sustainable alternative to traditional retail. Selecting the right packaging for the right product is an essential component to e-commerce sustainability. There are many opportunities of create a more sustainable e-packaging future. Among them are reducing overpacking waste, shared packaging platform solutions and integrated converting systems.



ONLINE GROCERY MARKET

The market for online groceries is growing at a quick pace. Fast, agile e-commerce solutions are required to handle increased demand and larger volumes. The increase in frequent small quantity purchases also poses new challenges. Growth, however, is not evident everywhere. The U.K., for

instance, is experiencing slower growth due to the challenges associated with handling a fast area-expanding consumer base. This may also lead to other opportunities to arise, such as these.

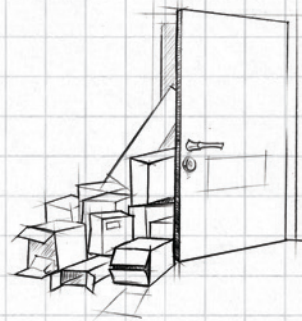


Cold, hot, fresh, and safe

Groceries are high-maintenance items. There are frozen, chilled and ambient food categories and moisture-sensitive dry goods alongside fresh produce that requires controlled humidity levels. Moreover, online grocers must meet demands for frequent small quantity purchases for single-person households as well as large, weekly orders from multi-person households. These issues call for the development of more flexible, multipurpose packaging systems.

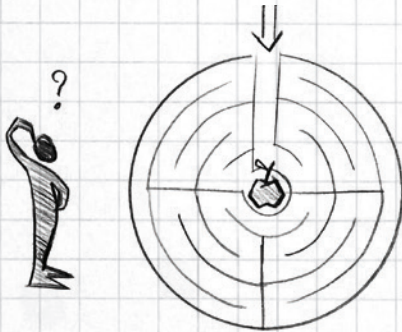
Waste management

Consumers must deal with waste after opening e-commerce packaging. Currently, there are no good solutions for reusing and re-collecting secondary packaging from e-retailers. Online grocers must also address the issue of food waste due to spoilage during transport. Both of these issues present opportunities to develop deposit systems or reuse systems for packaging delivered to consumers as well as better packaging to keep fresh, chilled and frozen foods damage-free and at the right temperatures.



Reaching the audience

In most markets, e-commerce remains overshadowed by traditional retail channels. To reach a larger audience, online retailers must find new ways to make buying online more convenient. Online grocers, for instance, have made inroads with high-income families, who represent the majority of online buyers today. Making e-commerce more including and facilitating purchases for large audiences, such as today's demanding, tech-savvy millennials, presents online retailers with opportunities to expand their target audience. To do so, however, e-tailers must invest in recreating a seamless shopping experience, identifying more easily accessible e-channels and introducing e-commerce platforms that promote consumer convenience.



**WHERE IS THE
CONSUMER IN
ALL THIS?**

Introduction

Background

In order to fully understand the online packaging journey, a consumer study was conducted to look at how end consumers experience packaging options currently offered by online retailers. One of the key findings was that e-commerce packaging often lacks focus on the consumer experience. E-commerce is a booming business, and becoming increasingly popular. The competition for customers among online retailers is also gaining momentum. As online shopping continues to make strides, it is crucial for retailers to understand consumer demands in order to meet – and exceed – them. The aim of this part of the study was to understand the consumer journey of e-commerce packaging, what consumers perceive about packaging that is commonly used today and what their expectations are.

About the study

A consumer study with an ethnographic approach was conducted in Sweden between October and December 2014 to gain knowledge about the interplay between the online order and packaging. The research consisted of three components: desktop research, observations of consumers while shopping online and in-depth interviews using semi-structured questions, with a focus on the latter two. The combination of interviews and observations provides an understanding of both conscious and unconscious consumer behavior, that is, to watch what a consumer actually does while shopping online as well as to hear a consumer explain his or her actions.

Four participants, representing different market segments, were observed and interviewed when shopping online. Four main research questions served as a framework for the interviews.

- How does the ordering experience influence the perception of packaging?
- How does the appearance of packaging impact the experience of a purchase?
- What packaging features seem to affect the experience of online packaging to the greatest extent?
- How can packaging trigger repurchases?

Process

The participants were asked to place an order of selected goods in five predetermined stores. The stores were selected based on their online packaging, which represented generic as well as innovative solutions. In-depth interviews were conducted with the participants at three stages of the purchasing process: after the order was placed, after order delivery during opening of the order and after the order was returned. At the second interview, the participants were asked to bring the unopened parcels to the meeting in order to be observed and photographed while opening them.

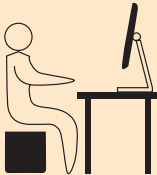
Demographics

In order to represent different consumer segments, the participants were selected based on various criteria in order to get a selection of participants with different ages, online shopping experience, occupations and characteristics. Following is a short description of the participants.



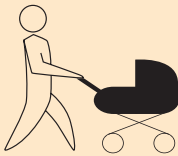
Anna

Anna is 24 years old and studies marketing. She lives with her boyfriend in the city center of Stockholm and her main reason for shopping online is convenience. She's not a frequent online shopper, but buys something maybe once a month. Anna is interested in fashion and is conscious about packaging appearance.



Bob

Bob is a 52 year old engineer who lives in the suburbs of Stockholm. He has wide experience in online shopping and shops frequently. He mainly buys electronics and technology gadgets online and values good prices and convenience. When shopping in omni-channel stores he prefers to buy online and pick up the order in store, and especially to return in store as it is faster and easier.



Charlotte

Charlotte is 34 years old and is currently on maternity leave with her second child. She loves to shop online and does it frequently; however, she has never returned anything bought online as she finds it too much of a hassle. She values easy purchase processes as she can easily back out of a purchase if it seems too time-consuming.



David

David is a 28 year old office worker who lives in the outskirts of Stockholm. He's not a very experienced online shopper, but has tried it a few times, as he prefers to feel and look at products before buying. David is interested in design and technology, and the latter is what he mainly has bought online. He has tried buying clothes online, but prefers to buy things he knows for sure he wants to keep.

Findings

1. Experience during order process - fast process increases likelihood of completion of purchase

All participants stated that a fast order process made them more prone to completing a purchase. Two of the stores ordered from in the study (based in the UK and Australia) did not have any payment authentication in their check-out, which made the orders quick to complete. This was stated as both positive and negative; the quick procedure was appreciated, however the lack of credit verification left the participants with doubts about the store's authenticity.

In two of the stores there were problems in the check-out, making the participants having to redo the purchase from the beginning. It was stated that if this would have happened during a private purchase, outside the study, the purchase would not have been completed.

In addition to an easy process, clear information about the products and the purchase/returns were requested. Three of the four participants preferred the websites with a clean, simple design before the cluttered ones.

“The website was super overwhelming; I didn't know where to start and just wanted to get out from the second I entered.”

Anna

The omni-channel store in the study was said to give a stronger impression of security compared to the other stores, as the participants here could be sure of the store's authenticity.

2. Expectations before delivery - low

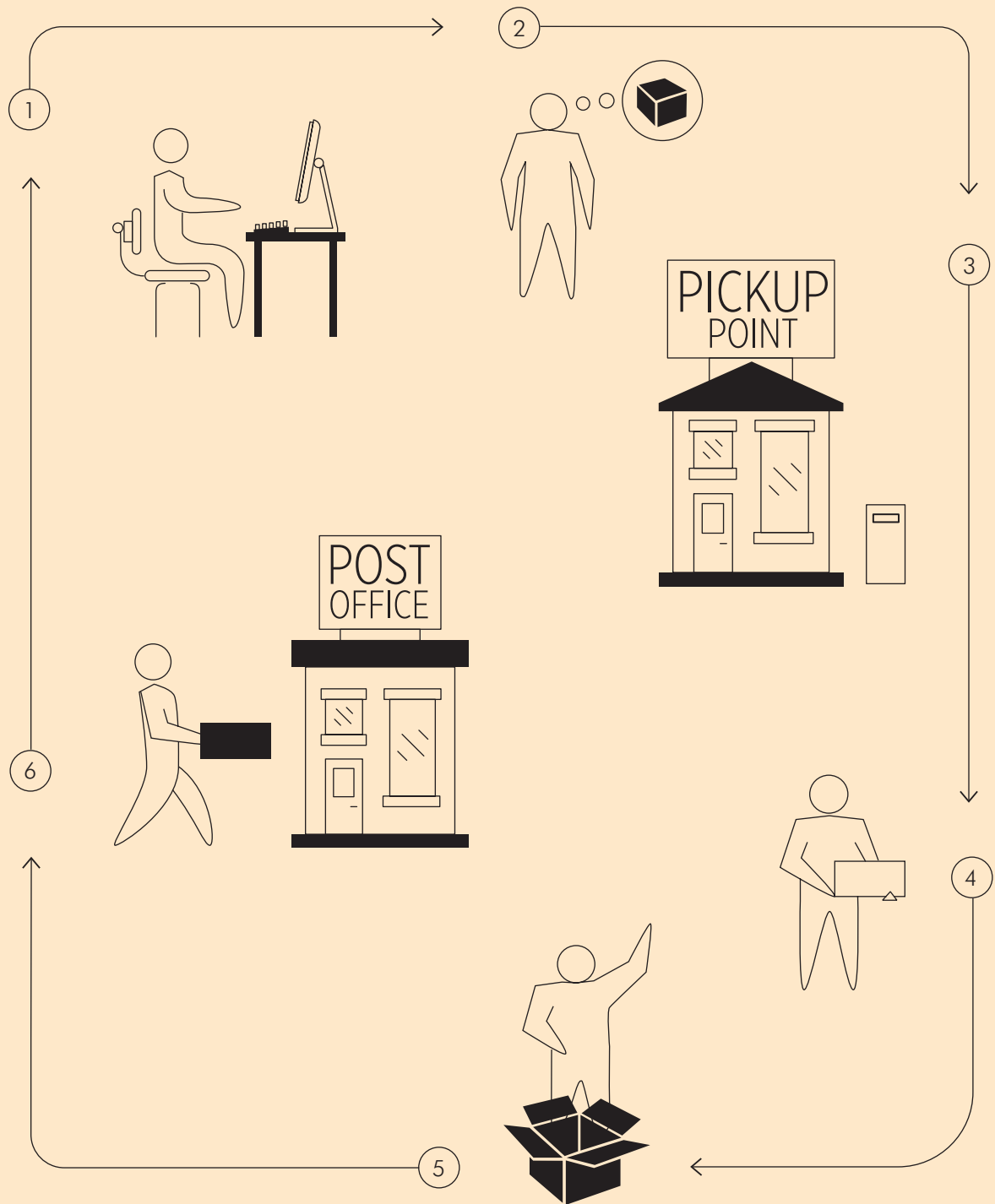
None of the participants stated they had any expectations on any packaging before delivery. There did not seem to be any reflection about what packaging a product would arrive in before making a purchase, as the participants mentioned that they all had previously ordered online and therefore by experience had low expectations. Their expectations on e-commerce packaging are mainly to deliver the products inside it in mint condition to the consumer.

However, although there were no outspoken expectations, it was obvious that the expectations differed between different stores. The stores with websites that were perceived as more premium yielded higher expectations on packaging appearance. The packaging was expected to live up to the level of premiumness expressed by the brand and the product inside.

3. Reception of packaging- could be more efficient

The parcels ordered were delivered either in the mailbox or to a nearby pick-up point. All four participants said that they preferred to get parcels in the mailbox, as it was stated that the time between arrival of pick-up notice and last day of pick-up can be rather short and it may be pressing to find time to pick up parcels before they're sent back to the company. It was also mentioned that waiting times at the pick-up points are often long and that they are not always located very conveniently or close to the customer's home.

WHERE IS THE CONSUMER IN ALL THIS?



The feature of choosing a pick-up point, something already used by several e-tailers, was sought after, in order to facilitate incorporation of pick-ups into your daily routine.

“My post office is very far away so it was a hassle [to pick up the parcels]. Even though I wasn’t there during traffic hours it was a very long queue - I waited for over 20 minutes in line before getting my parcels. In addition, the people at the post office weren’t very nice, so it was an overall negative experience [to pick up the parcels].”

Anna

One of the participants stated that he appreciated getting the pick-up notice through text message; however, this feature was not seen as value adding but rather the lack of it as unsatisfactory. Another feature whose absence was seen as unsatisfactory was the ability to carry the big boxes. Two of the orders contained bulky objects leading to them being sent in rather large boxes. Although the size of the boxes were quite hefty they offered no form of handles or similar. All participants complained about the large sizes and the two younger participants, living without a car in the city center, especially complained about difficulties carrying the boxes home. The carrying was particularly problematic while carrying other objects at the same time (such as a handbag and grocery bags) as the shape and weight of the boxes called for them to be carried with a two-handed grip.

4. First impression - eye-catching packaging appreciated

The cardboard boxes, i.e. the generic packaging, in this study were perceived as large and insipid. This kind of packaging was expected by the participants, but none the less disappointing to them. When asked about the condition of the parcels on arrival it was noted that small dents, scratch marks and smudges were not noted as long as the overall impression was fine. This was explained as being the usual condition of parcels sent by post, and therefore something that is not reflected upon.

The packaging selected as being more innovative received remarkably more positive response compared to the generic boxes. One of the innovative ones was a reusable packaging, consisting of a sewn plastic pouch with Velcro sealing that was highly appreciated for its design and functions and was stated as standing out from the other packages. The innovative packages were appreciated for being more than cardboard boxes, which made the participants more anticipative about unboxing them.

“Exciting! The packaging itself is a product, which made me feel more excited about opening it.”

Bob on the reusable packaging

5. Experience when opening - unboxing experience add purchase value

The innovative packages had in common that the participants said they had more of an “unboxing experience” while opening these. The packaging added value to the purchase by offering the customer a special moment before accessing the product. It was stated that nice looking packaging could raise the experienced value of a product, as could also a nice inner packaging.

“Really nice packaging, both the outer and the inner one! They have understood that the packaging matters. The product is nothing special, but the whole packaging experience makes the perception of it a lot more positive.”

Charlotte

The participants stated that they prefer as small packages as possible; both for environmental reasons and for convenience. Smaller packages are more prone to be delivered in the mailbox and are, if delivered to a pick-up point, easier to transport home. Furthermore, a smaller package requires less use of materials for the packaging, as well as less filling material. It was indicated that excessive use of material, packaging or fillers, reduced the experienced value of a purchase.

6. Returns - simplicity requested

When returning the orders all participants reused the original packaging. A condition for returning items in the cardboard boxes was to have packing tape at home, something that not all of the participants usually have. Returns should be quick and effortless according to the participants, and companies should provide clear instructions on their websites. It was stated that both time-consuming return processes as well as expensive postage, especially when returning to a company abroad, may lead to consumers keeping products that they’re not satisfied with. Whether the participants would shop again in these stores depends on what kind of product was bought as well as the reason for not being satisfied with it.

The main recurring disappointment among the return processes was the lack of transparency in the system. Several stores did not send any notification to the consumer when receiving the return, which lead to uncertainty if the consumer would get their money back or not.

Conclusions - How did packaging meet the consumer expectations?

How does the ordering experience influence the perception of packaging?

Expectations of e-commerce packaging vary in relation to a website's visual appearance. When shopping in a store that is perceived as a premium store, consumers expect higher standards of service. Features that are perceived as adding value in one store may be perceived as must-haves in another. Packaging is one of these features. A website that is perceived as boring or cheap does not raise consumer expectations about packaging other than to protect the product from damage during transit, whereas packaging for a parcel from a premium store is expected to meet higher standards.

How does the appearance of packaging impact the experience of a purchase?

Packaging that provides a unique consumer experience may increase the perceived value of a product – and by extension the entire brand. A packaging that is damaged upon arrival may create a sense of distrust of the store although customers realize that, to some extent, it is the carrier's fault, and not the store's, that packages are delivered in poor condition.

An item that is poorly packed, whether under- or overpacked, contributes to a negative purchasing experience before the product is even presented. Attractive inner packaging, on the contrary, provides the consumer with a positive attitude toward the purchase before actually seeing the product.

What packaging features seem to affect the experience of online packaging to the greatest extent?

The most important function of e-commerce packaging is product protection: to deliver the ordered item intact. On the contrary to what is stated previously however, as long as the product arrives in mint condition, the consumer is willing to overlook rather big flaws in the packaging. Material consumption affects both product condition and consumer satisfaction. On the one hand, the use of an insufficient amount of material provides inadequate protection and, as a result, leads to damaged goods. On the other hand, the use of excessive packaging creates negative perceptions about a company's approach to sustainability as well as frustration about getting rid of it.

Delivery in the mailbox was one of the most appreciated services offered, as it allows the shopper greater flexibility because there is no need to schedule a pick-up. Arne Andersson, e-commerce advisor at PostNord, predicts an increase in the use of the mailbox for e-commerce deliveries in the future. As e-commerce consumers become more knowledgeable, their demands will increase, and greater convenience is one of the key requirements.

Other packaging features that added value to the online packaging experience were an attractive outer appearance as well as a nice inner packaging; these features influenced the probability of consumer repurchases in a particular store. For instance, participants felt that the reusable packaging was especially attractive; although the product was not the type

of product they would have purchased outside the study, several of them suggested that they were tempted to shop in this store again – for the sake of the packaging.

How can packaging trigger repurchases?

The reusable packaging mentioned above was the clearest example in this study of how packaging can entice consumers to make additional purchases. Features that enable reusability have a positive impact on consumers, through making them feel more sustainable themselves by using them; and sustainability is an important consumer requirement in many markets today. As an added incentive to return packaging and repurchase from the store, the company with the reusable packaging provides a gift voucher to consumers when sending the packaging back. Participants considered being rewarded for returning sustainable packaging as great added value. The packaging has replaced the retail experience when shopping online and is an important tool in order to build brand loyalty, something that should be utilized more extensively by e-tailers in general.

As mentioned, attractive packaging provides a consumer experience that may enhance the perceived value of a purchase. While consumers in general are not keen on paying an extra fee for fancier packaging, it is implied that hidden costs are acceptable. Nice packaging that is included in the net price of a purchase can entice consumers to shop in one store instead of another because they perceive that they are getting more value for money. To deliver above expectations is a powerful way to enhance branding.

To sum it up, e-tailers want to give consumers a feeling of satisfaction when receiving their parcels. This may be achieved through gaining sustainability credits for packaging reuse or recycling, providing a unique opening experience, or designing packaging for further reuse in consumers' homes.

Improving e-commerce packaging can increase the value of the packaging, the product and the brand for e-tailers and consumers alike.

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Companies:

Amazon
Bong
Boxon
Coop online
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Globus
H&M
JD.com
Kühne + Nagel
Lekmer
Morrisons
Ocado
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Michael Hatrick, Innovation Manager, Swisslog
Susanne Sorg, Member & Advisor, POPAI

Definitions:

3PL – Third-party logistics; outsourced logistics services such as warehousing, co-packing and transports
distribution center –site (e.g. warehouse) where products are stocked and prepared for redistribution to retailers, wholesalers and/or consumers

e-tailer – e-commerce retailer

fulfillment center – similar to distribution center, with the difference of fulfilling orders mainly for end consumers.

last mile – final leg of the delivery route to consumers

omni-channel – seamless retailing through multiple channels

ROI – Return of investment

SKU – stock keeping unit

The study behind the report How packaging can add value in e-commerce - Stepping away from quick, cheap and ugly has been conducted by NINE, on behalf of BillerudKorsnäs

BillerudKorsnäs is a leading provider of renewable packaging material and together with our partners we create smarter packaging solutions that increase profits, excite millions of consumers and contribute to a sustainable future for generations to come.

NINE is a multidisciplinary, award-winning innovation and design company based in Stockholm, Sweden. We deliver innovation and design from insight to launch for progressive global brands with high brand innovation ambitions. Our teams are a mix of anthropologists, engineers, economists and all sorts of designers. We deliver high creativity within a clear and collaborative process.

We would like to express many thanks to the companies and experts who have participated in this study and would also like to clarify that the analysis and conclusions made in this report are BillerudKorsnäs' and NINE's and do not necessarily reflect those of the participating companies.

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