

**White paper on
e-commerce (B2C)**
GS1 Switzerland policy document



Joining forces to create values



GS1 Switzerland

GS1 Switzerland is the platform on which experts optimise the flows of goods and information to create sustainable value.

As an association of approximately 5,000 member companies, GS1 Switzerland provides a network for all trading partners to cooperate and share expertise. Global GS1 standards and process models facilitate the development of efficient output chains.

In addition, practical training, useful publications and stimulating events enable the exchange of experience and knowledge to the benefit of all participants.

GS1 Switzerland is a member of GS1 Global, as well as Efficient Consumer Response Europe and the European Logistics Association.

Disclaimer

Although every effort has been made to ensure the accuracy of the information about GS1 System standards contained in the present document, GS1 and all other parties involved in writing this document state that the present document is made available without express or implied liability for any damage or loss arising as a result of using this document. The document will be amended from time to time due to technological developments, changes to the standards and any new legal circumstances.

Some of the products and company names mentioned in this document may be trademarks and/or registered trademarks of the relevant companies. GS1 is a registered trademark of GS1 AISBL in Brussels, Belgium.

Contents

1. Management Summary	5
2. Introduction	6
3. Definitions	7
3.1. <i>E-business</i>	7
3.2. <i>E-commerce</i>	7
3.3. <i>Mobile commerce</i>	7
4. Types of online retail and market players	9
5. Impact of e-commerce on the supply chain and demand side functions in retail	13
5.1. <i>Product range</i>	13
5.2. <i>Customer advice</i>	14
5.3. <i>Payment processing</i>	14
5.4. <i>Physical distribution</i>	14
5.5. <i>Services</i>	16
6. Impact of e-commerce on customer behaviour in retail	17
7. Derived areas of action for GS1 Switzerland	19
7.1. <i>Cross-channel logistics</i>	19
7.2. <i>The last mile</i>	20
7.3. <i>Category management</i>	21
7.4. <i>Trusted source of data</i>	22
7.5. <i>Returns</i>	23
8. Conclusion	24
9. Glossary	25
10. Main sources	26
11. List of figures	27
Acknowledgements	28

1. Management summary

Trade in goods and services has been revolutionised by the Internet. Market entry barriers have been lowered considerably by e-commerce, which in turn has produced changes in business models and new competitors. Marketing from anywhere has become a reality, and a growing number of global providers are also marketing their products and services in the Swiss market without having local subsidiaries. However, in addition to new competitors and business models, the Internet has also resulted in changes to retail supply chains – and these are fundamental changes. Developments in recent years mean that the various supply chain tasks in retail (physical distribution, product range selection, customer advice, payment processing and customer services) can largely be delivered as separate services. While the Internet originally only ensured product and price transparency, today all supply chain functions can be provided independently of retail by either specialist providers or consumers themselves.

In addition to the immediate impact of the Internet on supply chain functions in retail, the Internet has also brought about major changes in the shopping process. Customers' behaviour is therefore contributing to continuous change in retail. The traditional buying process has changed to the extent that any product can be sourced easily and relatively quickly on the Internet, with comprehensive information available to support each purchase. Product selection is generally supported by detailed product information, test reports and customer reviews and far more systematically so than would be possible through advice provided by the retailer in a bricks-and-mortar store.

For retailers and customers, the Internet is more than simply a new sales and shopping channel. It has completely redefined retail. The rigid system comprising manufacturers, retailers and consumers has increasingly come under pressure and the Internet is contributing decisively to this change, since it facilitates innovation in terms of specific supply chain functions while significantly expanding the opportunities for specialisation and division of labour. Supply chain functions that originally belonged together can now be separated and, in some cases, pooled in different combinations. Today, the key challenge or opportunity for retailers, manufacturers and services providers therefore is to define their own specific set of supply chain functions. New retail concepts may be based on a mix of standardised and innovative supply chain functions, which generate numerous possible options. The important aspect is for retailers not to simply regard the Internet as an additional sales channel. Instead, the retail concept selected must offer consumers genuine value added in the long term.

In its capacity as a platform on which experts optimise the flows of goods and information, GS1 Switzerland aims to structure supply chains as efficiently as possible on the basis of global GS1 standards and processes. Changes in the supply chain within the retail sector are particularly important to GS1 Switzerland, because they impact on the standards and solutions which support implementation of supply chain functions at operational level. If the various supply chain tasks in retail are separated, it becomes all the more necessary to rely on uniform standards and solutions. Only uniform standards and solutions make it possible to combine supply chain functions flexibly, thereby creating innovative retail concepts. For this purpose, GS1 Switzerland will be developing manuals, recommendations and tools in the coming years, which respond to the particular features and latest trends in e-commerce. GS1 Switzerland will primarily focus on issues relating to physical distribution (cross-channel logistics and the last mile), product range selection (category management), verified customer information (trusted source of data) and services (returns). The goal is to support market players with suitable solutions and advice on implementation in the era of e-commerce, using uniform GS1 standards to deliver automated and simpler process models along the supply chain.

2. Introduction

In connection with e-commerce, it is not unusual to find that consumers have upgraded the technology they use. According to the Future Value Chain 2020 survey, this trend is set to accelerate in the coming years. Consumers will be even better informed and have a very clear idea of the products and services they wish to buy. This represents a major challenge for companies. However, the good news according to the findings of the above-mentioned survey is that a similar trend with regard to technology to that observed among consumers is evident in companies. Companies also profit from the new technologies available and can exploit them to enter into a dialogue with consumers. Technological upgrading is therefore happening on both the consumer and enterprise sides.

The aim of GS1 Switzerland's white paper on e-commerce is to analyse e-commerce from the business-to-consumer (B2C) perspective. This includes finding out which new retail con-

cepts have prevailed, how new technologies are influencing the supply chain in retail and consumer behaviour and where there is a need for GS1 Switzerland to take action in terms of developing and updating standards and solutions with a view to optimising the associated supply chain processes. To respond to these questions, a clear understanding of the term "e-commerce" is first required. This white paper defines the term, making a distinction from other, similar terms. A description then follows of the types of online retail which have evolved as a result of the lower entry barriers in e-commerce. After this general overview of the market situation in e-commerce, a further step is to analyse the influence of e-commerce on the supply chain in retail in concrete terms. Based on the E-Commerce Report 2012 by Fachhochschule Nordwestschweiz (Technical University of north-western Switzerland), the impact of e-commerce is highlighted in relation to the five supply chain and demand side roles which retailers traditionally assume. The influence of e-commerce on customer behaviour in retail is also explained in a separate section, in order to take into account technological upgrading on both the company and consumer sides. Finally, the resultant findings are used to outline areas where GS1 Switzerland will be taking future action in e-commerce. In future, GS1 Switzerland will provide support on the basis of standards and solutions where this makes sense, in order to ensure that supply chains continue to be structured as efficiently and effectively as possible in the era of e-commerce.

The present white paper is largely based on the analysis of various studies, articles in trade magazines and publications by GS1 Switzerland, GS1 global and the Consumer Goods Forum (CGF). It is obvious that an in-depth analysis of all the facets of e-commerce cannot be provided within the scope of this document. Nevertheless, GS1 Switzerland hopes to have provided a compact and transparent overview of e-commerce in connection with B2C relationships which responds, in particular, to the aspects of e-commerce with direct supply chain relevance that are therefore also relevant to GS1's activities.



Orders can directly be triggered anytime.

3. Definitions



To gain a clear understanding of the term “e-commerce”, a definition is first required which distinguishes e-commerce from other, similar topics. However, literature has been slow to provide a uniform definition to date. The terms defined in the following serve as a basis and common understanding for cooperation, at least in the context of GS1 Switzerland. Existing activities of GS1 Switzerland and GS1 global relating to these topics are also described in this section.

3.1. E-business

E-business comprises all forms of electronic business processes. It encompasses in-house business processes of companies as well as intercompany supply chain management processes. GS1 Switzerland's e-business advisory committee is an expert committee made up of representatives from retail and the consumer goods industry. The committee deals with the use and practical application of GS1 standards in electronic business messages (with a focus on B2B). Its responsibilities include promoting connections based on electronic data interchange (EDI) incl. master data, which are aimed at exploiting the potential of all companies involved in the relevant processes.

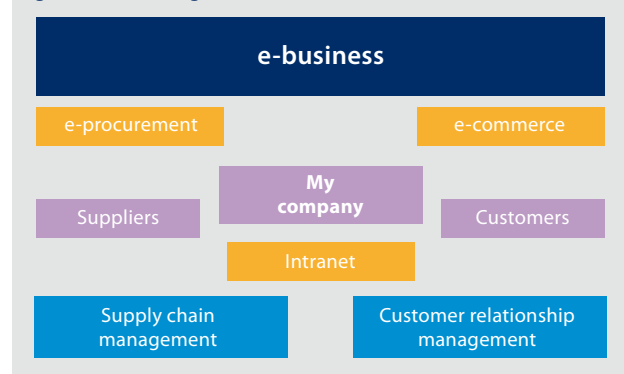
3.2. E-commerce

While e-business comprises all forms of electronic business processes, e-commerce only encompasses commercial transactions involving goods and services that are conducted via electronic media. On this basis, e-commerce is considered to be a sub-segment of e-business. Most definitions leave open the question as to who may feature as customer in such transactions – consumers, other companies, public sector organisations or employees. With the aim of defining the term as accurately as possible, e-commerce in this document refers exclusively to commercial transactions between companies and consumers (B2C) involving physical goods and services.

3.3. Mobile commerce

Mobile terminals and devices are used in retailing goods and services via electronic media as well as in connection with in-store purchases. In the context of e-commerce, the first of these two types of mobile commerce is particularly relevant. To this extent, the retailing of goods and services via mobile devices represents a sub-segment of e-commerce and has remained a strong trend since the explosive breakthrough of mobile Internet usage in 2010. It is generally expected that e-commerce will continue to be boosted by mobile devices which offer Internet access. To meet consumer demand in terms of mobile use, many companies have developed relevant apps and websites. However, the countless platforms, each of which with its own life cycle, are associated with high initial costs and maintenance expenses. This is likely to be the main reason for some companies already withdrawing their apps again to focus solely on making mobile versions of their websites available.

Figure 1: The sub-segments of e-business



(Source: German Wikipedia 2013)



The GS1 Global Office has set up the Mobile Com/B2C group, which already published a white paper on mobile commerce in 2008 to identify potential uses of GS1 standards. Building on that white paper, numerous publications have been issued in recent years, most of which have focused on possible applications for GS1 solutions in the segment of extended packaging. With its iGepir app, GS1 Switzerland also has activities relating to extended packaging and is involved in the global GS1 initiative for developing a trusted source database (cf. 7.4. Trusted source of data).



4. Types of online retail and market players

The advent of the Internet has fundamentally changed commerce in goods and services. For example, e-commerce has significantly lowered market entry barriers and this in turn has resulted in both new competitors and different business models. Today, various types of online retail are evident, which reflect the trading relationship between companies and end consumers (B2C). What essentially differentiates these types of online retail is the party which appears as the retailer. The different types are described below and then summarised and illustrated in a figure.

Pure online retail

Pure online retailers, or pure players, only have Internet-based activities and do not maintain their own bricks-and-mortar stores (e.g. Zalando). In this segment, new business models are currently being developed, which would be impossible to implement based on fixed-location shops and via mail order. Some of these models achieve high sales within a short period of time. In particular, the two innovative types of operations below are worth mentioning in this context:

- > **Single-product shopping:** a single product is offered at a particularly affordable price for a short time (generally 24 hours). Since only one product is offered, the provider benefits from a substantial volume being sold and is able to pass on the associated price advantages directly to consumers.
In short, this concept may be described as follows: one day, one product, one aggressive price. Pure online retailers who use this business model in Switzerland include Brack Electronics with their website daydeal.ch and QoQa Services AG at qoqa.ch.
- > **Exclusive shopping clubs:** shopping clubs sell branded goods of certain manufacturers in special offer campaigns. Everything is available, from fashion to shoes, toys and household goods. However, only registered members can shop via such clubs. Anyone wishing to become a member must register with the relevant website or, in some cases, be recommended by a registered user. The first Swiss shopping club was set up in 2007 with the name eboutic.ch. In the meantime, it has been joined by other market players such as fashionfriends.ch and myprivateboutique.ch.

Cooperation-based online retail

In cooperation-based online retail, several retailers join forces to create a joint e-store brand based on a cooperation agreement. This will often be a sector-specific solution in the form of a portal. A good example is German Internet platform Dawanda, on which sole traders and micro enterprises offer products and services that are specific to their trade. Rather than mass products, personalised, tailored and handmade products are sold. Alongside such sector solutions, another option is to establish an individual yet fully integrated online shop on eBay or with Amazon. This is relatively easy to do and a quick solution. With this type, retailers profit in particular from awareness and the mass advertising campaigns of these two trading platforms as well as the trust consumers place in them.

Multi-channel retail

In an initial phase of online retail, many companies exclusively focused on the Internet as sales channel. At the same time, many traditional retailers viewed this trend rather critically and continued to concentrate only on the tried and tested business model based on bricks-and-mortar stores. However, meanwhile the borders between location-based and online retail have almost disappeared and a large number of different multi-channel systems exist. The distinguishing feature of multi-channel systems is that they make at least two different sales channels available to consumers for buying the desired product, one of which is the Internet. Typical examples of Swiss companies with a multi-channel strategy include Migros with LeShop and Coop with coop@home. In addition to the companies which operate various sales channels alongside each other as separate entities, an increasing number of companies are now linking different sales channels. The combination of bricks-and-mortar stores and Internet selling represents the most complex form of online retail, since these two sales channels have very different requirements. Due to the diversity, it is all the more important to coordinate the different channels in terms of the product range provided, prices and service. The sales channels must be carefully aligned. In this connection, the term cross-channel management is used alongside multi-channel management. The term cross-channel management highlights the fact that it is often advisable to coordinate different sales channels and/or product ranges. A typical example of consistent cross-channel management is Migros subsidiary Ex Libris. Manor and bonprix should also be mentioned in this context, and there are many more examples.

Hybrid online retail

In hybrid online retail, products are always despatched and delivered after being ordered via either mail order or on the website. Many of the strengths of traditional mail order operations (logistics, merchandise management, product range and CRM capabilities) transfer relatively easily to the Internet sales channel.

Unlike bricks-and-mortar retailers, mail order companies benefit from the fact that their in-house systems are already geared to distance selling. Consequently, all that is required for online retail is the development of a new presentation channel (front end).

Mail order companies with online sales in addition to their catalogue-based business are not therefore multi-channel re-



Logistics represent a major challenge in the integration of various sales channels.

tailers. As distance sellers, they simply have hybrid online sales activities. Typical examples of companies with hybrid online retail operations include Swiss mail order company Ackermann-Versand and French fashion and mail order company La Redoute. The latter also has a subsidiary in Switzerland.

Verticalised online retail

The term “verticalisation” describes the integration of upstream and downstream stages in the supply chain process. A verticalised company dispenses with the traditional division of labour and aims to control the supply chain to the greatest possible extent, including selling to consumers.

Verticalised companies directly influence product development, product range selection and distribution. Today, the trend towards verticalisation is evident in many sectors of the economy, and a growing number of companies are utilising online retail as a verticalisation tool. In other words, they have verticalised online retail activities (e.g. Apple, Esprit etc.). The structure based on a division of labour between industry and

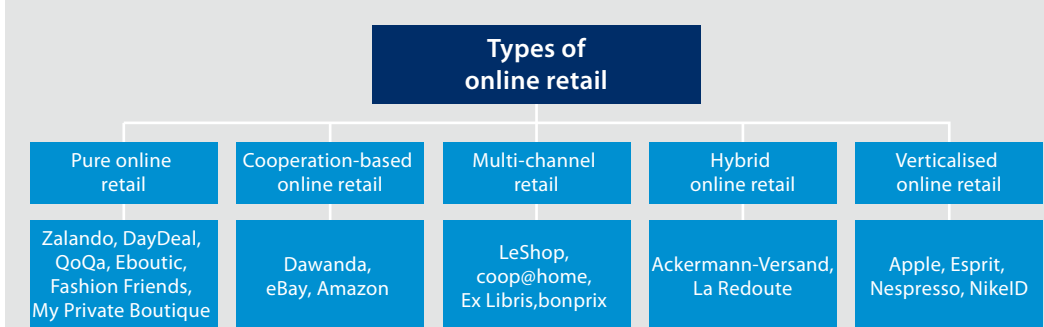




Nespresso's coffee capsules are largely sold in the company's own stores and online, circumventing general retail altogether. This enables Nespresso to avoid the retail margin while at the same time maintaining a direct relationship with its end customers. However, the newest representatives of verticalised online retail are retailers who directly involve consumers in product design by means of product configuration (mass customisation) and co-design options (open innovation). In this connection it is worth noting, for example, that Nike uses a mass customisation approach called NikeiD. On the NikeiD website at www.nikeid.com, customers have the option of selecting product specifications according to their own ideas and triggering the manufacturing of their personalised Nike product when they place their order. This means that the customer is involved in product specification and consequently included in the value-creation process.

retail, which developed over many decades, is increasingly coming under pressure as it is no longer in a position to optimally meet consumer needs. In this respect, verticalised providers have the edge over traditional forms of retail and are better placed to manage product availability and the presentation of their products as well as generate stronger brand identification. In the food industry, Nespresso, in particular, has shown how verticalisation works.

Figure 2: Types of online retail with examples from Switzerland and abroad ¹



¹ This is not an exhaustive presentation.

(Source: GS1 Switzerland based on Heinemann & Haug 2010)

5. Impact of e-commerce on the supply chain and demand side functions in retail

The Internet is producing new business models and also leading to changes in retail supply chains. These changes impact to a far greater extent than the new business models. Developments in recent years have largely made it possible to separate the various supply chain stages in consumer goods retail. Originally, the Internet simply provided product and price transparency. However, today all supply chain stages can be decoupled from retail and delivered by specialists or consumers themselves.

As a platform on which experts optimise the flows of goods and information, GS1 Switzerland aims to structure supply chains as efficiently as possible on the basis of global GS1 standards and processes. Changes in retail supply chains are therefore of significant interest to GS1 Switzerland and closely observed by the organisation. Ultimately, these changes impact on collaboration along the supply chain and therefore also on the standards and processes required. GS1 Switzerland intends to support market players with suitable solutions and advice on implementation in the era of e-commerce, using uniform GS1 standards to deliver automated and simpler process models along the supply chain.

To achieve this, changes in the retail supply chain are first highlighted on the basis of the five supply chain and demand side functions which retailers traditionally fulfil.

5.1. Product range

The retailer's role with regard to the product range is to select suitable products on the basis of his target group knowledge, which he then sells to his customers. This type of product range is called retailer-centric, since the retailer himself gathers information about target group preferences, and product range responsibility solely falls on the retailer in many sectors and most cases. For consumers, the advantage of the retailer assuming responsibility for the product range is that consumers only need to visit a few stores, which reduces their transaction costs.



In e-commerce, product range selection also plays a key role. However, the arrival of the Internet has changed the retailer's product range responsibility in many ways. For example, the previously anonymous target group related product ranges of bricks-and-mortar stores evolved at an

early stage into **individualised product ranges** of online retailers. Based on previous purchases and the click-through behaviour of customers, retailers are able to display very specific product ranges for narrowly defined target groups on their websites. This may even be an individual consumer-specific product selection. Such a level of individualisation facilitates almost unlimited online product ranges – which are known as **long-tail product ranges** – without this increasing search costs for consumers. In view of the fact that space restrictions are far less important in e-commerce than for high street stores, the number of items and/or online product ranges are unlimited. In addition to their own product range, retailers may also offer items they themselves do not stock. All they need to do this is a data set. The separation of warehousing and product range means that today, specific product ranges are no longer linked to a particular retailer. Instead, different retailers may easily offer such product ranges. Accordingly, retail companies have already partly surrendered their traditional product range responsibility for target groups. In future, this role is increasingly set to be taken on by consumers themselves via social networks, reviews, forums and blogs, which will produce **consumer-centric product ranges**.

With regard to the traditional product range responsibility in retail, an additional challenge or opportunity arises in connection with the more widespread individualisation of products and services. Consumers are increasingly assuming the role of co-producer, with co-production already encompassing many different segments (cf. verticalised online retail). Web-based organisation of such innovative and individual

Figure 3: Supply chain and demand side functions in retail

Product range	Customer advice	Payment processing	Physical distribution	Services
<ul style="list-style-type: none"> > Ascertain demand > Select product range > Put together products > Make alternatives available 	<ul style="list-style-type: none"> > Develop, assess and distribute information about products, customers and competitors > Call centre 	<ul style="list-style-type: none"> > Collection > Credit function > Advance financing > Creditworthiness check > Risk reduction 	<ul style="list-style-type: none"> > Transport of products > Splitting large lots > Distribution to customers > Interim warehousing 	<ul style="list-style-type: none"> > Guarantees/warranties > Installation of products > Repair service > Exchange and returns > Entertainment > Social contact

(Source: GS1 Switzerland based on Peters, Albers & Schäfers 2008)

production processes is more efficient than in stationary retail. The expenditure for manufacturing products based on individual specifications has been massively reduced by the Internet. As a result, such products are becoming more and more important.

However, the active role of consumers is not limited to production. Amazon and eBay have impressively shown that consumers themselves are also happy to act as retailers and/or compile product ranges.

5.2. Customer advice



The information and advisory role can also increasingly be separated from retail. As information is not necessarily linked to the act of buying products, it is easy to decouple these two retail functions. On the Internet, the information and advisory function is primarily fulfilled by the

recommendation engines of retailers (e.g. Amazon), independent **price comparison sites** (e.g. guentstiger.de) and **consumer information sites** that provide information about the quality of products (e.g. testeo.de). Consumers use these sites extensively.

Online retailers like Amazon integrated recommendation engines into their product ranges from an early stage. Recommendations are based on the individual customer's buying history with Amazon and the similarity of the relevant purchases to those of other Amazon customers, often supplemented during that specific visit to the store by data based on the click-through behaviour of the customer buying. Such recommendation engines are very successful and enable a targeted search for products from the vast online offering as well as to browse categories.

Alongside the information and advisory options mentioned, **customer reviews** of products and retailers also heavily influence the buying behaviour of other potential customers. Reviews have become indispensable for online shops. However, such reviews are also increasingly impacting on bricks-and-mortar retailers, because alongside product reviews customers also provide reviews of retailers online and comments (e.g. on reliability, customer services and services in general). The influence of customers has therefore strengthened significantly and negative reviews will often result in potential customers avoiding the store. However, positive experiences are also shared on the Internet and others will buy as a result. Enthusiastic customers have become the most powerful marketing lever. The "Coop kids" are an impressive example. Given that retailer Coop has been very cautious about becoming active on social media sites, some Coop fans independently

launched a social media account for the Coop brand. Today, the Coop kids have more followers on Twitter than Coop's official digital presence: Coop itself has approx. 500 followers, whereas the Coop kids have more than double that figure with around 1,200 followers.

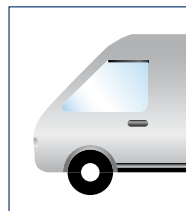
5.3. Payment processing



With regard to financial transactions, a separation from retail is also evident with a shift towards specialists. The majority of online transactions are now processed via **credit card companies** or **PayPal and similar organisations**. Another very common payment method in Switzerland is

delivery with invoice. Although this type of payment is unpopular with retailers, it is a popular customer service and therefore likely to be retained as a payment option in the future. Overall, it can be stated that while it is possible for e-commerce providers to set themselves up with a contemporary and professional payment processing system, substantial differentiation from competitors is virtually impossible.

5.4. Physical distribution



Numerous logistics services providers have meanwhile specialised in the requirements of e-commerce. This has resulted in an independent growth industry within the logistics sector. Retail itself has supported the development, because both retailers and manufacturers have

increasingly **outsourced** their logistics to **third parties** over time.

In the consumer electronics sector, for example, logistics services providers have taken on the processing of third party delivery to e-commerce end customers. Conversely, logistics are among the key operating tasks in e-commerce for certain retailers in other sectors, such as the food industry.

Logistics performance in terms of reliability and the "last mile" (cf. 7.2. The last mile) is decisive in ensuring customer satisfaction.

Error tolerance among consumers is very low. In particular, it is crucial to avoid mistakes in first-time deliveries to new customers. It should be borne in mind in this context that fresh produce, for example from LeShop and coop@home, is delivered to consumers' front doors and it must be ensured that products remain chilled along the entire supply chain right up to the customer. This service requires a high level of trust from customers. In contrast, products such as books and



Logistics performance in terms of reliability and the last mile is decisive in ensuring customer satisfaction.



DVDs are standardised and far less critical from a logistics point of view.

Another challenge that arises for the supply chain in connection with e-commerce relates to the immediate availability of products in store. Immediate availability is a major advantage of purchases made in store. Cross-channel retailers enhance this advantage by giving customers the option of checking online whether and in which store a certain product is listed and currently in stock (e.g. Ikea). As far as home deliveries are concerned, pure e-commerce players have set a high benchmark. Goods will often be delivered just a few days after the customer has placed an order. The latest trend is same-day delivery and/or the option of selecting delivery within a specific time slot. Although customers are willing to accept short waiting times for certain product groups, the fastest possible availability of goods is particularly important in food retail, where consumers expect delivery on the same day they place an order. Many sectors are not yet in a position to keep up with this speed. The high level of expenditure required to set up a suitable logistics system is frequently seen as one of the main reasons for manufacturers and providers of branded goods adopting a cautious approach to direct sales via the Internet.

5.5. Services

Services include installation and repairs, product returns, warranty-related matters and replacement services. Unlike bricks-and-mortar retail, call centres are the key point of contact for customers and in many cases the only option available. On the one hand, call centres provide information. However, on the other hand, they are also responsible for coordinating services and for complaints management.

With regard to the concrete implementation and/or processing of services, they are sometimes outsourced to sub-companies or directly handled by the manufacturer. Especially when it comes to processing services under warranty and replacement services, two different pathways appear to be emerging at present. **Warranty services for high-value products** such as laptops and TV sets are increasingly organised on a centralised basis for reasons of efficiency, i.e. regardless of where the item was



purchased. The retailer only remains the point of contact for providing services under warranty that relate to products of a lower value. Accordingly, services delivered in connection with expensive products are always separate from retail and as a result, customers' loyalty to their trading

partner is reduced.

An e-commerce-specific challenge in connection with services relates to accepting goods returned because the customer did not like the item, with the fashion industry facing particularly high return rates. The lack of sensory perception coupled with non-standardised clothing and shoe sizes mean that the industry is forced to accept **returns** in this sector as a practically inevitable element of business. Consequently, trying on and returning ordered items are made easy for customers. Online retailers are currently debating exactly how easy the return of goods should be made for customers. Shoe and fashion online store Zalando achieved a rapid increase in sales and market share when it first opened. However, the company also recorded higher losses. The renewed sorting and repacking of goods is costing Zalando a lot of money. According to sector estimates, up to 70% of shoes and items of clothing ordered from Zalando are returned. Retail experts have assessed this return rate as very high, considering that the sector otherwise typically records a return rate of max. 50%. The fact that P+P on all orders and returns are free means that the click on the order button is becoming a purchase in fewer and fewer cases and instead increasingly represents a simple request to see a product.

6. Impact of e-commerce on customer behaviour in retail

As mentioned in the introduction, technological upgrading is taking place on both the consumer and enterprise sides. In addition to the direct impact of the Internet on supply chain functions in retail, the Internet has also brought about major changes in the buying process of customers. Customer behaviour is contributing to permanent changes in retail. The difference between the traditional buying process and the new online shopping process is explained in detail in this section. However, in terms of aims there is no difference between the online channel and bricks-and-mortar businesses. Both online and offline, the central objective of customers is to find a product which optimally meets their needs.

The **traditional buying process** in offline selling presumes that customers are aware of their needs, whereby both internal (e.g. feeling hungry) and external (e.g. advertising) stimuli may play a role. As a rule, the next step is for customers to select the provider who they believe will offer the most suitable product range. On site, the customer then selects the product which best meets his needs. For this purpose, he obtains an overview of the products included in the retailer's range, assesses products based on the available information and then makes a choice. Finally, the customer buys the product selected. In this process, the customer first chooses the retailer and only makes a decision about the product once in store. In most cases, the point of decision and point of sale are therefore identical in the traditional buying process.

The Internet has significantly changed the traditional decision-making process in shopping, as described above. On the one hand, the Internet makes it possible for customers to obtain any product relatively quickly and easily and on the

other, customers find comprehensive information online on which to base their purchases. Product selection is far more systematically supported by detailed product information, test reports and customer reviews than would be possible on the basis of advice provided by the retailer in store (cf. 5.2. Customer advice).

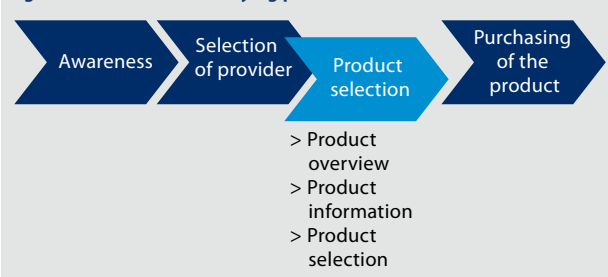
In detail, the new **online buying process** involves customers – once they are aware of their needs – selecting the product which meets their needs on the Internet. To this end, they obtain an overview of the possible products, compare them based on the information available online and finally make the decision to buy. Only then will customers select the retailer from whom they intend to buy the product, whereby price represents a key criterion.

Individual retailers tend to be less important in the online buying process, and their role vis-à-vis customers is primarily that of being the point of sale. At the same time, the Internet has substantially gained in importance as point of decision. Finding accurate information offers the greatest benefit to customers and has become the most valuable stage of the buying process.

Even if the actual product is then bought offline, the majority of consumers believe that the Internet is the most credible medium for preparing a purchasing decision. Consequently, information is often obtained via a different channel to the channel through which a product is bought. This is known as the **ROPO effect** (research online – purchase offline). Recently, the ROPO effect has been countered by the trend towards **showrooming**. This means that consumers only visit a bricks-and-mortar store to look at products and/or try them on and possibly get advice from a specialist. Once they have found a suitable product, they scan the relevant bar code with their smartphone and subsequently buy the goods online from the cheapest provider. Some retailers have already introduced a prohibition to take photographs in their stores while expanding their e-commerce activities at the same time, in order to counter the decline in sales.

Electronics retailer Digitec already opted for striking a balance between online shop and traditional store in 2007 and now has eight showrooms. This gives consumers the opportunity to look at products before buying as well as obtaining advice from staff. The showrooms also maintain their own

Figure 4: The traditional buying process

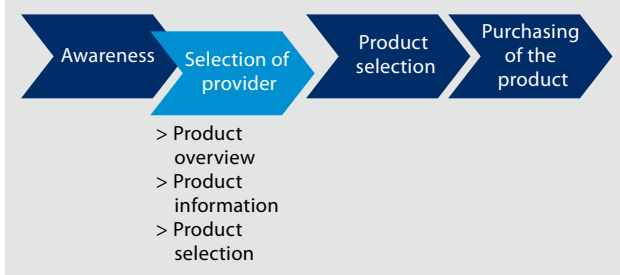


(Source: GS1 Switzerland based on the GS1 Report 2012 and Heinemann & Haug 2010)



warehouses, where the most popular products are stocked for immediate purchase at the particular site. In addition, all goods ordered from the online store can be delivered from the warehouse for collection in the showroom on request. Optimum channel coordination on the part of retailers is therefore vital when dealing with the ROPO effect and show-rooming, because consumers increasingly combine different channels depending on the situation in each case.

Figure 5: The new online buying process



(Source: GS1 Switzerland based on the GS1 Report 2012 and Heinemann & Haug 2010)

The market opportunities arising from e-commerce are accompanied by the risk of a high return rate.

7. Derived areas of action for GS1 Switzerland

More than just a new sales and shopping channel for retail companies and customers respectively, the Internet has redefined commerce as a whole. The rigid system comprising manufacturers, retailers and consumers is increasingly coming under pressure. By facilitating innovation regarding specific supply chain functions and considerably expanding the possibilities for specialisation and division of labour, the Internet is making a significant contribution to change. Supply chain functions which originally belonged together can now be separated and, in some cases, brought together in new combinations. Today, the big challenge and/or opportunity for retailers, manufacturers and services providers therefore consists in continuously reviewing their own set of supply chain functions and redefining it if necessary. Commercial concepts may combine standardised and innovative supply chain functions. Consequently, numerous different types of online retail exist (cf. 4. Types of online retail). It is important that retailers consider the Internet as more than just a sales channel. The retail concept they select must offer consumers genuine value added in the long term.

The changes highlighted in the supply chain within the retail sector are particularly important to GS1 Switzerland, because they impact on the standards and solutions which support the implementation of supply chain functions at operational level. If the various supply chain tasks in retail are separated, it becomes all the more necessary to rely on uniform standards and solutions. Only uniform standards and solutions make it possible to combine supply chain functions flexibly, thereby creating innovative retail concepts. For this purpose, GS1 Switzerland will be developing manuals, recommendations and tools in the coming years, which respond to the particular features and latest trends in e-commerce. GS1 Switzerland will primarily focus on issues relating to physical distribution (cross-channel logistics and the last mile), product range selection (category management), verified customer information (trusted source of data) and services (returns), covering four of the five supply chain functions in retail. Although GS1 Switzerland is very actively examining standardised payment processing in the B2B segment as part of e-business, B2C payment processing has not been a focus of GS1 Switzerland's work to date. However, developments driven forward by near field communication (NFC) technology in connection with mobile commerce and mobile payments are carefully being observed. If the requirement arises, GS1 Switzerland will adopt an active role in this field.

In the following, the key issues considered by GS1 Switzerland in relation to e-commerce are described in more detail. Some topics have already been analysed and initial results are expected shortly. Other topics will need to be examined entirely and/or adapted to respond to circumstances that are

specific to e-commerce. All of the key issues have in common that they are core competences of GS1 Switzerland. Accordingly, the association can rely on well-founded knowledge when developing manuals, recommendations and tools.

An important aspect is to ensure that what has been achieved so far with the GS1 System and processes is not lost in the age of e-commerce. Instead, the aim must be to develop them further in line with new requirements and with the involvement of new market players. This will provide commercial players with actual support in implementing their specific retail concept to ensure that supply chains continue to be structured as efficiently and effectively as possible in the future.

7.1. Cross-channel logistics



As mentioned in section 4 above, the borders between location-based and online retail have almost disappeared and a large number of different multi-channel systems exist. Optimum channel coordination on the part of retailers is vital. This is the only way to facilitate individual

combination of the various channels to offer consumers genuine value added. These changed market requirements have already prompted some companies to combine their corporate structures, such as purchasing, marketing, IT and customer services, and support all channels simultaneously. In this context, logistics are also very important. They represent a major challenge in terms of networking the various channels. Cross-channel logistics must process very different order volumes, including ensuring store delivery on the one hand and on the other, handling the many individual orders from end customers. In addition, deliveries to end customers are relatively difficult to plan compared with store deliveries and must be prompt. Finally, the complexity of integrating cross-channel logistics into the existing technological and physical infrastructure should not be underestimated. In terms of processes, it must carefully be planned. Relevant aspects include consignment, for example, given that individual consignment is associated with a far more complex consignment process and may even require additional consignment warehouses or adjusting the packaging of retail and consumer units.

Goods flows also need to be reviewed when cross-channel logistics are introduced and adapted if necessary. It is conceivable that third party delivery (direct delivery from the manufacturer to the retailer's customer) and cross-docking (goods ordered in advance by the supplier) will become increasingly important.

In summary it can be said that cooperation between market players is indispensable to achieve cost-effective cross-chan-



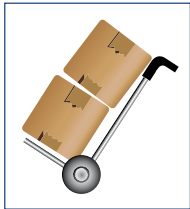
nel logistics. For this purpose, the expanded supply chain must be taken into account in any considerations, and efficient standard processes and the capability to optimise the supply chain are needed. In future process recommendations, GS1 Switzerland will respond to an even greater extent to changing market conditions and new business models. On request, GS1 Switzerland also provides implementation support, which makes it possible to deal with individual technical and physical infrastructure issues. The aim is to achieve cross-channel logistics that seamlessly integrate with existing GS1 standards and solutions.

7.2. The last mile

In power and gas supply as well as telecommunications networks, the term “last mile” refers to the final leg of the network

and in logistics, the final section of the route to the customer. In connection with e-commerce, the last mile is particularly relevant with regard to logistics and will therefore represent a focal point for GS1 Switzerland in the coming years.

In concrete terms, this relates to the period of time within which a consignment or parcel leaves the transport network and is handed over to the final recipient. While only relatively short distances are usually covered at this final stage of delivery, they produce disproportionately high costs. As part of transport processing, this last mile is therefore often the most expensive. This fact is due to the small delivery volume, which frequently comprises no more than one customer order, as well as the numerous delivery points, with every consignment being taken to a different delivery address. It is therefore difficult to combine goods deliveries on the last part of the route.



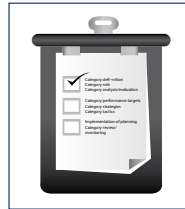
Many courier, express and parcel services (CEP) have therefore developed new concepts for organising the last mile in the past few years. As part of this undertaking, two corporate developments should be noted in particular, which are outlined in the following:

- > The Internet changes habits. Consumers buy online and more and more often receive deliveries from other consumers (e.g. as a result of purchases on eBay) in addition to companies. Alongside the increase in the number of parcels, this also results in a rise in the number of returns which is overproportional (cf. 7.5. Returns). Today, consumers are used to buying on the Internet around the clock. Although ordering is possible anytime and the order can immediately be triggered, delivery happens with a substantial delay and within a rigid time slot in most cases. Yet, consumers increasingly demand the same ease in the delivery and receipt of parcels that they already know from the order process.
- > The number of single households is rising, especially in urban areas. Unsuccessful delivery attempts to private customers are therefore becoming more frequent. Often, the logistics services provider will find that nobody is in at the delivery address and not all employers allow their employees to take delivery of private parcels at work.

In summary it is possible to state that in view of the growing number of parcels despatched to private customers and the increasing share of unsuccessful delivery attempts, developing a more efficient and effective structure for the last mile of the process has become necessary. GS1 Switzerland is able to intervene in the process of finding a solution by providing support and promoting the use of suitable means and methods. At the GS1 Switzerland round table, uniform standards and solutions are developed based on consensus, which are then documented and promoted in the market. This facilitates networking among commercial partners and a cooperation-based approach to improving business processes relating to the last mile.

7.3. Category management

The traditional category management process has largely evolved in recent years to become the standard process in the Swiss consumer goods industry. An eight-step process forms the basis for GS1 Switzerland's services in this segment. It is supported by the ECR Demand Side manual published by GS1



Switzerland, which contains practical examples, help with interpretation, worksheets and templates. Furthermore, the training course for obtaining a certificate as ECR Category Manager is provided in cooperation with Schweizerisches Institut für Unternehmensschulung (SIU, the

Swiss Institute for Corporate Training). The course is also based on the eight-step process and conveys the knowledge required for professionally managing product categories to participants. GS1 Switzerland's expertise in category management is to be expanded in the coming years, in particular by increasingly including the online channel alongside offline selling in considerations relating to category management. In online retail, conditions for structuring product ranges differ from those in location-based selling. Online retail theoretically provides unlimited product variety, as there are no restrictions in terms of space and time. For category management, this produces entirely new possibilities, since traditional category management has always been geared to retail via bricks-and-mortar stores. In digital category management, an individual and customer-specific combination of categories is possible, because products only need to be visualised rather than actually available in the virtual dimension during the buying process. Using both the in-store and digital sales channels enables retail companies to combine the opportunities offered by traditional category management with those of digital category management.

Companies receive detailed customer data when an order is placed online, which can then be used as part of traditional category management. The eight-step process offers a practical basis. However, it needs to be reviewed by GS1 Switzerland against the backdrop of the specific conditions of e-commerce and adapted accordingly.

7.4. Trusted source of data

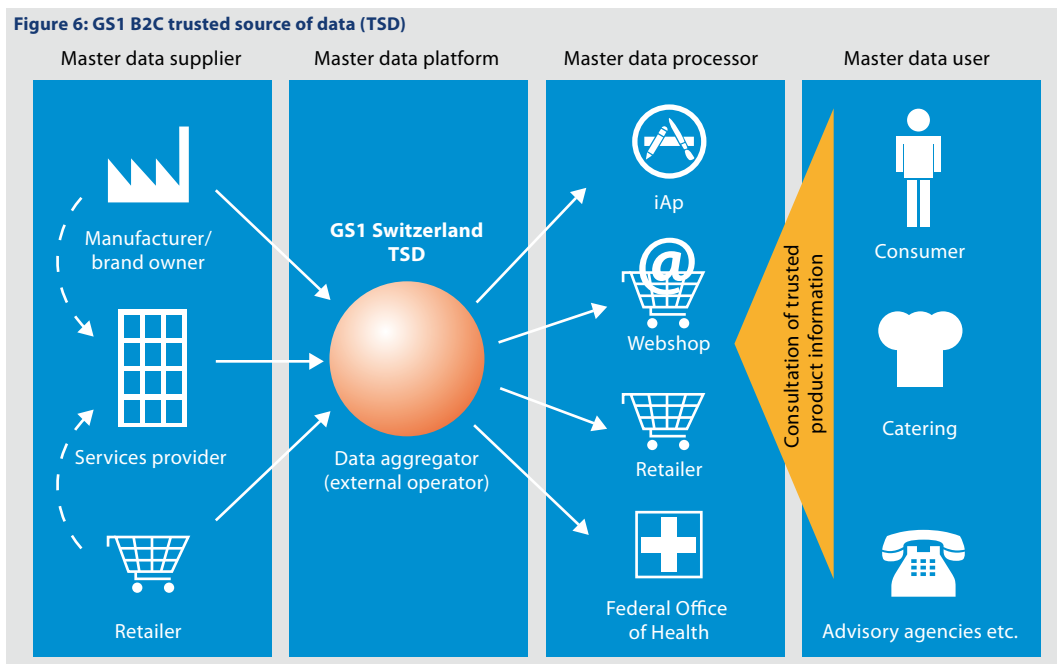


In parallel with the changes occurring in the retail supply chain, major changes have been observed in the buying process of customers. With the importance of the Internet as a sales channel increasing, the demand for high-quality digital information to support consumers when shopping is rising to the same extent. Consumers are increasingly using product information, test reports and customer reviews they obtain online for making a purchasing decision (cf. 5.2. Customer advice). The consequences for retail are far-reaching, especially given that new technology is driving this trend forward. Providing potential customers with objective and re-

liable information is therefore becoming ever more important for brand owners and retailers. In addition, EU Regulation 1169/2011 on the provision of food information to consumers will promptly be implemented in Swiss food legislation on 13 December 2014 as part of autonomous re-enactment. The main aim of the regulation is to provide consumers with comprehensive information about the nutritional values of food, with the regulation also affecting sales of pre-packed food on the Internet. These changes are likely to result in many online retailers stipulating stringent requirements for legal reasons in the near future regarding the quality of the data relating to products.

a platform for becoming involved in the implementation and further development of the database, a permanent national working group was formed. In an initial phase, GS1 Trusted Source of Data will focus on basic, descriptive product information and a limited amount of nutritional information on pre-packed food and beverages. Much of this data is already exchanged today in the B2B segment via the GS1 global data synchronisation network (GDSN). It will therefore be possible to use tried and tested systems, so that brand owners will not be incurring unnecessary additional expenses.

Figure 6: GS1 B2C trusted source of data (TSD)



(Source: GS1 Switzerland)

Brand owners will need to find ways to fulfil the requirements effectively. To meet the requirements of EU Regulation 1169/2011 and consumers' need for high-quality information, GS1 proposes to set up a joint, neutral database. It will enable brand owners to communicate digital product information to retailers, app providers etc. This data from a trusted source can then be used by consumers via Internet compatible devices (smartphones, tablets, laptops etc.)

As part of its e-commerce strategy, GS1 Switzerland is promoting the setting up of such a trusted source database and is a member of the international GS1 B2C Trusted Source of Data working group. Implementation of the prototype started in Switzerland during the first quarter of 2013. To give members

7.5. Returns

Survey findings prove that goods bought on the Internet are returned far more often than items selected in-store. The fashion industry, in particular, faces a high return rate as customers frequently order several items for selection. This circumstance is caused by the fact that in e-commerce touching and trying on goods only takes place in the customer's home once the items have been delivered, whereas in store-based retail this process takes place prior to the actual purchase. Market opportunities arising from e-commerce are therefore accompanied by the risk of an increase in the number of returns. The growing importance of e-commerce and the associated rising

return rate represent major challenges for many market players in terms of processing customers' return consignments at the logistics level. Returns processing is a staff-intensive matter and this is reflected to a significant extent in logistics expenses. In addition, today's customers expect to be able to return goods purchased anytime. In response to these expectations, companies are generally very accommodating when it comes to the time frame for accepting returns. As a service provided to customers, returns processing currently is a decisive competitive factor and is used more and more often as a tool to promote customer loyalty.

measures, it is important to recognise that returns will never be cost-effective. Accordingly, alongside optimising returns processing every company should also aim to reduce the return rate. A starting point in this process is to avoid mistakes in despatch and the delivery of goods as well as ensuring that the presentation of goods on the Internet comes as close to reality as possible.



In this context, the question arises as to who should bear the costs of returns processing. The findings of the survey conducted by the Fraunhofer Institute point to the majority of companies incurring the cost of returns processing rather than passing it on to customers.

Today, efficient returns management is an important argument in favour of customers' long-term loyalty to a company. It also represents an opportunity for increasing a company's operational efficiency. However, considerable differences exist in how long returns processing takes. This suggests that companies do not yet use standardised returns processes at present. Although many companies have recognised the substantial potential offered by the correct handling of returns, efficient returns processes are not easy to implement. Possible methods for improving the flow of materials and information as well as minimising errors include using uniform standards and clear process definitions like those GS1 Switzerland makes available on the basis of the GS1 System and its collaborative approach. Although GS1 Switzerland will support the optimisation of returns processing in the coming years with suitable

8. Conclusion

This white paper started with the statement that technological upgrading is taking place on both the consumer and enterprise sides. However, it has emerged that e-commerce comprises considerably more than mere technological upgrading and cannot therefore be reduced simply to adding a further sales and shopping channel in the context of modern communications technology. All the processes which previously applied in retail have been redefined by e-commerce, with extensive impact. New technology is not only providing consumers with additional tools for their shopping. These tools also decisively influence the structure of the entire shopping process. The same applies to companies whose traditional retail concepts are opened up by e-commerce. As a result, they now have the opportunity of combining their own set of supply chain functions while having to define the associated processes. **New technologies should therefore never be considered in isolation, but always in the context of the effects they have at process level and on the immediate environment.**

As a sector-neutral association, GS1 Switzerland is committed to a process-based approach as part of its activities, with the aim of increasing the quality, safety and availability of products and services. This benefits all companies involved and consumers. Consequently, GS1 Switzerland also addresses the topic of e-commerce from the perspective of processes rather than being led by technology-driven hype. The areas of action defined in this white paper will provide important guidelines for GS1 Switzerland's activities in the coming years. They will help companies to take adequate account of processes as part of e-commerce alongside the obvious technological aspects.

9. Glossary

Term	Definition
Electronic data interchange (EDI)	EDI is the electronic exchange of structured data, generally between companies, in standardised and machine readable format that requires no manual intervention. The aim is to achieve efficient communications with business partners and automated processing of business messages.
Extended packaging	Extended packaging makes use of the GS1 bar code. Using a mobile phone and bar code scanning apps, consumers access additional product information that is not provided on the packaging.
Global data synchronisation network (GDSN)	GDSN is an automated global network based on standards. It facilitates secure and continuous data synchronisation using Internet technology. This makes it possible for supply chain partners to exchange standardised master data and always illustrate synchronised data on their systems.
iGepir	Gepir stands for Global GS1 electronic party information registry and facilitates company searches in more than 102 countries worldwide. Over a million companies are registered in this virtual GS1 directory. They all use the GS1 System for identification of their products. With the iGepir app, smartphones can scan any bar code assigned by GS1 to directly display the information relating to the holder of the relevant number.
Long-tail product ranges	The particular feature of long-tail product ranges is that they include many items which are rarely requested alongside top sellers. It is much easier to offer such extensive product ranges online than in store, as the Internet removes space restrictions. Considerably higher margins are often achieved with niche products than on top sellers, and this generates higher profits for providers on the Internet.
Near field communication (NFC)	NFC is an international transmission standard for contactless data exchange across short distances. To date, this technology has mainly been used in solutions for cashless small-amount payments.
The Consumer Goods Forum	The world's major food manufacturers and retailers have joined forces on the Consumer Goods Forum. Among the members of this sector platform are global players and companies operating at national level. On the Board, 25 CEOs each from retail and industry have seats on an equal basis. Switzerland is represented by consumer goods group and global leader Nestlé. The organisations headquarters is in Paris, France, with regional representation in Washington D.C., USA, and Tokyo, Japan.
Trusted source of data	A global GS1 initiative is currently working on setting up a trusted source database, via which manufacturers will be able to provide accurate product information in a consumer-friendly format. Access to the database will be via the Internet and mobile devices.

10. Main sources

- > Der neue Online-Handel: Erfolgsfaktoren und Best Practices (Gerrit Heinemann, 2010)
- > Die Fehlertoleranz ist heute sehr tief (in Handel Heute, No. 5, 2012, 26–28)
- > Die Konsumenten haben technisch aufgerüstet (in Handel Heute, No. 5, 2012, 52–53)
- > Die Wertschöpfungskette des Handels im Zeitalter des Electronic Commerce – Was eingetreten ist und was dem Handel noch bevorsteht (Kay Peters, Sönke Albers and Björn Schäfers, 2008, accessed on 6 December 2012: https://www.econstor.eu/dspace/bitstream/10419/27677/1/2008_Peters_Albers_Schaefers_Druckfassung.pdf)
- > E-Business
(in the German version of Wikipedia, accessed on 16 May 2013 at <http://de.wikipedia.org/wiki/E-Business>)
- > E-Business: Grundlagen elektronischer Geschäftsprozesse im Web 2.0
(Michael Bächle and Frank R. Lehmann, 2010)
- > E-Commerce-Report 2012: Eine Studie zur Entwicklung des Schweizer E-Commerce
(Fachhochschule Nordwestschweiz FHNW, 2012)
- > Future Value Chain 2020: Building Strategies for the New Decade
(The Consumer Goods Forum, Capgemini, HP, Microsoft, 2011)
- > GS1 Report 2012: Konsumgüter Schweiz 2023+ (GS1 Switzerland, IBM, 2013)
- > Handbuch Handel: Strategien – Perspektiven – Internationaler Wettbewerb
(Joachim Zentes, Bernhard Swoboda, Dirk Morschett and Hanna Schramm-Klein, 2013)
- > Retourenbearbeitung im Logistikzentrum (Fraunhofer-Institut für Materialfluss und Logistik IML, 2012)
- > Web-Exzellenz im E-Commerce: Innovation und Transformation im Handel
(Gerrit Heinemann and Andreas Haug, 2010)
- > Web-Wirtschaft: Schrei vor Angst? (in Focus Magazin, No. 50, 2012, accessed on 11 January 2013 at http://www.focus.de/finanzen/news/unternehmen/web-wirtschaft-schrei-vor-angst_aid_877608.html)

11. List of figures

Figure 1:	The sub-segments of e-business	7
Figure 2:	Types of online retail with examples from Switzerland and abroad	12
Figure 3:	Supply chain and demand side functions in retail	13
Figure 4:	The traditional buying process	17
Figure 5:	The new online buying process	18
Figure 6:	GS1 B2C trusted source of data (TSD)	22

Acknowledgements

Published by:	GS1 Switzerland, Berne	
Authors:	Silje Sartori, GS1 Switzerland Valentin Wepfer, GS1 Switzerland	
Co-authors/contributors:	Alfred Bachmann, Unilever Schweiz GmbH Ruedi Burkhalter, Herbert Ospelt Anstalt Felix Burkhard, Galenica AG Christian Consoni, RAMSEIER Suisse AG Hans-Peter Dreier, Dreier AG Marcel Ducceschi, Migros-Genossenschafts-Bund Willi Gärtner, Planzer Support AG Benno Gubler, Valora Schweiz AG Matthias Haubenreisser, GS1 Germany Hans Rudolf Hauri, RUAG Real Estate AG Daniel Hauser, Swisslog AG Ferdinand Hirsig, Volg Konsumwaren AG Rolf Hubler, Kimberly-Clark GmbH Philippe Huwyler, Coop Genossenschaft Patrick Kessler, Association of Swiss Mail Order Companies (VSV) Oliver Koch, Manor AG Marcel Kuster, IBM Global Business Services Thorsten Maginot, Coop Genossenschaft	Urs Minder, Emmi Frisch-Service AG Dirk Morschett, University of Fribourg, Switzerland Rita Müller, MARKANT Syntrade Schweiz AG Thomas Paroubek, Migros-Genossenschafts-Bund Dieter Peltzer, Manor AG Jürg Rückert, CMC AG Paolo Spada, IBM Global Business Services Alessandro Verreschi, Nestlé Suisse SA Urs von Ins, ALSO Schweiz AG Markus Wettstein, PostLogistics AG Jonas Batt, GS1 Switzerland Thomas Bögli, GS1 Switzerland René Bürli, GS1 Switzerland Nicolas Florin, GS1 Switzerland Daniel Müller, GS1 Switzerland Michel Ottiker, GS1 Switzerland Hanspeter Stöcklin, GS1 Switzerland
Version	1.0 of 10 June 2013	
Approved by:	Collaborative Supply Chain advisory committee (the former ECR and Logistics advisory committees) and the e-business advisory committee on 28 May 2013	
Design and realisation:	Maison Standard GmbH	
Photos:	Shutterstock	
Contact:	GS1 Switzerland Länggassstrasse 21 CH-3012 Bern T +41 58 800 73 00 F +41 58 800 73 99	

GS1 Switzerland
is the professional
association for
sustainable value
networks.

GS1 Switzerland
Länggassstrasse 21
CH-3012 Bern
T +41 58 800 70 00
www.gs1.ch



Platform for expertise Build up networks to exchange experiences



Passing on expertise Transfer knowledge to increase expertise



Collaboration Promote cooperation to enhance added value



Standards Use standards to improve efficiency



Sustainability Think broadly to protect resources