

GLOBAL E-TAILING 2025

A STUDY BY DEUTSCHE POST DHL



SCENARIO 1

HYBRID CONSUMER BEHAVIOR IN CONVERGENT WORLDS OF RETAILING

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SCENARIO 2

SELF-PRESENTATION IN VIRTUAL COMMUNITIES



OPEN 24 HOURS



HELP!

SCENARIO 3

ARTIFICIAL INTELLIGENCE IN THE DIGITAL RETAILING SPHERE



SCENARIO 4

COLLABORATIVE CONSUMPTION IN A REGIONALIZED RETAILING LANDSCAPE

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GLOBAL E-TAILING 2025

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The background features abstract geometric shapes. A large, light blue shape starts from the left and extends towards the top right. A thick yellow line starts from the left, dips down, and then rises towards the top right, crossing the blue shape. The overall design is clean and modern, using a blue and yellow color palette.

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FOREWORD



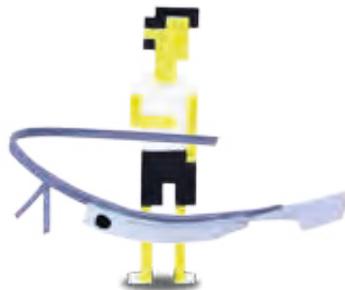
Dear reader,

We are all fascinated by the future. It is a huge determining factor in our current lives. We aim to give our children a good education. We try to conserve energy and raw materials. We build up financial assets for future descendants. To quote Albert Einstein: "The future interests me far more than the past, as I intend living in it."

Of course, we don't know exactly how we will be living, working, consuming and relaxing in 20 years' time. Nevertheless, there is good reason to think through a number of possible scenarios, as this enables us to focus on actively shaping our future. Deutsche Post DHL is the leading global logistics partner of international online and mail order retailers. We have a special responsibility toward these companies and the many

millions of end customers: If we are able to identify future trends correctly and gear our products and services accordingly, then we will make their lives much easier. What's more, with our logistics infrastructure we help ensure the long-term success of the online and mail order retailers. This is an ongoing process: our present innovative distribution methods are environmentally friendly and so flexibly scalable that they make it easy even for small firms to market their goods internationally. They provide consumers – especially those who don't have a couple of dozen stores nearby to shop in – with a previously unknown degree of convenience and accessibility.

And yet: the online and mail order retailing market is still in its infancy, but it is developing at a rapid pace. This study will



help us all to keep pace with these developments and chart the way forward as effectively as possible. "Global E-Tailing 2025" is the first scenario study with a focus on global trends and developments in the e-commerce sector and their likely impact on the logistics industry over the next eleven years. The authors have carried out their research in highly developed markets such as New York, Berlin, London and Shanghai, as well as in potential future centers of consumer activity, for example Lagos, Bangalore and Jakarta. They talked to companies and to private consumers and interviewed international experts in the retailing sector, asking such questions as: Which e-commerce concepts will establish themselves and in which regions and markets? What will the efficient logistics chain of the future look like?

How will cross-border commerce develop in years to come?

The result of this intensive research is four possible scenarios for the future of online retailing, coupled with the implications for logistics in the year 2025. It goes without saying that we cannot tell which of the four scenarios will come closest to reality or whether the e-tailing sector will evolve along completely different lines. At the same time, we are learning to think in new directions, to factor the unconventional into our forward planning, and to remain open-minded and ready to respond.

I wish to thank everyone concerned for this highly interesting and inspiring work and to invite you, the readers, to consider what the future may well hold in store for "e-tailing". Whether the

subject interests you privately or professionally, I trust you will find the study both stimulating and rewarding.

Yours,



Jürgen Gerdes,
Member of the Board
of Management
Post - eCommerce - Parcel
Deutsche Post DHL



EXECUTIVE SUMMARY

FUTURE SCENARIOS

How we will be living and shopping in the year 2025: four possible developments.

By means of four future scenarios, the “Global E-Tailing 2025” study describes the role which electronic retailing will play in people’s lives in the year 2025, how international online retailing will change consumer behavior and thus the world of retailing as a whole, and what challenges the logistics industry will then be faced with. The four exploratory future scenarios have been developed on the basis of a global, medium-term perspective; they are not intended to be precise forecasts of the future. Rather, with the description of these future scenarios for the year 2025 the study aims to initiate a dialog about the future of electronic retailing and the implications for the logistics industry.

This look ahead to the future is enhanced by several essays written by well-known experts in the fields of research and practice and also by interviews with managers in the logistics and retail sectors. The primary focus here is on trends and developments which are already highly significant and which will have a growing influence on consumerism, retailing and logistics in the course of the next eleven years. The study also examines a number of future-oriented best-practice solutions already implemented by Deutsche Post DHL in order to demonstrate the development capabilities which increased electronic retailing offers for the logistics industry.

The scenarios

The scenario method is an ideal means of developing alternative visions of the future. The objective is to spur people’s imagination and give them new perspectives. Accordingly, the scenarios do not simply carry the current situation forward into the future: they consciously reckon with upheavals and discontinuities. With this description of very diverse development paths, the future scenarios generate an awareness of possible changes in the business environment. They invite the reader to consider the risks and opportunities involved, as well as the strategies and possible courses of action. The result is a valuable mental exercise and a thought-provoking assessment of possible future developments.



HYBRID CONSUMER BEHAVIOR IN CONVERGENT WORLDS OF RETAILING

Scenario 1

Against a background of moderate economic growth, the achievement-oriented society has been firmly established worldwide. In many of the developed economies, such as Australia, France or the United Kingdom, social contrasts have increased.

Technological progress has only been moderate. Smartphones and tablets are still people's constant companions. They have flexible screens which can be rolled out, folded and flipped up. Interactive displays are ever-present in city streets, serving as interfaces to the virtual world.

Retail companies offer their goods online and in stationary stores – multichannel retailing has become established. In many cases stores merely have the function of showrooms where customers can “experience” the goods. Prompt delivery to any specified location is a standard service.

For all who can afford it, convenience is a decisive factor as far as shopping is concerned. But for the vast majority of people, it is still price which ultimately matters most.

SELF-PRESENTATION IN VIRTUAL COMMUNITIES

Scenario 2

People are prospering. For the first time in history, a middle class with a comparatively strong purchasing power has developed worldwide. This has been accompanied by a shift in values, with the focus on leisure time rather than on work. Self-fulfillment and individual lifestyles are more important than success in one's job. Trends are mainly set by international lifestyle communities. They have a strong influence on the shopping habits of broad sections of the public. Small, innovative online retailing platforms serve the different communities, while large online retailers and platforms take care of the mainstream market. Stationary retailing is principally focused on “experience” shopping.

So-called wearables are a standard feature of everyday life. One of the main purposes of this portable technology is to measure and optimize one's own actions – in relation to nutrition or fitness, for example – and to continually exchange information and experience within the community. As a result of the boom in online retailing, the volume of goods transported by the logistics companies has increased substantially. To prevent complete gridlock, a number of conurbations have brought in stricter regulations for the delivery of goods.



ARTIFICIAL INTELLIGENCE IN THE DIGITAL RETAILING SPHERE

Scenario 3

The main driving-force behind the global economy is the dynamism and innovative flair of information technology. People are living in a highly developed digital culture. Data glasses, smart contact lenses and other wearables have become indispensable parts of everyday life. Intelligent avatars serve as virtual shopping advisers. Often they act independently and “purchase” everyday goods, for example. Web shops adapt their offerings to customer profiles in real time; the avatars present supposedly interesting products to their users in “personal shopping hubs”. Stationary retailing and the showrooms of the online shops also operate

with simulations which are tailored to customer’s requirements.

Same-day delivery is standard practice in major cities. Retailers and logistics companies can often predict requirements on the basis of precise customer data. They send off the goods – in some cases via automated solutions such as drones – even before the customer has ordered them.

COLLABORATIVE CONSUMPTION IN A REGIONALIZED RETAILING LANDSCAPE

Scenario 4

The global economy is stagnating. Trade barriers and high energy and raw material prices have led to a regionalization of the economy. People buy locally, as a rule. Sustainability and energy efficiency are the pivotal factors in shopping. Leasing and sharing models are therefore very common. The importance of personal possessions has diminished significantly for many people. Availability is what really matters.

Major online portals are mainly involved in leasing business. At regional and local level, a large proportion of swapping transactions are organized via smaller online platforms. Electronic equipment and consumer goods are modular in design so that their useful life can be prolonged. This facilitates both repair and maintenance. In addition to the traditional delivery solutions, the majority of logistics firms offer spare parts logistics as well as repair services.



The essays

In his introductory essay entitled “Logistics in International E-Commerce in 2025: Challenges and Solution Concepts”, Professor Dirk Morschett of Fribourg University in Switzerland forecasts high growth rates for online retailing. His verdict: “With growth on this scale, simply continuing with the logistics solutions we have today is not a viable proposition – completely new applications are required.” He believes that the efficient “bundling” of deliveries is no longer merely a question of the individual retailer’s or logistics company’s profitability calculations: they are matters which concern society as a whole.

“E-Pace: the New Evolutionary Phase in E-Commerce” is the title of a contribution by a team of authors headed by Professor Geritt Heinemann, director of the eWeb Research Center at Hochschule Niederrhein (University of the Lower Rhine) and including Kathrin Haug and Mathias Gehrkens, both managing partners of the dgroup consultancy. Correct timing is all-important, they insist, because customers expect speed, reliable on-time deliveries and offerings to suit the particular situation. They believe that the e-pace factor impacts all functions, for example pricing or the entire supply chain. This leads to disruptive structural changes not only in retailing but also in industry, they add.

Professor Shashi Matta teaches marketing at Ohio State University’s Fisher College of Business. Together with Connor Heaton he has studied the impact of consumer behavior on the e-commerce of the future. According to this research, crowd-shaping, CtoC retailing, gamification, hyper-connectivity, sustainability and social responsibility will all have a major influence on the form and scope of future Internet retailing. “Retailers, branded companies and smaller sales outlets now need to look for new ways to market their products among customers who are more discerning and technically more knowledgeable – and that calls for a new approach, a new means of bringing together the best aspects of digital and traditional shopping”, is the view expressed by Carl Gish, Vice President Global Shipping and Logistics at eBay Marketplace.

Numerous other experts, engaged in either research or practical work, have contributed their specialist knowledge to this study. Their know-how and observations are included in the various scenarios.





FOCUS COUNTRIES & TRENDSPOTS

THE SCENARIOS TAKE ACCOUNT OF GLOBAL TRENDS AND SPECIAL REGIONAL FACTORS.

BASIC DATA AND FORECASTS

In many countries there are vast differences in economic development, digital coverage and consumer behavior. This study focuses on twelve selected countries – including long-established economies and future growth markets. The current development status of these countries and, in particular, the forecasts for their near future indicate global trends in the field of e-commerce, with due consideration being given to special regional characteristics. This data forms the basis for the development of the various scenarios.



* Western Europe comprises the following countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Portugal, Republic of Ireland, Spain, Sweden and United Kingdom.

** Eastern Europe comprises the following countries: Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia and Turkey.

TREND SCOUTS FOR E-COMMERCE

From Sydney to Bangalore, from Lagos to New York – the Global E-Tailing 2025 study includes interviews with trend scouts in major international cities. They present innovative ideas and report on ethnographically influenced purchasing habits; they show how stable structures can develop from improvised, temporary solutions and how established systems supersede themselves.

Their expertise has been incorporated into the development of the scenarios. The trend spots in the different scenarios are likewise based on these interviews.

SALE

OPEN 24 HOURS





SCENARIO 1

HYBRID CONSUMER BEHAVIOR IN CONVERGENT WORLDS OF RETAILING

THE STRUGGLE FOR SOCIAL STATUS DETERMINES THE RHYTHM OF LIFE AND WORK IN A GLOBAL ACHIEVEMENT-ORIENTED SOCIETY

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“An aspirational middle class is emerging in many Asian countries. Over the next ten to 15 years, shopping in luxury malls and event shops will be a status symbol for this new class. The younger generation in Asia, in particular, will be setting the global trends – especially where the use of technology in stores is concerned, for example Google Glasses or chips integrated into products. On the other hand, traditional forms of shopping, such as night markets, will begin to disappear in the medium term – with the exception of travel destinations, where they will continue to attract tourists. At the same time, online retailing will grow powerfully in the future, but in Asia there will not be the same negative impact on growth rates in stationary retailing which we are familiar with in Europe, for example. The only restrictions on online retailing will be imposed by the logistics infrastructure. For instance, in Vietnam there is no postal code system, while in India challenges in infrastructure make regulated deliveries outside of major cities almost impossible. Not yet at least.”

Paul H. Graham,
CEO ASIA PACIFIC, DHL SUPPLY CHAIN

SUMMARY

- The global economy is characterized by moderate but steady growth. The main driving-forces are the up-and-coming economies of Asian countries. Economic development in western Europe, eastern Europe and the United States is stable, though growth rates are relatively low.
- Globally, an “achievement-oriented society” has consolidated. Whether in China, Poland or the United Kingdom: personal success in the world of work shapes and defines people’s everyday working lives.
- Above all else, shopping must be convenient and efficient. At the same time, there are striking regional differences in consumers’ shopping patterns. In the developed countries, such as the United States and Germany, convenience plays a pivotal role, whereas in emerging countries, such as Indonesia and Brazil, price is the key factor for the majority of people.
- Globally, the merger of stationary retailing and e-commerce has made major advances. So-called Everywhere Commerce is now widespread. The retail sector targets customers through a variety of channels. Showrooms with a range of delivery options are a common sight in cities. Using flexible, rollable and foldable smartphone and tablet displays rather than laptops or PCs, consumers can obtain a clear impression of more complex products. And, thanks to ubiquitous interfaces in public places, consumers are accessible at almost all times, even without the use of mobile devices. Shopping is possible at any time and the goods are delivered to the designated address immediately.
- Manufacturers are able to predict customers’ wishes with remarkable accuracy as a result of the automated evaluation of purchasing and search patterns. The increased Internet connectivity of domestic appliances and building technology also provides a clearer insight into consumer behavior. This leads to highly personalized consumer profiles, which companies can utilize in order to make precise product recommendations and transmit individualized promotional messages.
- The demand for transportation services is apparent on all levels – all the way from local level to transnational traffic.
- International online retailing is in the hands of just a few global players, while at regional level small providers have set up joint platforms specializing in supplementary services, such as the assembly or installation of goods.
- Speed and convenience are standard features in urban centers. As a rule, goods ordered early in the day will be delivered on the same day. Private buildings are equipped with parcel boxes and pick-up stations.

STABLE IMBALANCE

THE ECONOMIC ENVIRONMENT

- The global economy is growing at a moderate rate, with only slight fluctuations in the economic cycle. The engine of growth is centered on Asia.
- Europe and the United States have stabilized on a low level following a period of consolidation.
- In a global achievement-oriented society, success in the world of work is the be-all and end-all.
- Those consumers who can afford it opt for convenience above all else.

Asia is now the engine-room of the global economy. Growth is being driven by the national economies of India, Indonesia and China. India and Indonesia, in particular, are booming. Spearheaded by a growing and consumer-oriented middle class, Indonesia is well on the way to becoming one of the world's largest national economies. Meanwhile, the Chinese economy continues to grow steadily, even though annual growth rates have slowed down slightly.

The reasonable growth in the global economy is helped by moderate price developments in the energy and raw materials sectors. Progress in the field of efficient technologies, such as building management, as well as in industrial processes and the transportation sector, has put the brakes on demand and can at least to some extent even out the growing energy and raw material needs of the Asian economies.

Following radical structural reforms in the southern eurozone countries, such as Greece and Portugal, the economic situation in the European Union has regained stability. However, this necessary process of consolidation has meant that there has been only minimal growth in incomes and therefore in purchasing power. The increasing globalization has led to a further intensification of competition. At the same time, the aging population in the core European countries, especially the Netherlands, France and Italy, is a cause for concern: the consequences

have been mushrooming welfare costs and lower productivity in the high-tech sector. For many people, the 2010s were characterized by fears for their livelihood and worries about falling behind the burgeoning Asian economies.

The United States has regained a large measure of stability. The new methods of extracting gas and oil have been keeping the lid on energy prices. This has helped to reverse the gradual trend toward de-industrialization in that country. There has been massive investment in plant and equipment for the liquefaction of gas and as a result the United States has again become a net energy exporter. At the same time, there have been extremely painful cutbacks in both the welfare and defense sectors.

Although tariff barriers to world trade have continued to decline, environmental and climate-related directives and also international patent disputes are having a negative impact. At the end of the 2010s, environmental regulations for imported consumer goods imposed by the European Union were a source of conflict. The result was an escalation in trade barriers between countries. The complicated regulations for the import of consumer goods caused problems for world trade for quite some time. In the end, the EU's "threshold" countries agreed to step up their ecological standards, whereupon the protectionist measures on both sides were relaxed again.



Less for more

A look at worldwide incomes in the year 2025 provides an uneven picture. Since China, India and other emerging countries are posting higher levels of growth than Germany, the United States, Australia and other countries with a longer history of industrialization, the gap in income levels is gradually closing. However, there are considerable disparities in earnings within the individual countries.

While the highly qualified are profiting nicely from the globalization process, this growth is benefiting the bulk of the population to a far lesser extent. In the developed western economies, in particular, including the United Kingdom, Denmark, Belgium and the United States, the lower – and to an increasing degree the middle – income groups have to come to terms with declining real incomes.

This process is also clearly seen in the growing ghettoization of major cities, in which the wealthy and the less well-off lead increasingly separate lives. The social extremes which in 2013 characterized the United States, Brazil and South Africa, for example, have become the norm in many other countries in 2025 – including Australia, France and the United Kingdom.

Although the living standards of the lower and middle classes in emerging countries such as China, Indonesia and Brazil are still well below those of the United States, Finland, Sweden or Denmark, the prospects are quite different. Whereas most of the population in the developed countries are concerned about maintaining the economic and therefore also the social status quo, people in the emerging countries have justified hopes that their standard of living will improve.

In the developed countries the average number of working hours has increased; this has been accompanied by the growing intensification of work processes. In terms of both time and space, the world of work has been “loosened up” further – thanks mainly to information technology. This has speeded up work rates: in working environments, permanent availability and readiness to respond are taken for granted. In all the national economies, one factor characterizes people’s everyday lives: personal success is the be-all and end-all in the world of work. As a result, many people feel they are under

pressure. In many cases, employees don’t take their full vacation allowance – and if they do, they spend some of it on training and education.

People seek to counteract this stress by organizing their private lives as simply as possible. Their lifestyles – shopping, housing, leisure activities – are to be simple and comfortable. Consumers are even willing to pay more for this. As far as shopping is concerned, convenience is a decisive factor, especially for the better-off and the wealthy. For the vast majority of people, a (favorable) price is still the pivotal factor; this applies especially to the aspirational middle classes in the emerging countries, but also to broad sections of the population in the industrialized countries. On the other hand, other factors such as quality, safety, security, or diversity of the product range, play a less significant role here.

Hybrid purchasing behavior has now become the global standard. Lower-income consumers save up for premium products in order to own them as status symbols. On the other hand, high-spending groups opt for articles in discount stores as a matter of course. Or they buy sustainable products. “Either or” no longer applies: the new principle is “this and that”.

FOCUS ON CHINA

Preferably with “shopping concierge”

What are living conditions like?

China's national economy is still on course for expansion – even though annual growth rates are no longer in double figures. However, in few other countries is there such a high degree of income disparity. On the one hand, there is the comparatively poor rural population and the low-paid workers in urban areas, while on the other hand the consumer-oriented middle class in the cities has grown significantly. This new standard of living needs to be defended and expanded, especially with the emerging countries moving ahead strongly. Almost everyone in China takes training, education and hard work for granted, which in turn leaves little time for relaxation and regeneration.

What is important in general terms? What is important in regards to shopping?

Under so much pressure in their working lives, the aspirational middle classes are left with very little leisure time, with the result that there is substantial demand for “convenience” products and services. Retailers have geared their offerings to meet this demand. Free home delivery of the weekly shopping or installation of a new entertainment system, including setting up all channels and connecting to the Internet for an additional charge, have become standard practice. A further important factor is that friends and neighbors should be made aware of any “premium” deliveries – social status plays a key role here. Price considerations are of course critical for shoppers, who frequently engage in tough negotiations with retailers. However, the majority of middle-class urban dwellers are content to pay a higher price for certain premium services. There is particularly strong demand for the new “shopping concierge services” which are sprouting up in many places: customers enlist the services of these agencies to help them with their shopping. Especially popular are the shopping service providers which also look for special offers and discount promotions on a regular basis. Cost savings, convenience and prestige – these are the threefold advantages of employing a “concierge” service.

Where do people shop and how?

For most of China's consumer-driven middle classes, the traditional shopping expedition, usually undertaken at weekends, is a major event, especially if the focus is on high-involvement products such as cars, jewelry or mobile gadgets. Shoppers particularly enjoy receiving personal advice and trying on, say, a luxury watch and checking its genuineness before deciding on a purchase. And the personal custodian is always at hand to monitor the consultation and sale processes. Little wonder, then, that the “concierge” sector boasts its highest growth rates in China. People in rural areas visit shopping malls less frequently; they prefer to scour the Internet for bargains.

What's special in regards to logistics?

Whether supermarket, showroom or fishmonger – flexible delivery services are very popular. Every business offers its customers a free choice of delivery destination. This can also be changed at short notice: for example, if a business meeting takes longer than expected and the goods are then to be delivered to the office rather than to the home address.



MAN AND MACHINE

TECHNOLOGICAL DEVELOPMENT

- There is only a moderate rate of technological progress.
- Smartphone and tablet displays are completely flexible, rollable and foldable.
- Interactive displays are ever-present as interfaces to the virtual world.
- As a result of intelligent hardware and system control, electronic devices have a high degree of energy efficiency and user convenience.
- Big Data gives companies a clear insight into consumer purchasing patterns.
- But the high degree of networking provides targets for cyber crime.

Smartphones and tablets are still people's constant companions in 2025. Flexible displays make them easier to use: they can be wrapped around one's arm like a wristwatch or folded into a cube and carried on a key ring. The flexible displays have largely taken the place of so-called wearables, i.e. the IT tools such as intelligent glasses or watches which made their appearance on the market in the mid-2010s. Compared with the rollable and foldable devices, wearables were unable to offer any convincing value added – and that is all-important in 2025's achievement-oriented society.

Interactive displays are ever-present: in public infrastructures, including subway stations and airport terminals, as well as in restaurants, stores, showrooms, workplaces and in the home. Everybody can use them. To log in, only the user name and password are required. Or the user can simply hold his or her smartphone, which has RFID chip or NFC technology, against the device. Identification is then automatic. Both voice and touch control of the displays is possible. They offer a personalized range of information, extending from online banking to shopping portals to social networks. Cloud services are in operation in the background.

The Internet of Things has become an established feature of both manufacturing and logistics:

machinery, warehousing systems and products are networked together and control one another in "intelligent factories". Living space, vehicles and stores have intelligent device and system controls, especially in urban centers and in countries with a traditionally well developed high-tech culture, such as the United States or South Korea. Smart homes offer residents a high level of convenience and comfort and they are also energy-efficient, which is a significant cost-saving factor. The refrigerator detects when foodstuffs need to be replenished. Using empirical data, the fridge orders butter, milk, fruit or vegetables automatically. High-end sensors optimize the cooling chains and are capable of interacting with intelligent food packaging. Thus, the freshness of foodstuffs can be checked: if any bacteria or mold has formed, this will be detected and displayed.

Almost all electrical appliances in the home, including not only the coffee machine, the oven and the clothes dryer but also the lighting and heating, are interconnected. They can be activated on centrally positioned screens in the house or apartment or via mobile apps. The heating system lowers the temperature automatically as soon as the last person has left the house, all devices on standby are switched off, and the fridge does not start running if the oven is heating up.

The numerous devices provide manufacturers and retailers with vast quantities of data about customer behavior. Customer profiles are a key economic resource: intelligent business tools can analyze large volumes of data automatically in real time. Manufacturers and retailers can anticipate the wishes and preferences of customers by means of the automated evaluation of mobile, communicative and interactive behavior patterns. Data from a diverse range of sources is interlinked and analyzed: from inquiries on search engines to products viewed in online stores to the use of GPS data on mobile devices. Users also place huge amounts

of data and information in social networks, for instance where exactly they are, what they like, and what they are doing. Creating behavioral profiles from all this data enables businesses to generate tailor-made product recommendations and advertising measures which customers no longer find irritating or inappropriate as may have been the case in the past.

Life and work are data-driven. This means greater susceptibility to cyber crime.

The web landscape is dominated by a small number of major portals which integrate more and more services and functions on a single platform. The reason for this development is that people's use of the Internet and digital communications services is mainly characterized by "swarming" behavior. In the past, a small number of large international portals and social networks dominated the web and these were invariably used by the majority of Internet users. This swarming behavior is reflected not only in the overwhelming success of just a few providers but also, conversely, in mass defections. Possible reasons for this are the emergence of new and better offerings from rival companies or data misuse scandals involving individual providers.

Russia and China have invested billions in setting up communications networks. They operate their own root servers, their own communications satellites and their own Internet nodes. They have "detached" themselves from the global Internet, their clear intention being to increase national digital security and curb foreign espionage activities. In Europe, too, sensitive data – from Portugal to Latvia, for example – is transmitted increasingly and exclusively via European data lines and not through non-European networks.

Because value added is essentially data-driven and because there is a high degree of networking in external cloud systems, there are correspondingly more targets for cyber attacks. Industrial espionage causes immense economic damage. The same applies to large-scale data theft. And in the private sphere, the high degree of automated control

makes this an ideal target for the criminal. An unauthorized person can even take over control of an IT-controlled smarthome if the password comes into their possession.

Identity theft in the Internet is much more frequent than pickpocketing. Thus, the conflict between cyber crime on the one hand and security measures on the other is built into the systems.



VENDOR VIEW – SCENARIO 1

What retailers (have to) offer

Targeting customers

Successful retailing companies see themselves as “problem solvers” for their customers. Knowing one’s customers is the crucial factor for success. Companies which have as much data as possible and can combine and interlink it intelligently are at an advantage here. The result is personalized customer communications: targeting the right customers at the right time and in the right place. Only those firms which continually provide customers with convincing, precise and beneficial offers will be in a position to retain them for the longer term by means of a subscription model or a framework contract. Any irrelevant advertising or even advertising spam will be rejected out of hand by the customer.

Products and services

Those companies which can offer their customers everything from a single source have a clear competitive edge. Here, too, the primary focus is on the customer’s specific and individual wishes. It’s not the quantity and breadth of the overall product range which convinces the customer: what counts is the ability to supply him or her with suitable offers.

Accordingly, those e-tailing platforms which serve the wishes of customers most accurately are in the end the most visited and enjoy the greatest popularity. The exception: discount retailers, where only low prices count.

Channels

The large online retailers have highly developed websites with tracking and individualization functions. That’s because a firm which presents the wrong products is wasting the customer’s time and will soon have lost his or her custom. The sites are mostly optimized to suit tablets and smartphones with variable sizes of displays. The major retailers even issue their own terminals on which their store is featured exclusively. They also have stationary stores in all major cities: these serve primarily as showrooms.

Logistics offerings

Of course, the goods are also sold in the showrooms. In most instances they are delivered to the customer’s home, often arriving ahead of him or her. Same-day deliveries have become established practice – in the major cities at least. For many customers, the option of having goods delivered from the store to their home address has a considerable influence on their purchase decisions.



EVERYWHERE COMMERCE HAS BECOME ESTABLISHED

BUYING AND SELLING

- Multi-channel retailing has successfully established itself. The old boundaries between online and offline marketing and advertising channels have disappeared.
- Retailing employs intelligent concepts which combine the best of the online and offline worlds:
 - Touch-and-feel experiences in showrooms.
 - Interactive diversity and the independence of the virtual world.
- Retailers provide prompt delivery to any specified address as a standard service.
- Low-cost providers and discounters focus on online-only concepts with reduced service levels.

In 2025, shopping is possible in every place and at all times. The old boundaries between online and offline marketing and advertising channels have begun to disappear. Mobile devices are the bridge between users and the retail sector. The successor of the smartphone – flat, rollable or foldable, waterproof, light as a feather, with perfect speech recognition – sets the tone. The highly flexible displays can be rolled out to provide the user with large format, whether he or she is strolling downtown or through a virtual shopping mall. Thanks to the variable size, users can obtain a virtually realistic picture of bulky products, such as items of furniture. This increases the attraction of online shopping for products which the consumer would previously have wanted to view in real life. The smartphone serves as the user's digital shopping assistant. The order process is started as soon as the shopping basket reaches a certain amount, for example.

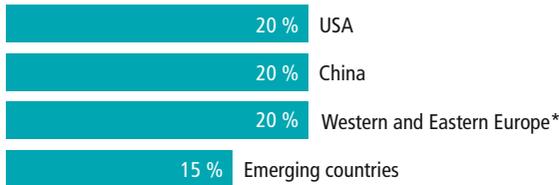
Online and offline are perfectly interlinked in the retail sector.

There is still stationary shopping – but increasingly integrated into online structures. Showrooms are a common feature of downtown precincts. Here, customers can pick up products and examine them carefully. Future concepts include “experience stores” with highly diversified display areas and a hugely expanded online range of goods which can be accessed from different countries. Shoppers obtain advice from interactive displays in stores and showrooms. The terminals in the stores show variants with other colors and materials. A single click and the order is on its way. Of course, many stores and showrooms always stock a selection of “bestsellers” which customers can purchase and take with them.

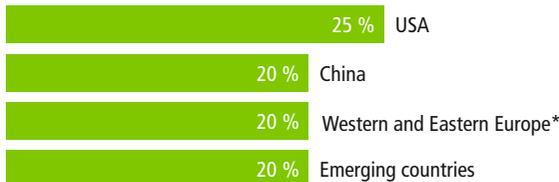
The same rule applies to nearly all customers: they do not carry their purchases home themselves – they have them delivered. In the countries of Asia, in particular, this form of “hybrid shopping” is highly popular. One variant of this is frequently to be found in public transport systems, chiefly in subway stations. Passers-by see products on posters in “real” format; they find the latest product offers displayed on virtual shelves and on digital advertising pillars. They can make a purchase by scanning in a product code via their smartphones. This triggers a payment and delivery process. In many cases the new purchase has reached the home address sooner than the buyer!

FACTS & FIGURES

Proportion of online-only retailing in 2025



Proportion of "hybrid" forms of retailing in 2025



*Western Europe: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Portugal, Republic of Ireland, Spain, Sweden and United Kingdom.

Eastern Europe: Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia and Turkey.

Source: Z_punkt The Foresight Company, Cologne

Discount chains, in particular, are focused on online-only retailing.

A number of retailers that were formerly online-only enterprises are now also operating stationary stores. In doing so, they are gaining a foothold in the world of multi-channel retailing, while at the same time seeking to keep pace with the flagship stores of the major brands. If customers then place an order in a flagship store, the goods are often delivered to their home straight from the central warehouse. Using voice-controlled displays, the customer can order the products and obtain all the relevant services, including financing. Discount chains, in particular, are focused on online-only retailing. It is also entirely normal for consumers to order goods from other countries online. The decisive factors here are price savings and product choice.

High property prices mean retailing in downtown areas is not profitable.

In 2025 almost all sectors of business and industry make use of the Internet as a sales and marketing channel. This mostly involves sales of goods requiring above-average floorspace, such as furniture or large electrical appliances, e.g. washing machines or refrigerators. Here, the multi-channel concept is very much in evidence. The customer inspects the product in the showroom and the product is delivered from the central warehouse. One of the principal reasons is the high cost of floorspace in the center of cities: this makes direct selling an unprofitable business. Thanks to technically sophisticated programs, even complex products such as kitchen equipment can be visualized. All the provider requires are the measurements or photographs of the original kitchen. Computers calculate all the data and come up with a true-to-life model of the new kitchen with the aid of augmented reality and 3D displays.

Fashion articles are – as ever – “classics” in online retailing. Sales of fashion clothing and shoes still represent the most important segment in the online retailing sector. Likewise highly popular are a raft of everyday items such as drugstore and medical products, pet food, and long-life foodstuffs. As a result, delivery services for food and other everyday products have become regular features of major metropolitan areas such as London, New York, Shanghai and Seoul. This is a phenomenon which is spreading rapidly in urban regions all round the globe. The retailing of books, music and consumer electronics is almost entirely Internet-based. Practically all videos, music and a large proportion of the book sector are retailed digitally.

The customer – that familiar figure

Retailers have collected in-depth information about their customers. This includes not only age structure but also financial power, communication habits and purchasing patterns – even customers’ addictive behavior. The product suggestions issued by the large online retailers (“This might interest you as well”) are certainly impressive. By observing even minor changes in purchasing patterns, retailers can draw conclusions about changes in the consumer’s personal situation and provide a range of new suggestions. And even if consumers don’t have a lengthy history of purchasing, the platforms recognize from their search behavior (how long has the user been viewing this product?) what else might be of interest to them. To an increasing extent, webshops are being integrated into or linked with social networks. The needs and wishes of customers can be determined more effectively by monitoring their interactive and communicative behavior: who is communicating with whom, which items are being shared or commented on, which sites are being viewed. The suggestion system has been perfected – and that is not all. Complete webshops and websites are specially configured for accurate targeting and individualization and are standard features of online retailing. They are fully adapted to the requirements and buying habits of customers. Customer retention is increased by means of discreet discount offers, for instance if the user is known to have previously visited the Internet sites of competitors. In short, the principle of successful online retailing is to build shopping, delivery and financing seamlessly into people’s everyday lives.

TRENDSPOTTING

London, UK

The convergence of worlds



In 2013, Burberry’s new store on London’s Regent Street is considered to be a “masterful combination of physical and digital technology”. State-of-the-art technology has been integrated into the time-honored architecture of the building. There are 500 loudspeakers and 100 digital mirrors and customers are offered a special personalized

shopping experience. Embedded into fashion items and accessories, the RFID (radio frequency identification) chips enable customers to view bespoke multimedia content specific to different products. The video about a selected item from a new collection can be viewed on giant mirrors, which instantly turn into huge screens when the personalized piece is near them. Fashion shows, for example, are streamed into the store via satellite. All members of staff have iPads which enable them to check up on customers’ preferences and purchasing histories.

Source: Burberry

Seoul, South Korea

Bargain hunting with 3D QR codes



The Korean online retailer E-mart offers a special “Sunny Sell” promotion during the noon hour between 12 and 1 pm. For this campaign it has erected plastic “shadow” QR codes in the downtown area of the city. Only when the sun is at its highest point can consumers scan the QR code and then use the discounts and coupons which the store offers. At other times the shadow prevents correct input.

Source: E-mart

TRENDSPOTTING

Seoul, South Korea

Payment by telephone number



The Hyundai Home Shopping Network Corporation provides various products through Internet, TV, and catalog home shopping channels. The special feature of the mobile app is that users can simply enter their telephone number in order to make a payment. The amount is then added to the mobile phone bill.

Source: Hyundai Home Shopping Network Corporation

Shanghai, China

Installation service for purchased goods



Often the price includes not only delivery but also installation and/or assembly of the goods which have been purchased. This is partly because there is no traditional DIY culture in the country, but also because of the convenience aspect – everything is delivered and left in full working order by experts.

Source: TRUSTe

In the developed countries, convenience is a crucial factor when a decision has to be made about a specific product. The Chinese and the South Koreans, too, welcome this convenience and the capability of integrating shopping smoothly into one's working life. In most of the emerging countries, on the other hand, purchasing decisions are more dependent on the actual price of the article.

Luxury purchases are above all multisensory experiences.

The only articles which still depend on a highly emotional and extravagant experience on the part of the buyer in 2025 are certain luxury goods – haute couture, watches, jewelry and precious stones. Here the sense of exclusiveness is as before enhanced by the unique ambience, the attentive manner of sales personnel, and the sensory experience. An exception to this rule is the global moneyed elite, a group of people with private fortunes worth millions or even billions. They are for the most part Chinese, Russian or American. Their desire for unique, premium luxury goods from the furthest corners of the earth can usually only be satisfied via the online channel. Thus, one-off luxury items play a key role in international trade. This is more a question of profit margins than of quantity.

Mobile payment with virtual money.

The new forms of retailing have also changed methods of payment. Cash, credit and debit cards are seldom used. People now simply swipe their mobile phones across the checkout – the effect is the same. All the complicated or possibly unpleasant aspects of payment have disappeared from stationary retailing. Virtual wallets and other forms of electronic money or online payment systems have become standard features of online retailing. The major online retailers have long since developed their own systems for payment transactions, comparable with the established Amazon Payments solution. Ultimately, the pivotal factor in payment is invariably trust. Whether payment is based on

a handshake, a signature or confirmation by password or smartcard, the parties to the transaction want to be absolutely sure: is my business partner being true to his (or her) word? The ways in which trust is generated vary from culture to culture. In China, for example, it is customary to request a third party to act as “trustee” in negotiating and purchasing processes. And in many cultures, the negotiation of prices is deeply rooted in the collective consciousness. Whereas in earlier times people looked one another in the eye in the marketplace, nowadays – in 2025 – cameras and screens are very much part of the process. In China, live chats are an integral part of Internet sales and purchases.

Online discounters charge for all extra services.

With the majority of online retailers, it is standard practice for the cost of delivery and the free acceptance of returned goods to be included in the price. The exception to this rule: the online discounters. Many customers take advantage of this situation. As in the early years of e-commerce, when many consumers sought advice from stationary retailers before purchasing the product more cheaply online, they now apply this method to online retailing. Price-conscious customers have goods sent to them in tailor-made packages from the large online platforms “on approval”. This is a lucrative ploy: they return the goods – free of charge – and proceed to make the actual purchase from a low-cost online discount chain.

The online stores have taken measures to curb the activities of customers who return goods to an excess degree. Those who too frequently place orders and subsequently return goods without making a purchase lose the free delivery option or possibly even access to their customer account for a temporary period. Many online retailers also secure exclusive sales and marketing rights for individual brands and special product variants.

Foodstuffs are delivered on a subscription basis.

A number of special hybrid forms have developed in the food sector. In western Europe (especially in France, Germany and the United Kingdom), the United States and China, standard non-perishable shopping-list items such as coffee, sugar, pasta or cereals are to a large extent supplied on a subscription basis; the same applies to a wide range of drugstore articles. The advantage of the subscription model, price-wise: dispatch is optimized thanks to the regular delivery deadlines. Many customers continue to buy fresh fruit, vegetables and meat from stationary retailers or markets. The standard purchases are long since at the home address or else placed beside the car in the customer parking lot. Some carmakers even offer models with goods compartments that can be accessed externally. The retailer is allowed access by the car owner and can deposit the articles in the vehicle. Alternatively, prompt and inexpensive home delivery is standard practice in the food sector.

It goes almost without saying that consumer worlds differ from region to region. In the United States, for example, they are traditionally linked to the various income brackets. Hybrid purchasing behavior is less evident there than in Europe. The simplification of the everyday routine as a result of convenience shopping is also widespread in both China and Brazil, although price is still the decisive factor for most people in those two countries.

Whereas many shopping malls have closed down or been converted in the developed countries, they remain highly popular in emerging countries such as India and Indonesia. Many people in the aspirational middle classes enjoy traditional shopping expeditions during which they can handle the products and check their quality for themselves. Multi-channel shopping also enables access to a broad range of goods, but people still prefer to buy groceries fresh from the store.

STILL ON COURSE FOR GROWTH

THE IMPACT ON THE LOGISTICS INDUSTRY

With the convergence of stationary retailing and e-commerce, the volume of transportation worldwide has increased substantially. The growing number of online orders for all categories of goods has led to more and more deliveries from stores and central warehouses directly to customers' homes. The demand for transportation services on all levels is evident: between countries, within countries, and locally over the "last mile" – in both urban and rural areas.

In international terms, the principal winners are the large logistics companies which operate globally and which have entered into cooperative ventures with the leading retailing firms. At national level (cities and regions) business is also in the hands of a large number of small and midsize logistics providers. The prospects for growth are clearly brightest in the major conurbations. In 2025, same-day delivery is often standard practice, especially in major cities. In rural districts, on the other hand, the customer may have to wait until the next day for delivery of the goods purchased.

In rural districts in the emerging countries, such as India, Indonesia and Nigeria, the speed of delivery is not a significant issue. People are content to have a functioning parcel service – what matters is that goods are delivered safely and securely and for an affordable price.

The multi-channel strategy of the retailing companies calls for increased communication between retailers, logistics companies and end consumers. The challenge is also to cater to the needs of the well-off end customers residing in urban areas: this requires speedy, flexible deliveries to any location and also real-time transparency of the deliveries.

In 2025, there is a more powerful focus on the addressee as far as logistics is concerned. The Internet of Things plays a helpful role in the current scenario. Parcels can be localized at any time by way of RFID chips. Whether the packages are on a container ship in the Pacific or in a truck in an inner-city area, not only the logistics firm knows their whereabouts – the sender and the addressee also have access to this information.

CHART E-TAILING SALES – SCENARIO 1

E-tailing sales for different product categories in 2025 (including online/offline hybrid forms)



METHODOLOGY:

The result is based on averaged assessments by experts which have been coordinated with the conditions of the scenario.

The ratings do not indicate the substantial regional differences in individual product categories.

RECTANGLE SIZE:

E-tailing sales in the respective product category (including online retailing and online/offline hybrid forms)

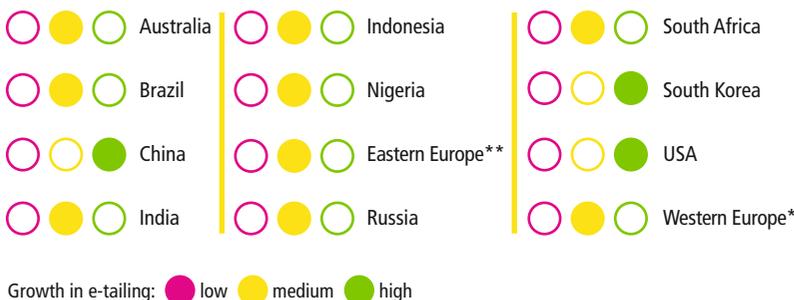
NUMBER OF ARROWS:

Growth in e-tailing between 2013 and 2025
(1 arrow = little growth, 2 = moderate growth, 3 = strong growth)

Source: Z_punkt
The Foresight Company, Cologne

Significance of e-tailing in the retailing sector in 2025

In a comparison of different countries, China, South Korea and the United States have the largest proportions of e-tailing in relation to their total retailing volumes. The amount of e-tailing in the other regions is increasing at a lower rate.



E-tailing includes online-only retailing in addition to mixed online/offline forms.

The countries of western and eastern Europe are not shown in further detail in this graphic, since the regional differences are not significant in global terms.

* Western Europe: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Portugal, Republic of Ireland, Spain, Sweden and United Kingdom.

** Eastern Europe: Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia and Turkey.

If the addressee activates the logistics company's localization option, the scheduling software offers alternative delivery addresses. For example, the addressee is not at home and the delivery vehicle is in the vicinity. In this case the customer is asked whether they would like the item to be delivered to wherever they happen to be. This service is only available in large cities, however, and entails extra charges.

City stores work closely with logistics companies. On leaving a store, the customer can choose whether to take the goods with him or have them delivered. Those customers who are willing to pay more for safe and secure delivery can specify that the package is to be fitted with status sensors. If the package happens to be thrown or if it falls to the ground, the sensor emits a warning signal and the addressee can refuse to accept it.

Service orientation is now a key factor in the immediate vicinity of the recipient's dwelling. In addition to a mailbox, family homes in the United States and western Europe, especially in Belgium, the Netherlands and France, have a parcel box as a standard feature. Larger housing complexes have special parcel deposit and pick-up stations. The mailman puts a card with the RFID key into the mailbox. The addressee takes it to the pick-up station and opens the corresponding deposit box in order to collect the goods they are waiting for. The system also works in the opposite direction (when goods have to be returned). In the course of time, therefore, direct encounters between mailman and recipient become few and far between. The last mile has thus become increasingly "depersonalized".

The logistics companies benefit not only from the growing flow of goods. They are able to offer multi-channel retailers a wide range of services, including warehousing, the coordination of inventory, cross-deliveries between branches, and even the complete management of processes.

Small specialist providers occupy niche markets and extend regional delivery services. Their range of offerings has been enhanced further. For example, one service module comprises delivery and then assembly of e.g. furniture or smarthome components in the customer's home.

One of the important services is the express transportation of online orders. With delivery guaranteed inside 90 minutes, one of the last competitive advantages of the stationary retailers has disappeared: the immediate fulfillment of the customer's wishes.

TRENDSPOTTING

*Jakarta, Indonesia**Express delivery by motorbike*

So-called "ojeks" – tiny motorbikes which worm their way through city traffic – are used for deliveries in order to reach customers as speedily as possible and to ensure that delivery promises (often verging on the rash!) are adhered to – for example, delivery of goods guaranteed inside 30 minutes.

Source: TRUSTe

→ **Ultra-express courier services function particularly well in Asia, for instance in South Korea** or in Chinese centers such as Shanghai – in fact, even better than in Europe or the United States. In densely populated conurbations such as São Paulo, manufacturers and consumers benefit from motorbike deliveries. The "moto boys" operate speedily and reliably in an environment that is not far short of gridlock – and indeed has been for years.

→ **There are also insourcing trends, especially in the emerging countries China and India.** There, many retailers take care of distribution themselves, because the global logistics companies could not close the local gaps in supply quickly enough. This development is now well advanced, particularly in the food sector.

→ **As for the parcel market, in most countries efficient market solutions have won out in the face of regulatory interventions.** In the United States and western Europe, in particular, there is very keen competition between delivery services with regard to pricing and speed and flexibility of delivery. This benefits customers, who can now choose flexibly between a number of options.

NOT A MATTER OF DISTANCE

Thomas Kipp is CEO of DHL eCommerce and followed the success of e-commerce in recent years on the logistics side. In his opinion the United States will maintain its leading role in e-commerce, while emerging markets need to create the infrastructure allowing logistics companies to play their role as growth enablers.



Thomas Kipp
CEO DHL eCommerce

What are the critical success factors for global cross-border e-commerce?

There will be numerous new online offerings over the next ten to 15 years. This applies not only to the product groups but also, and especially, to the form of presentation. In the United States, work is already in progress on innovative, highly personalized front-end systems, which will doubtless be the standard by 2020. There will also be further optimization of delivery accuracy. These are the convenience factors driving e-commerce on a global scale.

Where do you see possible barriers?

If we disregard trade barriers such as customs duties and luxury taxes, then suitable infrastructures must develop in the emerging and developing countries. For example, one of the key prerequisites for properly functioning e-commerce is to have effective address systems. This is still a problem which must not be underestimated, even in up-and-coming economies such as those of China and India.

So e-commerce will remain a niche market in the emerging countries for the time being?

The formation of more informal types of logistics initially can be described as a natural development. This involves the merger of retailing and logistics – especially at regional level. In China, for instance, many taxi drivers casually sell goods from the trunks of their cars. And at the many “night markets” there are numerous retailers who also offer goods via portals. The logistics then organizes itself, so to speak. However, systems such as these are not easily scalable. If large quantities of goods really do change hands, a professional logistics chain is needed. Over the next 15 years e-commerce will continue to develop in this way in the emerging countries, with the large Asian cities and the US market serving as “role models”.

BEST PRACTICE

New solutions for the last mile

PARCEL DELIVERIES

There is no contradiction between the delivery of parcels and packages with maximum flexibility on the one hand and environmentally friendly and sustainably organized logistics on the other. A good example of this is MyWays. DHL Solutions & Innovation has developed this innovative concept for the so-called “last mile” of deliveries. The principle: parcels can be delivered by private individuals. The private deliverer and the recipient “meet” beforehand on the MyWays online platform.

After an online order has been placed, the recipient can specify the time and place of delivery and also the delivery fee. Meanwhile, the package remains ready for delivery in one of the DHL centers and is visible for all users on the MyWays app. Users can then decide which package they wish to deliver to a particular address at the time specified.

The advantage: The recipient benefits from the flexible method of delivery, while the person who delivers the package uses his or her daily journey across the city to earn a little extra money. This new solution for the last mile saves a significant number of unnecessary journeys. It can play a key role in helping to ease the strain on inner-city areas and in conserving the environment. A pilot project to test MyWays has been under way in Stockholm since the fall of 2013.







SCENARIO 2

SELF-PRESENTATION IN VIRTUAL COMMUNITIES

INDIVIDUALISM IS BECOMING A GLOBAL TREND

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SUMMARY

- The world economy has grown rapidly. The global increase in wealth has created an affluent and consumption-oriented middle class. Self-realization and individual lifestyles are in focus, social values have shifted away from work and towards leisure. Daily life revolves around being part of a community.
- Technology has gradually evolved. Wearable devices like smart glasses with photo and video functions are common must-haves. Communities use them extensively to exchange ideas and share experiences with others as quickly as possible.
- Lifestyle products from skateboards to golf clubs are equipped with sensors and data transmission technologies. People record their activities constantly and share them with others in their community. Self-improvement is an integral part of everyday life.
- Online retail has significantly expanded its market share. The major trading platforms benefit from an overall increase in demand and their wide range of goods caters to the mass market. They also offer low-involvement product categories, which they can provide at good prices.
- However, niche sites that have become the focal point of regional and global lifestyle communities are recording the biggest gains. Due to their selective and dynamically changing assortment for individual lifestyles, they are the main driver of online retail. Their local branches in cities have become busy and trendy meeting places for the various scenes. The dealers are often part of the community; their selling points are quality and authenticity.
- Large department stores in cities have picked up on the community concept and are now structured according to different theme worlds and shopping experiences. Consumers can put goods through their paces or design and create their own products in fully equipped manufacturing stations, which include 3-D printers.
- The logistics sector has also developed dynamically. Due to high global economic growth and the continuing boom in online retail, transport volumes have increased significantly at national and international level.
- Deliveries are regulated in order to avoid traffic congestion. Individual areas are no longer serviced by several logistics companies, but only one. Most logistics companies have joined partner alliances.
- Many logistics companies also offer value-added services, such as distribution consulting for start-ups. They also operate entrepreneur or crowdfunding platforms.
- Product expertise is the unique feature of smaller logistics firms. They are part of a community and have extensive product knowledge. Thanks to their in-depth expertise, they are in a position to provide valuable information for the correct use of the purchased product when delivering it.

“Retailers clearly need to understand their customers’ needs and target them individually with personalized products via new channels such as mobile and social.

As a result, logistics providers will have to cope with increasing requirements from customers and suppliers. They will need to deliver competitive advantages for businesses, e.g. by offering same day delivery, flexible return periods and resilient emerging market logistics.”

ANDREAS IVERSEN

DIRECTOR GLOBAL MARKETING SUPPLY CHAIN AT DELL

UNANTICIPATED WEALTH

THE ECONOMIC ENVIRONMENT

- The global economy is growing at a rapid pace, driven by extensive liberalization of trade, global trade flows and favorable energy and commodity prices.
- For the first time in history, there is a global middle class with high purchasing power.
- This newfound wealth has allowed more and more people to create their own ways of life.
- On a global scale, people's values are moving away from being work-oriented towards being leisure and pleasure-oriented.

In 2025, the world has a stable middle class for the first time in history. Most people are well-off, and there is a marked rise in prosperity levels in emerging countries. Especially China and India, but also the ASEAN countries with Indonesia and Vietnam, followed by emerging markets in South America, are the driving force behind this growth. Although growth in Africa is still below average, the continent has some stable economic centers, for example in South Africa and Nigeria.

In the United States, the economy has also gathered steam, mainly due to the fact that the continuing boom in shale gas and oil production is keeping energy prices down. This leads to growth in production. The shale gas boom is also evident in China and eastern Europe, especially in Poland, Romania and Hungary. The impact of this trend in Russia, however, is not only positive: Energy prices have stagnated and the economy is still highly dependent on the commodity sector.

Most people are doing well financially.

This stable growth is also reflected in people's standards of living. Purchasing power is high, while taxes and levies are low in relation to disposable income.

How this came about

For most economic analysts, the global boom came as a surprise. Looking back, three factors can be identified that contributed to the positive development of the world economy: radical liberalization and expansion of international trade, surprisingly favorable development of energy and commodity prices as well as robust performance of most emerging economies, with China, India, Indonesia and Brazil at the top.

The idea of a transatlantic free trade zone had been around for a long time. The deepening of economic relations between the United States and the European Union began to take shape at the end of the 2010s. At the same time, after some hard bargaining, the ASEAN countries and China signed a document that allowed free trade in East Asia – an event that was unparalleled in history.

Two large trading blocs now confronted each other, and the outcome was one that nobody had expected: they cooperated. This led to a phasing out of trade barriers.

Leisure culture as a way of life

The newfound wealth made way for individual ways of life. The new lifestyle emerged out of a youth movement whose pioneers were sports trend communities in the United States and gaming communities in South Korea. Stories about these trendsetters gradually made their way from the back pages to the front of online magazines. Once featured as cover stories, it became clear that

there was more to it than just a passing fad. What had occurred was a shift in people's social values: away from being work-oriented towards being leisure and pleasure-oriented.

Nevertheless, work ethic is still alive and well. On average, people are working even more than they did ten years ago, even in industrialized countries. At the same time, a certain pragmatic attitude has developed. In countries such as China and South Korea, where at the beginning of the millennium leisure was still a foreign concept to most, real life now begins for many people after working hours. Family and leisure are the two poles between which consumer dreams and wishes oscillate. The trend toward individualized consumption patterns has not only picked up pace in the Western world but also in South Korea and in Chinese megacities, as well as taking hold in India and Indonesia.

Friends and interest groups are increasingly finding each other on the Internet. These web communities are extremely segmented, with new subgroups and peer groups constantly being formed.

Status and prestige were yesterday. Today is all about individualism and self-fulfillment.

However, most activities aren't free. The parts of the population with a lower level of income are especially affected by this. They are faced with the task of ensuring that their children do not become the odd ones out because they don't have the right lifestyle accessories.

In emerging countries such as China, India and Brazil, purchasing power is rising sharply, even if these countries are still far away from the level of developed markets. A broad middle class has emerged who can afford much more than they actually need.



FOCUS ON USA

Authenticity is trendy

What are living conditions like?

The economy of the United States has been growing strongly. Incomes are rising and so is optimism. Almost every US citizen, regardless of age or gender, is a member of one or more communities. Especially within the self-confident young generation that primarily works to live and not the other way round, being part of their own music, gaming or trend sports scene determines their way of life and daily routine.

What is important in general terms? What is important in regards to shopping?

Daily exchange with other members of the community is cultivated extensively. Especially in new sport scenes – be it kite surfing, mountainboarding or parkour – the most spectacular stunts and crashes of the previous day are shared via smart glasses to be viewed and discussed with friends even before work. The latest equipment is also an important topic, as is the question where one can get the exact mountainboard that was developed and is being used by the current top star of the scene. Only what comes right out of the scene is authentic.

Where do people shop and how?

Purchases are primarily made in trend stores or on associated websites. At local stores especially, it's all about meeting other members, trying new products and sharing experiences. Spontaneous gigs and jam sessions are held in various music stores, and sporting contests take place in sports stores. Purchases are made on the sidelines.

What's special in regards to logistics?

The communities are of course global. The local trend stores cooperate with other businesses from different countries. If a fan from the craft beer scene orders the latest hop variety from Japan at his local store to use at his own microbrewery, he expects a certain degree of expertise from the supplier and exact proof of origin of the ordered goods.



TECHNOLOGY BECOMES PORTABLE

TECHNOLOGICAL DEVELOPMENT

- Technology has evolved significantly, but has seen no radical changes. State-of-the-art technology is widely used in the private sector despite the fact that it generates little added value.
- Wearables are an elementary part of everyday life. Portable technological equipment is used, among other things, to measure and improve one's own behavior, such as when it comes to nutrition or fitness.
- Telepresence solutions are widely used, allowing people to communicate in real time across all borders.
- More and more lifestyle products have Internet access and sensor technology.
- Great emphasis is placed on data protection. Many communities operate through independent, protected networks.
- Thanks to 3-D printing, small quantities can be produced locally as required.

The online experience is an integral part of everyday life. For the individual, it is mainly all about networking and sharing experiences with others. Wearable devices are widespread. These intelligent, stylish mini-computers are available as smart glasses, watches and accessories such as pendants, bracelets and belt buckles, and can be used to communicate, take photographs or make videos. The devices frequently run on sound and motion sensors: Smart glasses can be activated with a simple nod, while a quiet "photo please" will automatically take a photo. For lifestyle-oriented individuals – and most consider themselves such – these are must-have items. In this way, your own community is always at your side.

Telepresence is an essential part of lifestyles in the year 2025. Be it at home, on monitors that fill entire walls or in 3-D animations, on the train or just in the park: Video live streaming is as fundamental today as the telephone once was. Communities in particular use this technology extensively. Friends who are thousands of miles away from each other

can use this communication channel to share experiences. It doesn't matter whether they are on a rollercoaster in an amusement park in the United States, on the ski slopes in the Alps or at a rock concert in Brazil: As long as they have access to the Internet, everyone can be a part of it.

A large number of households are equipped with sensor networks. A major feature of such networks is the ability to automatically control media technology, which is essential for home telepresence. Besides this, hobbyists have fitted out more and more lifestyle products such as surfboards, mountain bikes, cooking equipment and headphones with sensors and data transmission technologies. The roasting pan tells the recreational cook when a roast beef has reached the ideal internal temperature, and the mountain bike measures the number of pedal strokes, the distance traveled or the top speed. The Quantified Self movement is no longer a marginal phenomenon either. More and more people are permanently measuring and analyzing data about their bodies. In-ear headphones are not only used to play music while cycling, but can also simultaneously measure the heart rate and body temperature. All data can be synchronized with the smartphone or smart glasses and can be read on those devices. Of course, data will be uploaded to the appropriate online community, where it can be shared and discussed with other hobbyists.

More and more gated communities on the Internet.

The vast amount of digital data makes it easier for companies to predict purchase interests and purchase behavior. However, advertising messages and product recommendations often encounter reactance with consumers. Their impact is minimal. The reason is that people are strongly attached to their communities and scenes. They attach great

importance to the opinions of experts who are often prominent figures within the respective scene.

A fairly recent phenomenon is the development of separate data networks in gated communities, both on a regional and a global scale. These communities, which originally started in the United States, share information independent of public networks. This means that the web landscape is highly fragmented and there are a variety of different social networks and communities. The social interest groups themselves and, in particular, the stars and experts of the scene set the pace when it comes to deciding which digital platforms and services are currently en vogue and are therefore used by all members of a community.

The 3-D printer has had a significant impact on the creation of added value in production. Fab labs that offer high-quality 3-D printing services are popping up all over the place. Most fab shops market their services online, shipping products that have been made according to customer specifications. Moreover, the strong DIY culture means that more and more people even have their own 3-D printer at home. The devices have become affordable for everyone and the print quality is surprisingly good for simple products, such as a new frame for a lacrosse racquet. The 3-D printer has also become virtually indispensable in the consumer sector with a view to meeting customer demand for individual lifestyle products at a reasonable price. The printers are used in fab shops and small micropreneur production facilities.



VENDOR VIEW – SCENARIO 2

What retailers (have to) offer

Targeting customers

Retailers that see themselves as part of the community are particularly successful. They are experts in key topics relevant to the scene. At the same time, they are aware that their customers are also familiar with the subject matter and it may not always be possible to be more knowledgeable than them. Accordingly, the sales approach needs to be anything but intrusive. In addition, retailers see themselves as a platform to facilitate communication among people within the scene. They select the topics, organize events for the local community, and act as an interface for the global community.

Products and services

Trading platforms function like a curator, making the latest and best products from around the world available to the local community. These include the latest collections and special editions of respected brand name manufacturers as well as products from start-ups or micropreneurs within the respective network. The retailers manage a highly flexible range, because what is hot today may soon be outdated. They also offer their customers a variety of options to customize purchased products and optimize them for their individual user profile.

Channels

Both channels – online and offline – are needed to sell high-margin products. Buyers from the respective community want to examine and test new products locally. You are not getting it right if you view your outlet purely as a showroom. Stores are also trial areas and locations for workshops and events. The site also requires the right equipment. The production quality of sporting equipment, for example, is tested with ultrasound. In the area of gourmet food, the production regions of different types of wine can be determined using chemical tests. Displays in the stores as well as on the website are an interface for experts, members of the scene and other stores around the world.

Logistics offerings

Successful retailers offer their customers various logistics options. Delivery speed is often critical for products in high demand. However, delivery range is the critical success factor. Most deliveries can be handled by contract logistics providers. Collection from or deliveries by the store are only preferred when there are special orders that require expert knowledge.



ONLINE RETAIL IS GROWING RAPIDLY

BUYING AND SELLING

- The volume of e-commerce is increasing at a fast pace. The drivers behind this growth are global communities with their own product worlds as well as the international choice of products. Yet the e-tailing landscape is a heterogeneous market:
 - Small, innovative online trading platforms that have specialized in lifestyle niches become the focal point of a lifestyle community and convey an authentic shopping experience.
 - Large online retailers and platforms serve the mainstream market.
- Communities have a major influence on the purchase behavior of broad sections of the population. Originality and expression of lifestyle are the dominant purchase criteria.
- Brick-and-mortar retail is experiencing a renaissance. The focus here is on the shopping experience.

The online trade has seen a significant rise in sales in almost all product categories. Liberalization of foreign trade has given a major boost to international shipment of goods. In this respect, the online retail landscape is extremely diversified. Many smaller trading platforms focus their offerings on lifestyle niches, but they sell their products globally and have built up a relatively large customer base. The focus of these platforms is on leisure goods, apparel and accessories. The customer wants individuality, exclusivity and authenticity. In contrast, large trading platforms cater mainly to the mass market. They offer all product categories and are extremely difficult to compete with in price when it comes to low-involvement products, as their size and efficient structures allow them to offer products at lower prices. This segment, which covers many everyday goods such as food and hygiene products, is now almost exclusively traded online. The majority of books, music and videos is also purchased online. E-commerce in emerging countries, regardless of whether it is China, Brazil or Nigeria, is growing disproportionately, due to the fact that

these economies still lag behind in terms of consumption. In addition, consumers in these countries are considerably more brand-aware. Young people in particular strive to meet the lifestyle requirements of the communities. In turn, those in the upper income brackets follow the standards of luxury practiced in Shanghai, New York and London.

Shopping is a way of life.

The majority of consumer groups in industrialized nations differentiate themselves through ownership of specific lifestyle products. The customers have an extremely good network. They are constantly in touch with the community, which sets the pace, even – or especially – when it comes to consumption behavior. Limited runs and high-quality, custom-made one-off items are highly sought after and are often traded internationally on the Internet. The customers have a keen sense of quality, meaning that fake products barely stand a chance.

The assortment of products being offered has become so differentiated that even those with in-depth knowledge of the market have trouble keeping up. Hobbyists meet up in their own special interest communities. Wearable devices allow them to connect to the Internet and the other community members 24/7. Thanks to advanced telepresence technology, every detail can be discussed and information exchanged at any time.

Parkour athletes, for example, have differentiated themselves further. Although the obstacle training courses continue to traverse urban landscapes, it makes a difference whether the athlete runs through a port area such as in Rotterdam, through the urban canyons of Chicago or the boundless settlement structures in the giant agglomeration of Tokyo and Yokohama. One of the central themes of telepresence discussions is currently equipment.

It's all about the best cameras, the most inconspicuous protectors, the shoe soles with the best grip, or just the fastest or most challenging way through the most popular courses. Athletes wearing smart glasses can live stream the obstacle run to friends from all over the world.

Manufacturers are doing everything in their power to convey the authenticity of their products. They keep in touch with the scenes, organize events, and run ads. But not too much: Customers find marketing on a massive scale annoying.

Ad stalking is out and customers won't tolerate it.

Professionals use networked object recognition technology for testing the authenticity of a product. Transparent supply chains are considered par for the course, while chips attached to the goods document the journey from production to warehouse – and often beyond.

Authenticity can by all means extend to a second and third life of products. Equipment with a patina that underscores the nature of the experience is high in demand. Transparent supply chains in China, India and Indonesia have significantly reduced customer concerns with regard to counterfeit products. Several communities are striving for the greatest possible differentiation from the mainstream. They use their own data networks where they can meet like-minded people and encounter products in their scene without having to deal with unwanted advertising. Anyone wanting to gain access to these closed networks must first prove themselves as an expert. However, such extremes are not commonplace.

Lifestyle hubs conquer broad retail segments

In particular, smaller online retailers effectively cater to customers' thirst for adventure and demand for authenticity. To this end, specialist department stores on the Internet are experiencing a revival. These often also have offline

branches in trendy cities. The customers can also order goods online and have them delivered to the city store branch where they can test them personally.

Online concept stores have become lifestyle hubs whose strategy focuses entirely on individualized lifestyles and which cover the full spectrum of a particular style of recreation, offering customers everything they need for the activity in question: special clothing, equipment, music, foodstuffs and of course an extensive archive of tele-tutorials. Each scene has its own stars, who act as curators of the site and are on hand to offer product advice and exchange information in video chats – this form of communication is especially popular in Asia. Small, innovative brands dominate this section of the market. These are often still young brands that have come straight out of the scene. But: Whoever advertises their own product line too much quickly loses credibility among customers. Exploiting personality for promotional purposes is considered a no-go – a violation of the bid for authenticity.

The enthusiasm that prevails in the lifestyle scenes inspires creativity and entrepreneurship. Creative start-ups hold the trump cards on the hub scene. Crowdfunding has become an established initiative that now plays a major role even in Indonesia. The concept of community has given a significant lift to joint investing by like-minded individuals. In South Korea and Brazil, social commerce is widely used in the special interest communities and scenes. Discounts on specific products or services are the benefits of membership.

However, relying on the communities as a customer base poses a central risk: Consumer democracy can – even when unjustified – cause a disastrous mass response in social networks, meaning that especially smaller, less financially strong companies will not survive the inevitable drop in sales.

Large international commercial enterprises offer a wide assortment of mainstream products. However, major online retailers do not have the necessary expertise and credibility to be able to score points with the clientele of the specialist department stores. Although they were initially laughed at, the e-tailing lifestyle hubs have gradually

wrestled market share from them. The major commercial platforms try to annex smaller, dynamic providers using their financial muscle. Specialist department stores that have been acquired by the big companies are, however, perceived as less authentic by the respective community. The scene often responds with new start-ups. Insiders in the scene have an acute instinct – they stop buying goods in the old store, which, following the takeover, is discredited as a sell-out. The result is that major platforms ultimately remain rooted in the mass market. Although they also sell apparel, leisure items and accessories aimed at certain scenes, their customer base is not influenced by the avant-garde, but by so-called late adopters.

DIY is the way to go

Do-it-yourself is in. Accordingly, there is great demand for tools and material. Much of these are now being purchased on the web. Items for everyday use are increasingly being produced on the home fabber, while the fab shop around the corner can be used for more complex products. That said, there is no clear distinction between production for personal requirements and manufacturing to order. People with enough time on their hands attend training courses for a fee on how to manufacture certain items. They will mess around with their sports equipment, for example, then develop their own ideas and have the products manufactured before testing them and exchanging ideas with others. They often sell their own creations within the community. Being able to hold their own product in their hands and to know how it was made: what an experience! Common problems in this context, however, are patent and copyright issues. Themed shopping worlds in the city and specialist stores on the Internet also offer a variety of DIY options. Almost every brick-and-mortar specialist store also has a DIY corner where customers can create their own individual products. Product configurators in online stores ensure that when it comes to customization options, every wish is granted. Colors, materials, functions etc. of favorite products can be combined and adapted to individual tastes.

TRENDSPOTTING

Istanbul, Turkey

Club system for Premium Service

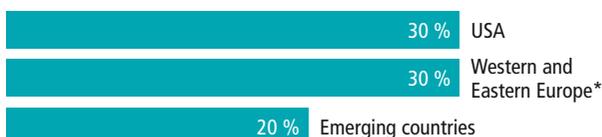


Beymen, a traditional Turkish retailer, is focusing on premium service online – free delivery, personal shopper services in the store, at home or in the office. Beymen is the point of contact for the really big spenders on the Internet. To secure even the most basic customer card, one needs to spend at least €2,200 annually – the corresponding figure for VIP level is roughly €80,000.

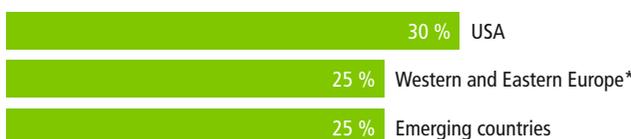
Source: Beymen

FACTS & FIGURES

Proportion of online-only retailing in 2025



Proportion of “hybrid” forms of retailing in 2025



*Western Europe: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Portugal, Republic of Ireland, Spain, Sweden and United Kingdom.

Eastern Europe: Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia and Turkey.

Source: Z_punkt The Foresight Company, Cologne

TRENDSPOTTING

Seoul, South Korea

Joint purchases save money



In Seoul there are several options for shopping via social commerce systems. The advantage: when buyers join forces, services or products can be acquired more cheaply.

Source: Coupang.com

Brick-and-mortar retail offers tangible luxury.

A success story that is especially under way in the United States and western European countries such as the United Kingdom and Spain, is the revival of retail stores in inner city locations. Small stores have developed into focal points where the scene can gather and talk shop. Large stores are divided into different theme worlds where products can be put through their paces. In the surfer corner, for example, there is a wave system with test boards, and the cooking arena is a fully equipped kitchen landscape with all kitchen utensils and aids that can be purchased. The outdoor paradise features a climbing wall and an artificial river in which new rafting equipment can show what it's capable of. Professional staff with in-depth knowledge of the scene is on hand in person or in virtual form to provide tips, tricks and advice for the products on offer. These also serve as meeting points for regular hip scene events where meet and greets with big names in the scene, competitions and workshops take place. Members gather at places in cities that are typical for the scene – the skate park, quad track or climbing rock – that have displays with virtual shelves where the latest equipment or spare parts can be ordered. Items that are in stock in the city store branch can be delivered by courier to the local spot within the next few hours.

Brick-and-mortar retailers generally also offer multi-channel retailing so that shoppers also have the option of placing orders conveniently online. In emerging markets, the trend toward brick-and-mortar stores is still strong. Traditional markets have been forced to give way to modern malls, which are a magnet for the country's growing middle class and tourists from all over the world in search of an extraordinary shopping experience. Quality that can be felt and luxury rate highly here.

Parallel currencies in the virtual world

The payment systems in stationary and online commerce have evolved. Traditional forms such as payment in cash or cash on delivery are in major decline or have already disappeared entirely in some countries. But credit and debit cards are also being used a lot less for payments. Virtual wallets integrate payment channels and offer payment through

an interface either online or in retail stores using a mobile device and Near Field Communication (NFC). The customer authenticates online or offline payments by entering their user name and password or using the NFC technology: The user simply holds the smartcard or mobile device with NFC chip against a reader. Major platforms have developed their own payment systems and often use a parallel currency. Some of them also offer virtual wallet services. Almost all online specialist department stores reward particularly active members of their community with reputation points. These can be used towards purchases in the specialist department store or in the community. A wide range of virtual currencies have emerged as a result.



TRENDSPOTTING

Bangalore, India

“Micropreneurs” with their own e-tailing range



In India, many products are manufactured by family groups – and then sold through online platforms to an increasing extent. Marketplace services such as CraftsVilla.com are currently very successful.

Source: CraftsVilla.com

São Paulo, Brazil

Offline shopping – a consciously shared experience



The social component in a shopping expedition should not be underestimated: going with the whole family and with friends to a shopping center is a social experience and is therefore preferred to online shopping.

Photo: Fotolia.com/Christian Müller

COOPERATION SAFEGUARDS SUCCESS

THE IMPACT ON THE LOGISTICS INDUSTRY



The logistics sector has developed dynamically.

Against a background of high economic growth rates and the continuing boom in the online retail market, transport volumes have increased significantly – both at national and international level.



Competition among logistics operators is fierce, especially in international trade.

The major players have a strong market position and dominate in urban areas.



At the same time, horizontal consolidation of the market

has taken place. At national level, there are still many small operators who survive the competition by forming partnerships. Their unique selling point is their product expertise, which is reflected in the authentic consulting services they offer to their customers. They not only deliver the goods, but are experts in their field and support customers with tips, tricks and specialist knowledge of the products delivered.



Cross-border trade is driven primarily by special interest

communities. As these are often small batches, trade flows are often highly diversified.



The growing number of community customers has extremely diverse needs and wishes. The products that they choose to buy can come from the farthest corners of the world. What matters is authenticity.



Customers expect logistics companies to offer effective authentication technologies, a transparent supply chain, and a diversified transport network. They demand fast delivery, but are also willing to wait longer for unusual products and one-off items.



Convenience goods should, however, be delivered quickly and at a low cost. Major e-tailing sites that sell mainstream products compete directly against one another in terms of price. This is why low transport costs and a short transportation route are the decisive factor here.



Large logistics companies offer retailers value-added services that extend far beyond express services and multi-channel logistics. In addition, parcel boxes in detached houses as well as Packstations in houses with multiple units and large residential complexes are widespread.



Since online retail is highly dependent on an efficient logistics system, many logistics operators offer business development consulting to start-ups. This makes them important enablers for the young, innovative trade scene. They often operate their own crowdfunding platforms or work closely with them.



3-D printing has also opened up a new area of business for logistics. Some are already integrating the occasional fab shop in their existing branch network. This allows logistics operators to gain a foothold in the production business. They produce as locally as possible and then provide last mile delivery at a low cost. More and more logistics companies operate their own crowdfunding platforms on the Internet and agree to make products that are supported by the community cost-effectively by using 3-D printing.



Most logistics companies are members of partner networks and operate joint distribution centers. The reason: In order to avoid traffic congestion, many communities have heavily regulated traffic, particularly in inner cities and metropolitan areas. This has forced logistics operators to avoid duplications in the logistics infrastructure. Empty truck trips or several different operators making the same journey are unthinkable in 2025.

CHART E-TAILING SALES – SCENARIO 2

E-tailing sales for different product categories in 2025 (including online/offline hybrid forms)


METHODOLOGY:

The result is based on averaged assessments by experts which have been coordinated with the conditions of the scenario.

The ratings do not indicate the substantial regional differences in individual product categories.

RECTANGLE SIZE:

E-tailing sales in the respective product category (including online retailing and online/offline hybrid forms)

NUMBER OF ARROWS:

Growth in e-tailing between 2013 and 2025
(1 arrow = little growth,
2 = moderate growth,
3 = strong growth)

Source: Z_punkt The Foresight Company, Cologne



Significance of e-tailing in the retailing sector in 2025

In Australia, Brazil, China, eastern Europe, South Africa, South Korea, the USA and western Europe, the share of e-tailing in total retail volume will increase significantly compared to now. Even in India, Indonesia, Russia and Nigeria, the volume of online retail will rise, although growth will be lower compared to other regions.

E-tailing includes online-only retailing in addition to mixed online/offline forms.

The countries of western and eastern Europe are not shown in further detail in this graphic, since the regional differences are not significant in global terms.



Growth in e-tailing: ● low ● medium ● high

* Western Europe: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Portugal, Republic of Ireland, Spain, Sweden and United Kingdom.

** Eastern Europe: Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia and Turkey.

FOCUS ON THE CUSTOMER

Andrej Busch, CEO of DHL Parcel Germany and Europe with Deutsche Post DHL speaks about the new parcel boxes and plans for expansion in the European parcel market



Andrej Busch
CEO DHL Parcel Europe

Online sales have never been higher than they are today and record numbers of parcels are being sent in Germany. You are offering DHL parcel boxes throughout Germany. What do you expect from the introduction of the new solution?

Every customer has different needs, and our recipient services have created a broad spectrum of delivery and dispatch options for parcels. That means everyone can choose the solution that best fits them and their circumstances. The parcel box allows us to significantly increase those options. Just as our customers have always received their mail each day, they can now also receive and send packages simply and conveniently, directly from their home and without being present to accept or hand over parcels in person. You can hardly imagine a greater level of comfort or flexibility, and that is what our customers want.

The company recently announced that it wants to extend the B2C model successfully pioneered in Germany to the rest of Europe. Do you think that will be easily achieved?

There are a number of European markets that are structured similarly to Germany. We are a global company and have a wealth of knowledge of the relevant parcel markets. We have been offering pan-European and global e-commerce solutions to international shippers for a number of years in the form of DHL Retoure International, which is

available in 23 countries across Europe. What's new is that we will now extend our service portfolio all the way to recipients in these European markets. We are developing a targeted offering based on our German model for success, including the Packstation and other services, in order to create the basis for further growth in the European online retail market.

The development of e-commerce varies significantly between countries in Europe. How do you know exactly what recipients in these countries expect?

Of course there are differences in the development of European markets. That is the result of numerous factors, from those affecting the retail business and the overall economic situation in the country to technical and logistical infrastructure. However, our experience tells us that e-commerce customers – shippers and recipients – in Europe and around the world are united by high demands in terms of quality, reliability and convenience. Online shoppers expect transparent processes, flexibility and the ability to control the delivery process, regardless of where in the world they live. Our solutions allow senders to offer just those qualities, enabling them to profit from the growth of e-commerce in the long term.

BEST PRACTICE

Parcel deliveries to your house at any time – even when you're not at home

THE PARCEL BOX

The Parcel Box, which Deutsche Post DHL began testing in 2013, is basically just like a private mailbox, except that it is designed for parcels and packages. The mail carrier deposits the package in the box and the customer picks it up later. The customer can also leave return shipments or packaging material in the box to be collected. This saves the logistics company making repeated journeys and the customer has the assurance that the parcel has been delivered, no matter when he or she arrives home. The convenience aspect is a critical factor for success in e-commerce, with customers expecting the delivery process to be just as smooth and straightforward as shopping itself.



Flying parcels

THE "PARCELCOPTER"

In years to come, extremely urgent orders, such as important medical products, will be delivered by air – by means of unmanned mini-drones. This type of delivery might also be useful in regions that are geographically remote or difficult to access. A tiny, buzzing flying object with four rotors can deliver items to a small island, for example, much faster than a person in a boat – and tides are no problem either. All just science fiction? Far from it!

In 2013, Amazon CEO Jeff Bezos created quite a stir with his idea of offering Amazon customers delivery by drone – the "Amazon PrimeAir Service". DHL Parcel, together with the DHL Innovation Center, even presented its very own "Parcelcopter", which was showcased at a demonstration for company staff; this device was able to fly parcels from one side of the Rhine to another near Bonn and delivered them safely to company headquarters. The joint research project will be continued and possible practical application – perhaps in the not-too-distant future – will be given serious consideration.

We cannot say whether – or when – the first of these flying robots will go into regular service, delivering parcels for a logistics provider. Nor do we know whether – or how – retailers could and would wish to use these drones for their deliveries. But the present gives us some idea of what the future may hold in store, even if a great deal of development work is still required.

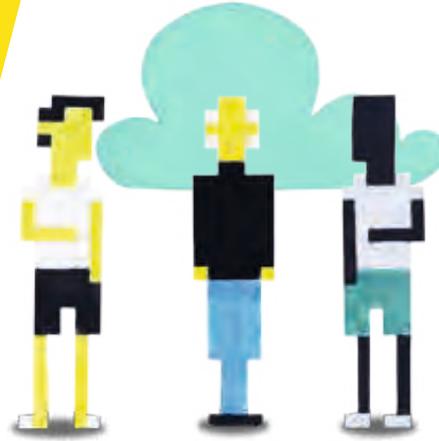


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SCENARIO 3

ARTIFICIAL INTELLIGENCE IN THE DIGITAL RETAILING SPHERE

HI-TECH IS GUIDING INDIVIDUAL CONSUMER HABITS AND MAKING EVERYDAY DECISIONS FOR US

- 55 DYNAMIC AND INNOVATIVE
- 57 TOTALLY INTERCONNECTED
- 61 SHOPPING AVATAR
- 65 FLEXIBILITY AND SECURITY IN FOCUS
- 68 TECHNOLOGY-DRIVEN GROWTH
- 69 BEST PRACTICE: LAREDO

SUMMARY

- The global economy is thriving, despite exhibiting significant volatility in recent years. The main reason for the global recovery is the high pace of innovation in the area of IT, especially in increased automation. Overall, there have been significant advances in technology.
- In 2025, the world is characterized by an advanced digital culture. Smart glasses, smart contact lenses and smartphones are constant companions in all situations. Streets, houses, mobility and energy systems are equipped with sensors and surrounded by a data field.
- Sales focus strongly on avatars. Avatars, the virtual consultant in technical companions such as tablets, headsets and smart contact lenses, assist in making purchases and also act autonomously. Not only do they check the authenticity of a product and monitor purchase and delivery, but often also place the actual order.
- Web shops adjust their offerings to customer profiles in real time. The avatars package and present interesting products in "personal shopping hubs". The local stores and showrooms of online retailers also use simulations that are tailored to individual customers. This means that even the decoration and offerings in retail stores can be customized and altered in real time.
- Aside from detailed customer profiles that are created by combining and analyzing data traces in cyberspace, the data base for these services is based on a customer's current moods and interests which are detected using intelligent sensor systems.
- Extensive customer profiles also lead to the increased use of new business models such as predictive purchasing, where retailers send customers goods they didn't order. The logistics industry mainly benefits from a rise in business due to products being sent back.
- Increased networking not only offers great potential and increased convenience, but also poses new risks. Privacy is a major global problem. Cybercrime is a constant threat and there is great need for security. Protecting personal data in cyberspace is a high priority for people.
- Major logistics companies offer especially secure supply chains, although that also increases the transaction costs. These costs are usually passed on to customers. If you want security, you have to pay for it.
- Same-day deliveries are standard in major cities. Retailers and logistics companies estimate demand ahead of time and partly deliver goods using drones. Consumers can determine the place of delivery as needed.

"Consumers will be more empowered than ever and service will make the difference – consumers will demand it and logistics companies will provide it. Here is why: When even low-involvement products are being shopped online, competition will be fierce among retailers. What is seen as innovative today will be standard tomorrow, e.g. midnight cut-off for next-day delivery, same-day delivery, a broad range of service speeds to cater to customer needs. For the service provider, this requires a much closer cooperation between fulfillment and delivery operators."

Graham Inglis
CEO EUROPE, DHL SUPPLY CHAIN

DYNAMIC AND INNOVATIVE

THE ECONOMIC ENVIRONMENT

- The global economy is defined by high yet volatile growth. There is a strong drive for innovation and gains in productivity through automation.
- Energy prices are rising only moderately; trade barriers are decreasing. Globalization is leveling out incomes worldwide and homogenizing people's needs.
- State-of-the-art digital technology with high security requirements: The intensive use of modern technology offers potential for big profits while also harboring high-loss risks.

The digital world and the living environment of people in 2025 are extraordinarily dynamic. The frequency with which innovations are launched on the market is extremely high, and major leaps forward have been made over the years. Communication networks are thriving at a level never seen before. This is especially true for developing nations, but also for the rapidly growing economic centers China, Brazil and India.

Innovations have also led to great advances in energy and resource efficiency. Raw materials are increasingly being recycled and cradle-to-cradle design is slowly becoming established. This means that the cyclic use of resources, in which production is geared towards the preservation of generated value, is increasingly shaping the economic landscape. Similar to the cycle of nutrients in nature, in which one organism's waste is used by another, the flow of materials in production is more and more structured around the avoidance of waste and inefficient energy use. The redesign of many existing products is therefore inevitable. This in turn requires planning and precise control of material flows, a process that would be inconceivable without integrated IT systems.

Major leaps forward have also been made in the field of clean technology, as for example in the exhaust and filter technology sectors. China in particular has made substantial progress here in an effort to combat smog.

Low energy prices and the steady removal of trade barriers in particular have enabled high economic growth. Global markets are nonetheless operating in a volatile environment. Highly automated value-added processes may have resulted in high productivity gains, but they are also leading to a loss of jobs, which has a negative impact on consumer markets. The past boom resulted in companies overestimating their sales potential in emerging markets. In some cases, the buildup of excess capacity led to marked economic fluctuations.

Human life is shaped by innovation.

Highly developed Western European countries, first and foremost France and the UK, as well as the United States, overcame the crisis of the 2010s thanks to their powers of innovation. However, many people in developed countries are faced with lower incomes. One important reason for this is the high degree of automation and subsequent major loss of jobs across the entire economy. In emerging countries such as China, India and Brazil, the income and living standards of the middle and lower classes are still below western standards. Higher incomes are being drained by rising living costs.

Across the world, globalization is leveling out incomes and homogenizing attitudes and behavior. A central driving force behind this convergence is modern IT, whose use by people worldwide is overwhelming. Smart apps are the constant companions of everyday life, whether at work or at leisure.

Even the moderate savings of middle class families can be managed with the help of smart apps, in the same way professional investment portfolios would. It is possible to win a lot, but the risk of losing is also high. Smart programs provide job recommendations and even compose the occasional speculative application. They organize our circle of friends and sometimes take the initiative to send out friendship requests.

FOCUS ON SOUTH KOREA

Avatars guarantee all-round support

What are living conditions like?

The South Korean economy is one of the main beneficiaries of global technology momentum. Countless innovations from Korean manufacturers and start-ups report rapidly rising profits. Of course, intelligent technology is also omnipresent in the daily lives of South Koreans. Almost every South Korean has at least one set of smart glasses, one intelligent bracelet or a pair of digital contact lenses. Smart devices are standard equipment in almost every apartment. Small vacuum and cleaning robots take care of dirt and humanoid concierges carry water canisters.

What is important in general terms? What is important in regards to shopping?

New discoveries are the charm of everyday life. However, risky businesses are not appreciated – on the contrary. To most South Koreans, their personal avatar is therefore as important as their best friend. The digital companion can be seen in color through smart contact lenses – at least as a virtual cartoon figure. It is completely normal that an avatar independently orders online products that it thinks its owner definitely wants, especially if he or she has never heard of those products. This is why more than half of South Korea's population almost exclusively wears clothing that was bought by avatars. Fortunately, however, these monitor not only their owner's current account balance and spending budget, but also the security of the transaction, after which they delete data associated with the purchase. Security is paramount.

Where do people shop and how?

The avatar is also constantly assisting consumers when making purchases online. Hardly any South Koreans still sift through websites to find the right clothes or exciting gadgets. Their avatars do that for them. They always have an individual product selection ready, display it on request via smart glasses or illustrate a product's best features and functions in a 3-D presentation.

What's special in regards to logistics?

Online or offline, same-hour delivery has long been the standard in South Korean cities. Decentralized warehouse and city stores work with the best big data technologies. Purchase transactions are anticipated (the avatar sometimes gives a hint). Certain goods such as luxury items or medication are increasingly delivered by drones. Most South Koreans have long become accustomed to the faint buzzing sound above their heads



TOTALLY INTERCONNECTED

TECHNOLOGICAL DEVELOPMENT

- The strong drive for innovation leads to major leaps forward, particularly in the areas of IT and communication technology.
- Smart devices are used everywhere. The use of smart glasses, intelligent contact lenses and digital implants is particularly widespread.
- Smartphones and tablets have ultra-flexible foldable and rollable E-Sense displays that provide haptic feedback.
- Everyday objects are largely connected to data networks and interact with users. They improve comfort and relieve us from the burden of everyday decisions.

A second generation of smart glasses is available, which offers much more than the photo and video applications of their predecessors – such as simpler operation, reliable object recognition and high-resolution augmented reality features. This led to a real hype among the youth during the late 2010s, particularly in the United States and South Korea. In bars and clubs in New York and Seoul, people introduced themselves by way of their social network profiles, which anyone wearing one of the new gadgets could discreetly access. Sometime after, smart contact lenses were also launched on the market.

The years that followed saw the emergence of terminal devices which strictly speaking weren't devices at all and truly deserved to be called smart. Hardware was confined to clothing or jewelry. These so-called wearables already come equipped with multiple functions. They enable identification processes and allow users to authenticate themselves on online platforms, or enable access to VIP events. Tattoo and piercing studios can offer their customers LED tattoos or implant chips under their skin.

Thanks to the rising use of digital contact lenses, data, images and diagrams are directly projected onto the eye or appear as holograms in front of

the user: 3-D projections right where the user stands.

Vehicles, furniture and fridges are fully connected to data networks. They detect changes in their surroundings, link up data, interact with their users – and learn. Everyday objects can register causal relationships and construct behavioral profiles. After a while, a radiator will know the daily routine of its owner. It's no longer humans who regulate what times the radiator is switched on, but the device itself. They measure and recognize behavioral patterns and adapt their performance exactly to the user's needs. By connecting to the user's smartphone (GPS tracking, access to calendar) and analyzing further data, such as traffic reports, the radiator knows that the user will come home later than usual – and will also switch itself on later.

The smart fridge knows that yogurt and orange juice are eaten together for breakfast, so it takes the initiative to order these online when supplies run out.

Smart software submits style suggestions that are tailored to their owners' schedule and mood. Users are able to see on their display how the recommended outfits will look when worn. E-Sense displays allow humans not only to see but also to touch things – to feel the difference between silk and velvet. The newest smart home hype has sensor updates, which can pick up on the mood and physical condition of their owners. In this way, for example, the bathroom mirror can figure out that its user is looking particularly tired in the morning and signals to the coffee machine that it should make extra strong coffee. The intelligent living environment will also register whether its user comes back from work feeling stressed – by recording body temperature and pulse. Lighting is adjusted accordingly (soothing tones of blue make for a calming atmosphere), relaxing scents

TRENDSPOTTING

Seattle, USA

Amazon is shipping even before orders are placed



Amazon has been granted a patent for predictive purchasing in the United States for anticipatory delivery of parcels. Amazon wants to ship high-demand products such as newly published books to distribution centers close to where it expects customer will want them, even before the order has been placed. The plan is to go even one step further by sending goods directly to customers who haven't ordered the item from Amazon at all.

Source: amazon.com; *Handelsblatt*, January 20, 2014

are released and favorite songs are played. All this increases comfort significantly.

The Internet of Things conditions daily life.

The Internet of Things has fundamentally re-revolutionized industrial production. Production and logistics have been further automated. Real-time detection using sensor technology now comes as standard. Technological systems have now taken over the planning, control and management of industrial processes. This has also become the norm for energy grids, which are now decentralized and autonomous. High-performance fabber/3-D printers are now a standard part of the production process. In a few minutes, they can produce complex customized products – such as ski boots or expensive furniture – out of an array of materials and in a cost-efficient way.

Many people organize their daily lives with the help of machines and smart programs. In practice, more than 90 percent of everyday decisions can be outsourced to one's apps or avatar, which, moreover, make demonstrably better decisions than their users. This has considerably increased individual data traces. More and more information about personal likes and dislikes, attitudes and wishes, behavioral patterns and changes end up on the web.

Relentless gathering of personal data by big corporations knows no bounds: Companies want to know their customers as best as they can in order to increase their turnover; public authorities and intelligence services are also exploiting the easily accessible data. Meanwhile, the interest in improving data protection, especially in the United States, is almost non-existent, while only being rudimentary in western and eastern European countries such as Germany and Poland, as well as Australia.

The reason data is so easily accessible is that the Internet remains a unified, transnational entity. The flow of information is unregulated, with detours through foreign servers and data links, even when sender and recipient are in the same country. In practice, the data leech can hit anywhere, at any

time. This is why cybercrime has increased dramatically over the years. According to Europol, in 2021, for the first time ever, more than half of European Internet users were victims of online fraud.

Cybercrime, data protection and data control remain unresolved problems.

In addition to fake shops, identity theft has turned into a serious threat. Every day the media report cases where personal data from online payment systems, e-commerce shops, or online banking systems is misused. The days when organized cyber gangs targeted individual users are long gone; instead, they are focusing their attacks on the providers of online services. With one hit, the offenders can steal thousands of customers' data.

This is why the demand for data regulation and Internet safety has risen on such a massive scale. Many people have grown so cautious that they don't disclose any data at all and access the web only by changing IP addresses on a daily basis. Others rely on sophisticated mathematical encryption techniques. Only in special cases or on trusted portals they do let their guard down and share intimate data. Inconsistent behavior is the order of the day. Only very few people can or want to give up the benefits of a digital world. After all, the virtual world is closely integrated with our everyday life and work. It's almost impossible to keep oneself out of it.

Because of the interconnected, transnational nature of value-added processes, the economy has also increasingly become vulnerable to hacker attacks. Cyber spying has become the new normal. Those who can offer effective solutions with regard to online safety are in high demand.

A society that is so highly equipped technologically is particularly at risk. Due to the networking of complex systems, the virtualization of business transactions and the automation of workflow, this vulnerability will further increase until 2025. In order to protect their national economies and infrastructure – data links, transport systems, water

and power supplies – states are responding by tightening security policy. For example, electronic goods that do not communicate in compliance with specific safety standards are banned from being imported.



VENDOR VIEW – SCENARIO 3

What retailers (have to) offer

Targeting customers

The critical success factor for retailers is to know their customers well. The ability to gather as much data as possible about customers, and to analyze and interpret it accurately, allows retailers to always be one step ahead with the help of predictive purchasing technologies. Detailed data enables the retailer to meet customers' wishes faster, more accurately and in an even more surprising way than the competition. The traditional sales approach that centers on people has become less important. Successful retailers need to focus on creating open interfaces for the various apps and avatars. After all, they are the ones either handling the entire purchase transaction for the user or searching the web for exciting new offers.

Products and services

Competition for the best predictive purchasing deals is in full swing. Some retailers have already managed to establish themselves in the market based on especially accurate predictions. The likelihood that their products will be returned is less than 20 percent. And customers are sensitive: If they are sent an unsuitable product they didn't order more than twice in a row, their avatar also takes note of this. The retailer may subsequently be blacklisted and shipments will no longer be accepted.

Channels

By now, avatars are the main distribution channel for retailers. Some retailers have already opted to do without a real web presence that can be visited by consumers. Instead, they use semantically modeled databases. Avatars can screen those in a split second and download the corresponding product file with information about the price, delivery or other features for their owners, such as a 3-D presentation for smart contact lenses or as a haptic display for E-Sense technology.

Logistics offerings

Close cooperation and networking with logistics service providers is essential. Especially in metropolitan regions and cities, same-hour delivery is important. If two retailers anticipate a customer's needs, for example because the toaster has broken, the first one to deliver the new product ultimately sells it. For orders that are placed through apps and avatars, secure and on-time delivery is also an important factor. Precisely for this reason, many large retailers have launched their own logistics systems, partly using drones.



SHOPPING AVATAR

BUYING AND SELLING

- Product novelty and the specific fulfillment of individual demands and desires are the defining purchase criteria for consumers.
- Shopping processes are hi-tech and highly globalized.
- Shopping is substantially influenced by digital devices.
 - Presenting products through 3-D animations is standard.
 - Wearables such as smart glasses and smart contact lenses are the consumers' normal information media of choice.
 - Online retail is mainly geared towards avatars that initiate and assist with shopping transactions.
- Detailed customer profiles lead to the implementation of new business models, such as predictive purchasing: shops send goods to people on a speculative basis.
- E-tailers' own payment systems and virtual currencies almost completely supersede credit and debit cards.

It began with a few shops in South Korea. They replaced their physical displays with 3-D animations and personalized interfaces. There are also intelligent displays in public places, which automatically adjust their product offers to passers-by. Retailers in the United States and China picked up on this idea. Finally, global fashion brands seized on the trend to perfect the concept. In the year 2025, showrooms are a virtual simulation. They can change constantly, depending on each customer's needs.

One and the same shop can therefore appear differently to various customers. Product range and presentation are tailored to each customer's profile. Websites and online shops established this approach a long time ago. Having taken the online world by storm, customized shopping has also conquered the offline realm. Whether it's groceries or medicine, fashion or electronics, furniture or cars, e-commerce dominates each industry.

TRENDSPOTTING

London, UK

Tesco introduces augmented reality as an aid to online purchasing



At Tesco, customers can view the wanted product three-dimensionally on their computer or other device using scannable markers. By turning it in all directions they get a very realistic impression – much better than any two-dimensional views.

Source: Tesco

New York, United States

Intelligent cost control by means of software and apps



The virtual wallet software shows how much money the consumer has left for shopping. Consumers can check in their diaries at any time to see how much money will be available on a particular date and when new payments are due.

Source: PNC Bank

FACTS & FIGURES

Proportion of online-only retailing in 2025



Proportion of "hybrid" forms of retailing in 2025



*Western Europe: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Portugal, Republic of Ireland, Spain, Sweden and United Kingdom.

Eastern Europe: Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia and Turkey.

Source: Z_punkt The Foresight Company, Cologne

A typical shopping experience in 2025 goes like this: A consumer sees a jacket in town that they like. They focus on it with their smart glasses or smart contact lenses and receive all relevant data for the product. Now they can order it online right away. When buying furniture, the customer receives suggestions on their smart glasses in the form of 3-D projections. At home, they quickly get a feeling for what would look good and where. Using the E-Sense display of their smartphone, they can also find out how the furniture feels to the touch. Or they can perhaps adjust the colors before placing an order. Shortly after, the delivery arrives. In 2018, as part of a marketing campaign, a famous furniture chain sent 100,000 smart glasses to households in Lithuania, Estonia and Slovakia. Only three years later, the company announced that for the first time it had sold more furniture via smart glasses than in its own salesrooms.

Abundant data traces

Retailers can even quickly profile anonymous shoppers. Sensors in walls and shelves can detect which products they are carrying and how long they take to look at items. The customer's mood is detected through analyzing facial expressions. The range of offers and store ambience are accordingly adjusted. In the United States, China, and South Korea, a new business model has been spreading: predictive purchasing which means that retailers send out goods speculatively. Supply can create demand, and not vice versa. This process is facilitated by minutely detailed customer profiles and tremendous advances in the field of Big Data technologies, so that many customers in fact end up accepting goods they never ordered. The algorithms used have such highly developed predictive powers that they can accurately foresee actual and even future customer wishes. In certain cases, online shops can better estimate the customers' wishes than the customers themselves. For most products, predictive purchasing becomes worthwhile if returns rates are lower than 50 percent.

Consumers have by now developed a feeling for their data traces. They've got a good idea of what their digital profile looks like. Some try to erase their traces and reject sophisticated marketing strategies. That's why for example they prefer to use neutral bitcoins over the currencies of large e-commerce platforms.

Consumers are developing different behaviors when it comes to their data trails.

Many e-tailers have already launched their own electronic payment systems, while some even have their own monetary units. The customer's profile becomes more defined with every transaction, and the retailers get the information they need free of charge. In a highly technological world where trading systems are more and more deeply rooted in cyberspace, cash and credit cards are a thing of the past. Payments are processed solely through mobile devices and virtual wallets. Online purchases are usually paid for with electronic money, such as the digital currencies of e-commerce platforms or neutral bitcoins. The first generation of technological savants has also already started using implanted Near Field Communication chips to pay for purchases. They simply wave a hand in front of the reader at the checkout. The system for authenticating electronic money transactions is highly advanced and can be based on voice or face recognition, for example. The United States and South Korea place particularly high demands on biometric technologies. Overall, trading enterprises have invested large sums in their security architecture – in sophisticated encryption techniques for the transmission of sensitive data, transparent data fields for the respective product, and certification of all supply chain elements. The large global players pay meticulous attention to ensuring that their communication, payment and logistics processes stay clean. Many small companies are unable to afford such high costs.

Universal tools for everyday life

Avatars are especially popular in certain countries. Americans are particularly receptive to the idea, not least for reasons of convenience. In Brazil, avatars often handle transaction processes, making everyday tasks easier. And in Australia, where the costs of damages caused by cybercrime have reached immense dimensions, people have developed heightened security concerns, which are prompting them to draw on the services of a security avatar.

TRENDSPOTTING

New York, United States

Check-in by means of face recognition



The US advertising agency Redpepper has developed an app named Face-deals which makes biometric analyses with a camera and recognizes faces; it compares these with Facebook entries and then sends the customer shopping tips. 'Facial' check-in is bound to come – and soon we will be able to pay by means of face recognition.

Source: Redpepper

London, UK

Predicting new fashion trends



E-commerce is boosted by advances in technology. What colors are in fashion? Using webcams, the European fashion chain Pimkie films passers-by in Paris, Milan and Antwerp. The colors of their clothing are analyzed by a special software and subsequently collated in a color prediction; the resulting range of products is then presented online.

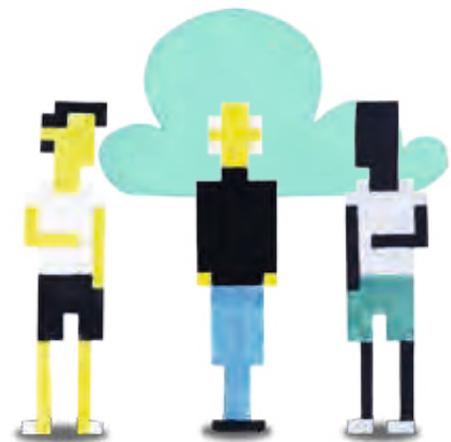
Source: Pimkie

An avatar is ultimately a form of customized software in smartphones, smart glasses and contact lenses and comes with an anthropomorphic interface. Avatars have a face. They can also talk and listen. They screen sellers, and they monitor payment and delivery processes. In many cases, they now even initiate the purchasing processes. This is also why pure e-commerce is now strongly focused on avatars. Consumers no longer shop in online stores. Instead, they visit their own personal shopping hubs where the avatar presents an assortment of deliberately selected products from different sellers and platforms in a customized environment.

When customers make spontaneous purchases, be it in a flagship store, on the train or at street markets, the avatar is always there with them. In general, it detects fake branded goods better than many experts. This applies in particular to the gray markets in Asia and Africa; here, avatars are preferably used as insurance against counterfeit products – crucial when it comes to medication. In China, avatars conduct negotiations with e-tailers on behalf of their hosts, arranging price and delivery in live chats. When it comes to planning personal finances, the avatar can be tough, diplomatic or indifferent, depending on what the user wants. Personal financial advisors are in high demand in the USA and Brazil. If an account is in danger of going into the red, they warn against further spending, helping the user avoid personal bankruptcy. Over time, avatars often know their host better than the hosts know themselves. Regardless of whether a host has unspoken wishes, minor or major obsessions or trouble with their partner, an experienced avatar understands how to deal with tricky situations. And because the avatar seems so human, it is treated as such: as service personnel or a butler, often with a friendly undertone.

The desire to humanize technology remains.

However, people are suspicious about the humanization of technology. This is especially true for Europe, and more so in northern European countries, such as Sweden and Finland, than in Southern European countries, such as Spain or Italy. Some consumers fear that the avatars act as extended arms of retailing groups – and not without reason. Avatar software can be hacked and reprogrammed.



FLEXIBILITY AND SECURITY IN FOCUS

THE IMPACT ON THE LOGISTICS INDUSTRY

The e-tailing boom has brought above-average growth to the logistics industry. Every order that the avatar or the customer themselves places triggers a package delivery that is mostly handled through highly automated logistics systems.

The major logistics operators offer especially secure supply chains (high secure delivery) as protection against product piracy which, however, increases the transaction costs. Generally, these costs are passed on to customers. If you want security, you have to pay for it. In this case, the logistics route passes via large package distribution centers, for example. This also serves to protect against criminals who try to hack the chain of established competitors.

Packages are equipped with sensors, and Packstations and parcel boxes in private buildings are smart: They inform the recipient when a package has been dropped off, monitor the condition and authenticity of the goods, or sound the alarm when someone attempts to access the goods unauthorized.

Highly intelligent sensors are now also standard in private vehicles, and are being increasingly used as a repository for packages, especially in the urban centers of developed countries.

In cross-border trade, which has risen sharply, the major international logistics operators dominate the market. Small and medium-sized operators, however, are hardly active in international trade. The big players also have a hold on the regional and local markets due to their secure processes.

CHART E-TAILING SALES – SCENARIO 3

E-tailing sales for different product categories in 2025 (including online/offline hybrid forms)


METHODOLOGY:

The result is based on averaged assessments by experts which have been coordinated with the conditions of the scenario.

The ratings do not indicate the substantial regional differences in individual product categories.

RECTANGLE SIZE:

E-tailing sales in the respective product category (including online retailing and online/offline hybrid forms)

NUMBER OF ARROWS:

Growth in e-tailing between 2013 and 2025
(1 arrow = little growth,
2 = moderate growth,
3 = strong growth)

Source: Z_punkt The Foresight Company, Cologne

➔ **Same-hour delivery is standard in metropolitan areas.** Thanks to the predictive power of Big Data, many logistics specialists can anticipate that a particular product is going to be ordered before the actual order is placed and dispatch the goods to decentralized warehouses in advance. Some goods are delivered with drones. Same-day delivery is common in rural areas of most industrialized countries, while in emerging markets, except for China, next-day delivery is more the norm.

➔ **Some major retail companies in the food and non-food sectors have established** their own logistics networks; pioneers of this system can be found especially in the United States. The majority of retailers, however, cooperate with logistics operators.

➔ **The logistics sector is benefiting from the growing business of return deliveries** – in particular thanks to new business models such as predictive purchasing. Retailers take into account that returns are part and parcel of this model, although technically, it would be possible to reduce the rate of returns to a minimum.

➔ **Logistics systems are so advanced that customers can view their delivery** status and act upon it at any time – the freedom to determine one’s own actions is just as important as the security aspect from a consumer perspective.

Significance of e-tailing in the retailing sector in 2025

In almost all listed regions, the share of e-tailing in total retail volume is increasing significantly. The only exceptions are India and Nigeria. Although the market share of e-tailing is rising in these countries as well, the level of growth is lower than in the other regions.



Growth in e-tailing: ● low ● medium ● high

E-tailing includes online-only retailing in addition to mixed online/offline forms.

The countries of western and eastern Europe are not shown in further detail in this graphic, since the regional differences are not significant in global terms.

* Western Europe: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Portugal, Republic of Ireland, Spain, Sweden and United Kingdom.

** Eastern Europe: Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia and Turkey.

TECHNOLOGY-DRIVEN GROWTH

Lee Spratt is convinced that e-commerce will become smarter. Thanks to big data and digital intelligence consumers will receive products exactly when they need them. With this in mind, DHL eCommerce's CEO for Americas sees tremendous growth opportunities in the U.S. – there is just one uncertainty...



Lee Spratt
CEO DHL eCommerce Americas

What sort of e-commerce growth will we see in the U.S. in the coming years?

Based on today's numbers, we expect online retail to continue growing at double-digit rates at least until 2018. It's now more than 10 percent, compared with two percent of total retail in 2000, and most projections see it exceeding 15 percent by 2015. The real question is: How far can it go? Opinions differ. Some people believe it will stabilize at 15 to 20 percent, while others think it will blur with physical channels and reach more than 50 percent.

How is technology facilitating the expansion of the e-commerce product range?

Certain product categories such as cars and clothes are still predominantly an in-store buying experience. The online channel is continuously trying to mimic the convenience and trust factor of the in-store experience through technology, such as virtual sitting rooms, 3-D images of products you want to buy and someday maybe even holographic images. Specific categories that traditionally have been stronger in brick-and-mortar environments could well move to e-commerce in the future.

Big Data is changing the business world. How will it change e-commerce?

E-commerce will become smarter. Continuity programs, based on behavior, will send products to you at exactly the time you need them. This is especially desirable from a logistics perspective, because you can choose the most effective mode of transportation. That principle is already at work today in intelligent thermostats, which figure out your behavior and then control the temperature for you. There will be a lot of digital intelligence in the e-commerce processes in the future.

BEST PRACTICE

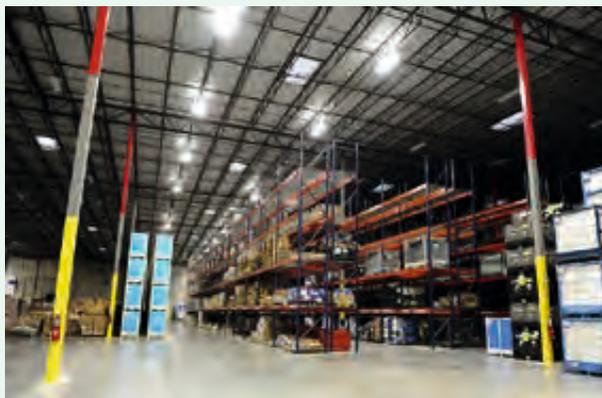
Logistics without borders

LAREDO

International trading offers the countries and businesses involved the prospect of increased prosperity. For the individual companies, however, it represents a major challenge that includes supply chain risks and comparatively high transaction costs.

In Laredo, Texas, just half a mile from the Mexican border, DHL Supply Chain USA operates a future-oriented logistics facility: its “Logistics Without Borders” distribution center. This trading hub provides U.S. and Mexican companies from different business and industry sectors with one-stop access to the services – in many cases highly complex – that are required for trading with the neighboring country. These services range from transportation to value-added services to customs clearance.

Each stage in the supply chain can be tracked on a bilingual online platform and the necessary customs documentation, for example, can be exchanged and deposited as required. In the summer of 2013 the center in Laredo was also awarded the U.S. Green Building Council’s “Leadership in Energy and Environmental Design” (LEED) certification for its environmentally friendly construction and efficient operating systems. The entire facility is designed to be cost-efficient but also to conserve resources and to be as eco-friendly as possible.





SCENARIO 4

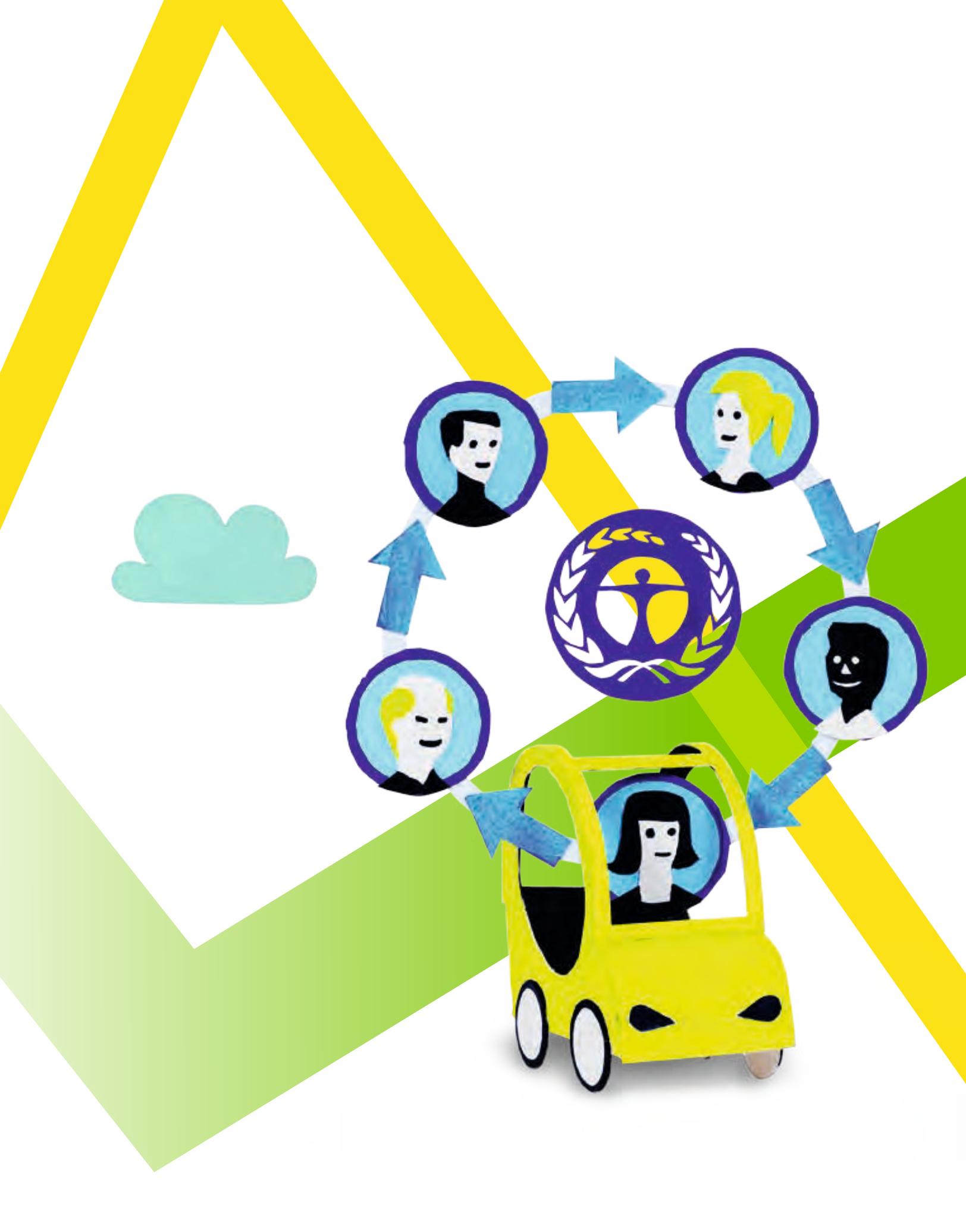
COLLABORATIVE CONSUMPTION IN A REGIONALIZED RETAILING LANDSCAPE

TOUGHER ECONOMIC CONDITIONS HAVE RESULTED IN A MORE CAREFUL USE OF RESOURCES.

- 73 ECONOMIC CRISIS HAS BECOME THE NORM
- 77 DURABLE PRODUCTS
- 79 LEASING AND SHARING MODELS BOOMING
- 85 MORE THAN A TRANSPORT SERVICE PROVIDER
- 86 SCALABLE AND COST EFFICIENT LOGISTICS FOR HAPPY CUSTOMERS
- 87 BEST PRACTICE: SUPPLY CHAIN

HELP!





SUMMARY

- The global economy is stagnating. The consequences of the second economic and financial crisis are evident everywhere. The high degree of protectionism has brought international retailing almost to a complete standstill. Tight private budgets, huge increases in the costs of energy and raw materials, and the powerful regionalization of the economy have all changed consumer habits substantially. People have developed a strong sense of community.
- In many regions, especially the core countries of Europe such as France, Germany and the United Kingdom, the importance of personal possessions has waned considerably. On the other hand, leasing and sharing models, which are available for almost all categories of goods, have become much more popular.
- Thanks to various lending and exchange models, many people, especially in the developing and emerging countries, including Nigeria and India, are gaining access to durable goods – such as cars and washing machines – for the first time.
- Sustainability and energy efficiency are prime factors in manufacturing and consumption. The production cycles are characterized by high recycling rates and closed material cycles. Consumers are increasingly aware of retailers' ecological footprint and social engagement.
- Many products have a modular structure. As a result, machinery, technical equipment and numerous consumer goods are easier to repair. In the leasing sector, domestic appliances and equipment, in particular, are fitted with sensors which indicate to the retailer – well in advance – when maintenance or repair will be required.
- Retailing needs to rethink. A very diverse range of providers are establishing themselves online, from just a few large regional players specializing in the leasing of durables to a large number of small players who organize peer-to-peer swapping communities. There is very little convergence between online and stationary retailing, with the exception of cooperative ventures in the repair and maintenance sectors.
- In shopping centers and residential areas there are a growing number of do-it-yourself stores for the production of articles for everyday use. Traditional specialist retailing has also been enjoying a renaissance, offering consumers a limited range of products to buy or borrow.
- There has been little increase in the demand for transportation and logistics services. Most package and parcel deliveries are made within the same region. In addition to one or two major logistics companies which have become established in each region, there are a large number of informal logistics offerings. Taxi firms, for example, now undertake delivery services and courier trips.
- There is greatly increased cooperation between logistics companies and retailers. The majority of logistics companies include spare parts logistics and repair and maintenance services in their standard portfolios. They not only deliver goods – they also replace faulty items of equipment at the customer's premises.

“High transportation costs reduce the attractiveness of international e-commerce for both retailers and consumers. As a result, logistics companies have to develop innovative solutions in order to lower the cost of transportation. One of the major challenges is the new global trend toward “re-regionalization”. The reasons for this tendency are many and varied. In the western industrialized countries it is in many cases regulatory taxes and dues such as CO₂ emissions trading which make transportation more expensive, while in many emerging countries subtle forms of protectionism are used in order to close off access to domestic markets. Whatever the reasoning behind it, the result remains the same – transportation and logistics are becoming more expensive.”

Dr. Rainer Wend

HEAD OF CORPORATE PUBLIC POLICY AND REGULATION MANAGEMENT AT DEUTSCHE POST DHL

ECONOMIC CRISIS HAS BECOME THE NORM

THE ECONOMIC ENVIRONMENT

- Economic growth is stagnating all over the world.
- As a consequence of a further global financial crisis, economic structures are much more regionalized than they were in the 2010s. Protectionist measures block off many markets.
- Consumer behavior has changed as a result of high energy costs and environmental problems: sharing models and collective forms of doing business have become established practice.
- Last but not least, most people have developed a powerful sense of community.

In 2025 the shockwaves of the past financial crises can still be clearly felt – and the lowest point of the crisis has not been reached yet. The global economy is stagnating. In fact, the economy has changed completely: its structure is now regional, not global. This is due in part to the resurgence of protectionism. The walls surrounding both regional and national markets in the form of tariff and non-tariff trade barriers are growing steadily higher, since governments are demanding a greater say in jurisdiction, for example, or in vehicle registration requirements, or in the approval procedures for innovations. International retailing is stagnating. The major economic blocks are shifting further apart.

The division of labor in the global economy is now history.

The result of all this is an increase in the exchange of products and services within regions or countries, for instance within the EU, the ASEAN countries, or China. An additional factor is the rise in energy costs. To a large extent, the international division of labor which characterized the boom years of globalization is no longer feasible.

With the new regionalization of the global economy, the differences in income between the major economic blocks have become firmly established. At the same time, the gap between high and low incomes has narrowed in the majority of countries. Nevertheless, people in the industrialized and emerging countries worldwide are battling with rising living costs. The horrendous energy prices, in particular, are leaving their mark on the budgets of private households. Moreover, the fact that most consumer goods are now produced regionally has resulted in higher prices.

Countries were unable to stave off the 21st century's second financial crisis.

In order to tackle the consequences of the first crisis, countries had gone deeply into debt, while the central banks lowered interest rates and flooded the markets with cheap money. The G20 member countries were unsuccessful in their attempts to crack down on tax havens or to curb high-speed securities trading in stock exchanges. New speculative bubbles formed. The result: a further collapse of the financial system. But this time the countries simply did not have the financial means to stabilize the banking sector. The huge liquidity problems of the commercial banks brought the money flow almost to a standstill for a number of weeks.

The “double dip”, i.e. a second recession following a brief period of growth, has had a direct impact on the real economy of the United States, the EU and other industrial countries. Inevitably, this in turn has had an adverse effect on the economies of emerging countries such as Brazil and China, which have focused on shoring up their domestic markets. This has benefited the regional and national

economic cycles. But the slump in global demand for consumer goods has been too great – and simply too much for even the major emerging countries to make good by their own efforts.

Energy and environmental conflicts call for a rethink
Energy prices have risen steadily in spite of the sluggishness of the global economy. The tremendous hopes that were placed in fracking technology, especially in the United States, have been dashed. Oil and gas production in the Midwestern United States regularly causes local environmental problems. Meanwhile, political opponents of fracking have been enjoying a huge surge of support. The major oil and gas fields have been yielding less and less each year. The search for untapped reserves involves vast amounts of money and effort. In China, for example, there is insufficient water for the extraction of shale gas.

Almost everyone is now faced with the consequences of the shortage of energy and raw materials in his or her immediate environment – and especially the ecological damage which this has caused. As a result, there is much greater awareness of the finite nature of resources and the limitations of our ecosystem. Many regions have now switched their focus to solar and wind energy technologies as well as to biomass-derived energy. But the cost of investing in new, decentralized structures remains high, with the result that the production of regenerative energy has not yet had a downward effect on prices.

Clear awareness of environmental issues and the availability of resources.

For a growing number of people in Germany, France, the United States and other industrialized countries, a safe and secure individual existence is becoming increasingly important. At the same time, people are having a radical rethink about the possible forms of ownership. Permanent access is considered more important than actual possession; this has led to the development of new participation models.

The consumer pays a certain fee for the use of a product, which remains in the possession of the manufacturer, who remains responsible for repairs and updates. The systems or items of equipment are replaced and ultimately disposed of according to a predefined timetable. Ideally, the manufacturer will undertake to overhaul the system or equipment, preparing it for the next cycle of usage.

These forms of consumption – “access not possession” – have also become popular in many of the emerging countries, but for a completely different reason. For many households in these countries this opens up possibilities that were previously beyond their reach: for example, traveling to a neighboring country in a rental car.

Ownership of products gives way to usage models.

Car sharing is a good example of the importance of “borrowing” models. It has established itself in almost all major cities worldwide. Billing models via smartphone have also proven extremely user-friendly. The increased costs of purchase and maintenance mean that owning a vehicle is a luxury even for the middle classes in the industrialized countries. By and large, not owning a car is considered to be completely normal – in fact, a sensible decision not to be burdened with a vehicle. Car sharing now extends to roughly one-third of the vehicles on city streets and roads.

In countries such as Nigeria and India, car sharing is less formally organized. Motorists who register their cars on a sharing platform pay less tax. The “role model” in this case is China, which has been pursuing a policy of restrictive registration conditions for private vehicles for quite some time now. In India, publicly subsidized bicycle sharing systems are commonplace, while apartment sharing programs are in widespread use in the United Kingdom and in Australian cities. People who go on vacation or move abroad for a while simply let out their apartment temporarily.

Collective forms of business and commerce are also enjoying increased popularity. This applies in particular to the large cities of Asia, North America

and western Europe. Some consumers obtain their cereals and vegetables from regional agricultural centers in the vicinity of major cities. In the United States, there is a lengthy tradition of neighborhood gardens in cities. In 2025 similar projects are being undertaken, especially in regions with considerable industrial activity. Communal gardens in or close to cities are cultivated in many of the emerging countries. In Nigeria and South Africa this practice is closely linked to local traditions. In China and India this form of subsistence economy appeals to many city-dwelling families, enabling them to cultivate their own gardens. This compensates them for not being able to afford their own plot of land.

TRENDSPOTTING

Sydney, Australia

Bedroom leasing



In Sydney you can hire practically anything. A service such as Mr. Rental offers a complete bedroom – with double bed, bedside table and wardrobe – for just 24 Australian dollars per week.

Source: Mr. Rental

New York, United States

Food swap initiatives



At food swaps, people get together and exchange only foodstuffs which they have grown or produced themselves, such as vegetables, fruit, jams. People express their interest and then arrange the swap by means of a 'silent auction' with other suppliers.

Source: Food Swap Network

Happy to share

What are living conditions like?

The focus is still very much on “belt-tightening”. In Poland, for example, the second financial and economic crisis has left an indelible mark, while further west in Europe, in the United Kingdom, the picture is similar. Economic growth is stagnating and living costs have risen substantially. The consequences of global climate change are also becoming more apparent. Floods, heatwaves – weather extremes have become the norm practically every year.

What is important in general terms? What is important in regards to shopping?

More and more people have begun to rethink their lifestyles. For instance, a clear awareness of sustainable forms of consumerism has developed. The average British and Polish consumer attaches considerable importance to environmentally and socially compatible behavior of manufacturers and retailers. They are also more conscious of their own social and ecological footprint. Greater care is taken when shopping and much less is thrown away. Leasing and sharing are now common practice. Permanent access to products is more important than having possessions. In the United Kingdom the proportion of new cars destined for car sharing has risen to more than 30 percent and in Poland to almost 15 percent. But of course this striving for sustainability is not the sole reason for the change of attitude toward possessions. In times of tight household budgets and increasing living costs, the new forms of sharing and joint ownership allow people to maintain a reasonable standard of living.

Where do people shop and how?

For the most part, consumers use traditional retailing outlets and regional online platforms in order to buy, lease or share. Whether in Manchester or Cracow, the electronics store round the corner offers the consumer sufficient choice when they wish to buy or lease a regionally produced television set, hi-fi system or smartphone. Before visiting the store, customers can check the Internet to see which products are in stock. If the product they are looking for happens to be unavailable, the consumer can try instead the online platform of one of the major European producers or possibly a local DIY exchange. These exchanges offer more than simply the swapping of second-hand products: they are also popular centers for “tinkering” and carrying out repairs. Many an MP3 player, which its owner had written off, has been given a new lease of life through the joint efforts of the community.

What’s special in regards to logistics?

In both the United Kingdom and Poland, logistics companies offer not only the delivery of goods but also repair and maintenance services as part of their standard portfolio. If, say, the drive belt of a leased washing machine gets damaged, a replacement is not only supplied but also expertly installed by the delivery firm.



DURABLE PRODUCTS

TECHNOLOGICAL DEVELOPMENT

- Technological development is progressing at a very slow rate.
- Instead of a global Internet there are numerous regional networks.
- Traditional smartphones and tablets are still omnipresent.
- Otherwise, information and communications technology is being used increasingly to prolong the life of infrastructures, investment and consumer goods.
- Basic consumer goods and spare parts are often produced locally in fab shops.

The development of technology and infrastructures has also been affected by protectionism and decentralization. As a result of the spying scandals in the early 2010s, the Internet has been replaced by a large number of regional networks with their own data lines and server systems. Europe, the United States, China and other main centers of population have their own data networks. Each country has its own server locations. These regional networks are also linked more powerfully to real infrastructures. Information and communications technologies are being employed increasingly to prolong the useful life of products. Sensors are capable of registering the properties of material, which makes it much easier to check the condition of infrastructure, for example bridges, roads or power plants. In China this technology is built into new constructions as a standard feature. In the transportation sector, sensors monitor the refrigeration chains of food products, while quality is assured by means of “intelligent” packaging.

Domestic appliances and equipment are fitted not only with sensors but also with Internet access. The sensors indicate to the service partner (whether retailer or manufacturer) when maintenance will be required, so that the useful life of the product in question can be assured and extended by means of regular and preventive repairs and upgrades. In leasing business, in particular, there is a trend

toward “predictive maintenance”. Example: high-performance refrigerating appliances based on a new vacuum technology. These are more efficient but also more maintenance-intensive. Sensors provide, via the Internet, information on the product’s momentary insulation rating and indicate in advance that maintenance work is due. Maintenance is also optimized for washing machines and dryers: after a certain number of washing cycles the electronic components are replaced as a precautionary measure in order to prevent irreparable damage. As soon as the first signs of wear become evident in the dryer, the heat pump is ready to be replaced.

State-of-the-art technology also helps with the recycling of valuable raw materials. RFID chips implanted in the component parts of computers help prevent the illegal export of computer waste to Africa and Asia – the scrap is intercepted in the port where it is due to be loaded on to a ship. Instead, the material is redirected to a hi-tech recycling plant where almost 100 percent of the raw materials used can be recovered.

The extended service life of electronic devices also contributes to the more efficient utilization of resources. People use them with care and no longer view them as mere fashion accessories. They keep them for many years and instead of several devices – laptop and mobile phone – people normally use just one.

This form of usage has also impacted on the development of mobile devices: few advances have been made. Over the past few years the primary focus has been on making these devices more robust, more durable and more environmentally friendly rather than on introducing new functions. The prices have also risen as protectionist measures have become even more stringent. By and large, the devices being used are very similar to the smartphones, tablets and laptops of the 2010s.

FACTS & FIGURES

Proportion of online-only retailing in 2025



Proportion of “hybrid” forms of retailing in 2025



*Western Europe: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Portugal, Republic of Ireland, Spain, Sweden and United Kingdom.

Eastern Europe: Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia and Turkey.

Source: Z_punkt The Foresight Company, Cologne

Displays are neither flexible nor touch-type. And wearables have fallen out of favor because they are particularly prone to failure and also difficult to repair.

There has been a remarkable upsurge in the popularity of 3-D printing, which has also been playing a key role in increasing environmental awareness among consumers, since it is an ideal means of avoiding the unnecessary transportation of goods. And self-sufficiency is very much in fashion as a result of the trend toward judicious consumption. Although there have been no really revolutionary developments in the field of 3-D printers since the 2010s, almost every neighborhood has its own fab shop, where people can make simple everyday objects from plastic or metal. The materials required for this then undergo closed loop recycling.

The high recycling rates are indicative of a shift in values toward greater awareness among consumers. This has not come about voluntarily – rather, it has been the result of necessity. The buzzwords of the new economy are: peak consumption, using rather than owning, closed loop recycling management, and qualitative growth. But achieving this growth entails a great deal of hard work.

Despite all of this, most people are reasonably satisfied. Many consider their way of life to be more balanced and happier than in the first decade of the 21st century.

Information technology is used in many different ways, including the monitoring of recycling.



LEASING AND SHARING MODELS BOOMING

BUYING AND SELLING

- The dominant purchasing criteria are access and individual safety and security.
- There are leasing and sharing models for almost all groups of products.
- Consumers attach greater importance to retailers' sustainability and social engagement records.
- Online retailing is very much regionalized, while stationary retailing also has the function of an exchange.
- Apart from repair work, purchasing decisions are made independently by consumers.

Thanks to the new capabilities resulting from digitization, leasing and shared-use models are now in widespread use. This applies to all areas of life.

The housing market in western and eastern Europe has become increasingly similar to its counterpart in the United States: apartments in Italy or the Czech Republic are now frequently rented furnished or semi-furnished. Manufacturers of furniture, kitchens and all types of electronic equipment – communications, entertainment, security – now specialize in this sector, offering end-to-end solutions tailored to the size and layout of the dwelling.

In 2025, furniture leasing is common, for example in China and South Korea. People who move from villages to the major cities – urbanization is still a mega trend – can use various web platforms to individualize the interior design of their apartments, whether in the traditional Chinese, Oriental or Mediterranean style. Internet providers in this sector have made their customer interfaces as user-friendly as possible. The floor plan is initially shown in 3-D and customers can position their chosen furniture as they please.

Leasing business for decentralized energy generation systems has also been a huge success. This covers the whole range from high-tech systems in Spain, Sweden, Australia and New Zealand to simple, sturdy modules for rural areas of Nigeria or

India. The boom has been triggered by the high cost of fossil fuels.

Diverse forms of shared usage have developed, depending on cultural background, special regional factors and market requirements. The following three basic types can be identified:

- 1) The product belongs to a provider which makes it available to its customers for a certain period of time.
- 2) The product belongs to an individual who makes it temporarily available to other users via a platform.
- 3) The product belongs to an individual who lends it out to his/her circle of friends and acquaintances.

Leasing models are used for new groups of products, including furniture and energy generation systems.

In the case of long-life consumer goods, so-called durables such as furniture or domestic appliances, the first of these three types has become established. With medium-life consumer goods – semi-durables – such as electronic products or clothing, there are marked differences in usage, depending on the region: in poorer countries, sharing platforms for clothing have a relatively informal structure, for example in the form of neighborhood help systems, while in richer countries fashion items and designer clothing are frequently swapped via platforms or at events. In the United States in particular, these “swap” models, organized through local online communities, are very popular. In countries such as France, the United Kingdom and the Republic of Ireland, this type of exchange is also growing in

popularity, in many cases as a combination of swapping and the cradle-to-cradle principle, i.e. cyclical product utilization from the production stage through to 100 percent recycling. This is an area in which students have shown themselves particularly keen to experiment.

However, the traditional retail business model is by no means a thing of the past. It is still to be found in the semi-durables segment. The manufacturer markets the product, which subsequently becomes the private possession of the customer at the point of sale. But here, too, things have changed: private individuals and small firms now make numerous products which they market on do-it-yourself platforms.

New types and subtypes of sharing models are appearing on a daily basis. In the EU, the United States and Australia, there are a variety of loan offerings for leisure articles and for music, sports and outdoor activities. In India, entertainment reigns supreme; movie swapping and rental platforms are very popular. Restaurants in rural areas hire out all the equipment they require for cinema events. In eastern European countries such as Bulgaria, Slovakia and Hungary, and also in China, baby products and children's clothing tend to be bought through both formal and informal sharing systems.

At the same time, retailers and manufacturers are increasingly keen to have their products returned at the end of their lifecycle, so that they can be recycled and reused. Consumers then recover the deposit which they paid at the beginning of the usage period.

A new consumer culture

In the consumer goods sector as well, retailing has focused on new business models, with the social component playing an ever more important role. Taking as their slogan "Buy One – Give One", the major food retailers have undertaken to donate a consignment of foodstuffs to socially disadvantaged persons in their region for every full shopping trolley which passes through their checkouts. This initiative has already garnered many followers in the social networks. The social and environmental commitment of the retailers is thus communicated to the wider public. Stores also contain terminals and tablets which provide detailed explanations of how products are manufactured and distributed.

For the most part, customers have a positive attitude toward the new retailing and swapping formats. The various sharing and leasing providers have analyzed the communication and usage behavior of their members precisely:

- A typical trend is boxes of toys which parents can hire out for their children. Sensors determine precisely what small children reach for most frequently and the boxes are configured accordingly.
- People who renovate their apartments and purchase the necessary material for the makeover receive automatic access to the local do-it-yourself platforms, which organize training seminars and neighborhood help.

At the same time, communication platforms which have developed in the social networks provide discreet online information about the reputation of the person with whom one is arranging a swap. Issues such as dependability and due diligence play a key role in the new leasing and swapping models.

Although there has been no significant growth in incomes worldwide, people don't feel that they have to go without the things they would like to have. The sharing models provide them with affordable access to a very wide range of products and offers. In the majority of households the budget allows the purchase of several top-of-the-line designer items, in other words goods with a distinct personal and emotional value. Retailers are gearing their sales and marketing strategies to meet this demand.

VENDOR VIEW – SCENARIO 4

What retailers (have to) offer

Targeting customers

Customers need a great deal of information. Local retailers and regional retailing platforms supply information about costs, functions and the availability of products – across their entire lifecycles. The resulting transparency helps consumers decide whether to buy, lease or borrow. Sustainability also plays a pivotal role. The successful platforms, in particular, present sustainability analyses for their offerings, highlighting the environmental and social aspects of the products.

Products and services

On the e-tailing platforms, a wide range of regional products are marketed on the basis of purchasing and leasing models. The durability and robustness of the goods are key factors. Generous warranty and returned-goods terms and conditions are an important means of achieving competitive edge. Accordingly, the more successful platforms offer predictive maintenance when concluding leasing and purchasing transactions.

Channels

The purchasing and leasing platforms mostly market their goods online. However, they also cooperate with local specialist retailers and in some cases operate their own outlets, where products can be tested and repaired. The specialist retail sector also has a stronger focus on sharing services – either locally or in collaboration with other providers in the region.

Logistics offerings

For retailers, especially the regional leasing platforms in the Internet, it is essential to work closely with locally based logistics companies. This is the only means of providing customers with the best possible service. For example, a standard kitchen leasing contract includes a replacement warranty for kitchen appliances. After a period of ten to 15 years, old appliances are replaced by new, more energy-efficient units. The logistics companies which collaborate in this way not only deliver the new items and dispose of the old (recyclable) appliances: they also undertake installation of the new equipment. And these logistics partners additionally take care of regular maintenance of the kitchen elements as well as any necessary repair work.



Social responsibility features prominently in the retailing sector.

Online retailing involves the purchase of durable goods rather than products for everyday use. Altogether, the proportion of e-commerce in western and eastern Europe and the United States is in the region of 15 percent, in the emerging countries around ten percent. Mixed forms of online and offline retailing (“brick-meets-click” formats) have about a ten percent share worldwide. However, there is very little transnational retailing.

The poor performance of international online retailing can no doubt be attributed to the weak underlying conditions worldwide: blatant protectionism in countries’ external trade, high energy prices and sluggish global economic growth. There is virtually no online retailing between the United States and Europe on the one hand and Asia on the other. E-commerce only works within larger regions such as those in Europe. In emerging countries, for example India or Nigeria, it comes into play when specific products are unavailable locally.

There is little or no international online retailing.

E-commerce is now primarily regional: this is where most of the protagonists are to be found – for instance, the regional companies of the leading global brands. They offer a broad range of products for purchase, exchange or leasing. Business involving durable goods, in particular, is almost completely Internet-based. Parallel to this, there are various peer-to-peer swapping platforms for semi-durables. Meanwhile, stationary retailing is chiefly in the hands of regional chains. In every city there is also a sizable niche provider sector and specialist retailers offering products to buy and to borrow. Other shopping channels, such as virtual shelves on house fronts or subway posters, are only to be found in very few cities worldwide.

Many stationary retail stores have their own websites where customers can inquire about the availability of products on site in the store. Apart from this information service, online and offline retailing tends to be separate. Only a few retailers make use of both sales channels.

Regional outlets collaborate with major leasing platforms, for example. These are particularly common in the repair and maintenance sectors. Spare parts that are required can be ordered in a local store or picked up there. The maintenance work is carried out by a locally based specialist retailer. Local outlets frequently collaborate with larger, regional platforms. It is also generally noticeable that the niche vendors join forces and develop their own sales and, above all, leasing platforms. People who play sports recreationally – such as skiers, surfers or sailors – usually borrow their equipment. When selecting the proposed products, the web shops make use of past usage behavior, so that they can meet the customer’s wishes as closely as possible. Local companies at the vacation destinations have specialized in the repair and cleaning of the equipment and outfits used by visitors.

Offline lives!

Stationary retailing has decided to make its own swapping and leasing offerings. The customer receives, in the store, all the necessary information about the new products and their functions, together with a precise statement of cost indicating the advantages of leasing as opposed to purchasing the product in question. At the same time, the customer gains an insight into the used-goods market in their vicinity. Someone who needs a bathroom renovation finds all they require at the terminals in the store, including information on new or reconditioned products and on transportation and installation services, plus in-depth consultation in the corresponding customer forums. Stationary retailing performs the function of mediator in these scenarios.

When people move house, they hire the toolset from the local DIY market, normally for a period of two months. In the case of computer accessories and leisure articles, on the other hand, private exchange and usage communities have emerged. Communication and distribution are almost entirely Internet-based. Accordingly, swapping and borrowing

platforms are now among the most used functions in social networks.

Stationary retailing arranges leasing offers.

In rural areas and in emerging countries, for example eastern Europe or Russia, notes written on pieces of paper still feature prominently in everyday life, with “search/offer” notices often to be seen in stores and markets.

Cash, debit and credit cards still dominate in the retail sector. With the economy divided into increasingly small sections, globally oriented online payment systems have had only a limited impact.

The process of authentication in connection with payment transactions is no longer based on passwords but on biometric characteristics – voice and face. Payment by way of implanted near-field communication chips is becoming increasingly popular, i.e. the consumer simply waves his or her hand across the reader at the store checkout.

Many of the “search/offer” platforms even manage without using money at all. Their users swap goods for goods or for certain services, rather in the manner of neighborhood help. This can take the form of repair services or assistance in the household or garden.

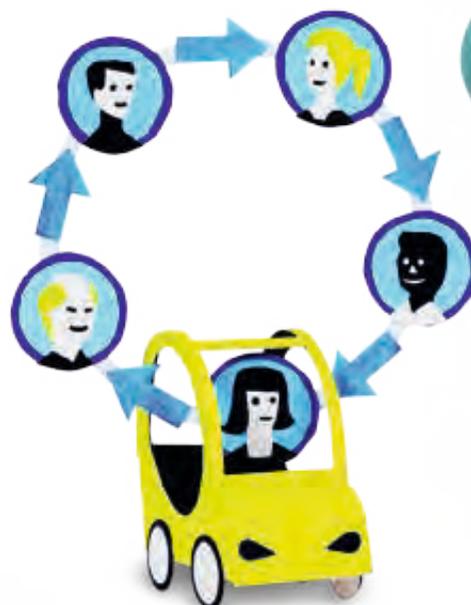


CHART E-TAILING SALES – SCENARIO 4

E-tailing sales for different product categories in 2025 (including online/offline hybrid forms)


METHODOLOGY:

The result is based on averaged assessments by experts which have been coordinated with the conditions of the scenario.

The ratings do not indicate the substantial regional differences in individual product categories.

RECTANGLE SIZE:

E-tailing sales in the respective product category (including online retailing and online/offline hybrid forms)

NUMBER OF ARROWS:

Growth in e-tailing between 2013 and 2025
(1 arrow = little growth,
2 = moderate growth,
3 = strong growth)

Source: Z_punkt The Foresight Company, Cologne

MORE THAN A TRANSPORT SERVICE PROVIDER

THE IMPACT ON THE LOGISTICS INDUSTRY

The demand for logistics services has remained comparatively stable, though now mostly regionally limited. Large logistics companies dominate the local and regional markets, while for small providers there is ample scope for diversification, especially by providing additional services such as repairs. Only a very small number of major players operate internationally.

There has been very little increase in the overall volume of parcel shipments during the past ten years. This is one of the reasons why technical innovations over the last mile, such as parcel boxes, have made little headway.

Business models based on leasing and borrowing produce incentives for diverse mobility and transportation services. The services of the logistics firms are required, for example, when the refrigerator needs to be replaced, when the air-conditioning needs a new spare part, or when the photocopier has to be updated. To some extent, this also applies to semi-durable products.

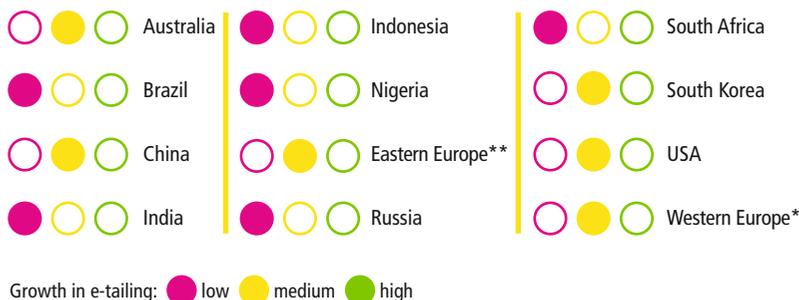
There is increased cooperation between logistics companies and retailers. This works particularly well at local level. It involves not only the shipment and return of goods: logistics firms have become mobile spare parts stores to an increasing degree. When modules in the kitchen have to be replaced, there is no need for a specialist – the driver from the logistics company knows exactly what to do – and this has had a positive impact on the work skills of delivery personnel. The benefits are felt by customers as well: they now expect more from the logistics companies in terms of maintenance and repairs.

Significance of e-tailing in the retailing sector in 2025

Compared with the other scenarios, the amount of e-tailing in relation to the overall volume of retailing in all the regions considered is much smaller. However, there is no question of stagnation in comparison with 2014. E-tailing is growing – even in Brazil, India, Indonesia, Nigeria, Russia and South Africa – albeit on a very low level.

E-tailing includes online-only retailing in addition to mixed online/offline forms.

The countries of western and eastern Europe are not shown in further detail in this graphic, since the regional differences are not significant in global terms.



* Western Europe: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Portugal, Republic of Ireland, Spain, Sweden and United Kingdom.

** Eastern Europe: Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia and Turkey.

SCALABLE AND COST EFFICIENT LOGISTICS FOR HAPPY CUSTOMERS

Having served DHL Supply Chain as Executive Vice President Business Development Europe since 2011, Todd Starbuck knows what e-commerce retailers should put on their agenda, from operations to customer development. Because there is no one-fits-all supply chain solution for companies, retailers and their logistics providers need to develop scalable logistics systems and improve customer convenience.



Todd Starbuck

Executive Vice President Business Development Europe, DHL Supply Chain

Looking ahead to 2020: What is the key to successful e-commerce?

Consumers will be more discerning. They will expect ultimate convenience and personalized service. Across all channels and with no adverse effect on prices. These expectations are extremely challenging for retailers. They need to expand their infrastructures offering a broader set of services – but without losing sight of the costs involved. Thus, a flexible value chain will be a crucial success factor for retailers in 2020.

What must a competitive supply chain be capable of?

Unfortunately, there is no standard solution. Companies with very large turnover figures don't have the same needs as smaller retailers. Big firms can adapt their existing logistics systems for volume shipments (small items), but may be failing to differentiate their needs around specific channels such as non-sortable materials or 2-man delivery for larger home items such as mattresses or furniture. The best solution for smaller retailers is to outsource logistics management. Then they can respond flexibly to customer requirements and the market situation – while keeping a close eye on costs and potentially leveraging volume and pricing.

What role do logistics companies play in this scenario?

The logistics companies need to develop scalable systems with which a large number of small retailers can be served while also supporting the more specialized channels of large retail shippers. This will ensure speedy responses to both consumers' wishes and to changes in the market. The logistics networks of the future will have to meet these requirements more effectively by addressing scale, product diversity and the consumer personal needs.

What will the logistics networks of the future be like?

The distances between production site and consumer will be much shorter again. At the same time, as well as this proximity between manufacturer, logistics company and consumer I foresee a trend toward "deceleration". Not everything needs to reach the consumer overnight. This will be the strategic focus of future logistics: keeping delivery paths short and ensuring cost efficiency thus making the consumer experience personalized from "click" to customer.

BEST PRACTICE

Including sustainability

SUPPLY CHAIN

Televisions, monitors, computers – electronic waste is one of the fastest growing streams of used materials. At the same time, many components are suitable for recycling. Accordingly, the Australian government launched a recycling program for TV sets and computers and invited tenders for the provision of recycling services. The objective: to increase the recycling rate from its level of 17 percent to 80 percent over the next ten years.

Taking as its slogan “Living Responsibility”, Deutsche Post DHL has been promoting sustainability and environmental protection worldwide for many years. This wealth of experience proved to be a key factor in the decision to award the recycling contract to DHL Supply Chain.

During the first year of the Australian scheme, DHL Supply Chain gathered and recycled more than 18,500 tonnes of electronic waste at its various collection points. DHL now services over 450 collection points and collaborates closely with numerous councils, waste contractors as well as national retailers, including Harvey Norman and Officeworks.

The service is free for residents and small businesses. It has also meant the creation of new jobs at the processing centers, where the equipment is dismantled before being forwarded for recycling.



Don't dump it, drop it for FREE.



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Now you can take your unwanted televisions and computers to a FREE Drop Zone. Recycling services that you, our city, receive for free and make the drop. For full details of service location and participating retailers.

Make the drop for FREE at this location:

Citywide
 1000 Murray Valley Highway, Colburn
Mon 11th Nov - Fri 15th Nov
 9am - 4pm



DROP ZONE
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Professor Dr. Gerrit Heinemann, Head of eWeb Research Center, Hochschule Niederrhein
 Kathrin Haug, Managing Partner, dgroup
 H. Mathias Gehrckens, Managing Partner, dgroup

E-PACE: THE NEW EVOLUTIONARY PHASE IN E-COMMERCE

INNOVATIVE BUSINESS MODELS WITH CHANNEL EXCELLENCE AND DIGITAL TIME SAVINGS

Professor Dr. Gerrit Heinemann is head of the eWeb Research Center at Hochschule Niederrhein (University of the Lower Rhine). Having gained many years' experience of retailing with the Douglas and Kaufhof companies and worked as a consultant with Droege&Comp., he began his career in research and higher education, which includes a number of important consulting mandates, in 2004. He is also a member of various advisory and supervisory boards, for example he is Deputy Chairman of the Supervisory Board of online retailer buch.de. Prof. Heinemann is the author/publisher of a number of best-selling books in addition to more than one hundred articles on topical retailing issues.



H. Mathias Gehrckens, born in 1962, trained as a shipping agent and obtained an associate degree in business administration in Hamburg as part of the "Hamburg Model" program. He subsequently studied economics at the Friedrich Alexander University of Erlangen-Nuremberg, where he took a degree in business management. In 2000 he began his managerial involvement in e-commerce startup companies; in 2004, together with colleagues, he established the diligenZ management Consulting GmbH, the nucleus of the current dgroup.



Kathrin Haug, has a degree in economics, having studied at Berkeley, Vienna and Munster Universities. She was a co-founder of the infoMedia multimedia agency, which carried out e-commerce and e-marketing projects for a number of prominent brand-name companies, including Aral AG, IKEA and Lufthansa. As a managing partner of mindwyse GmbH, Kathrin Haug undertakes online and e-commerce projects for various brand-name, retailing and SME clients.

Companies with digital business models need to gear themselves to changes in customer requirements and to the rapid pace of online retailing. This means that the “e-pace” factor becomes the key element in success.

Precise timing is also important because customers expect speed, reliable on-time deliveries, and offerings to suit the particular situation. Last year, same-day delivery was introduced as a standard feature. Customers who are not prepared to wait at home in the hope that their orders will arrive will expect dependable “time frame” deliveries in the future. To this can be added customers’ desire for more and more new offerings and consequently a higher collection frequency. In the fashion industry, for example, the term “fast fashion” sums up this development accurately: new collections are developed and delivered at an ever faster rate. For sales and marketing departments, this means providing suitable offerings on the basis of innovative business models. But e-pace signifies much more than just speed. The focus is also on time savings for shoppers as a result of recommendations or tailor-made preselections, as is the case with so-called “curated shopping”. Or the focus is on context-sensitive, situation-responsive offerings which become possible through the localization of customers and their specific purchasing situations, and which are already being successfully implemented in the form of location-based service offerings. From the companies’ point of view, as far as digital time advantages are concerned, the challenge is also to rapidly secure the benefits of being a “first mover”. For the same (and already successfully tested) innovative business models on one market – usually the United States – there are definitely still these time advantages on other markets. And so here, too, speed is what counts. This is the precise goal of “ramp-ups”, in other words speeded-up expansions abroad, as practiced by such firms as Zalando, Glossybox and Rocket Internet. The “copycat” business models – imitations of successful U.S. pioneers such as Zappos – are typical followers, but they take on the role of first movers in as yet unserved markets. The foreign markets on which Zalando has a presence should no longer be of interest to the true pioneer and original first mover Zappos.

However, the e-pace factor is not to be limited to a certain function or a specific target group;



rather, it affects the complete supply chain and all markets. It even leads to disruptive structural changes in entire industries, as for example in the publishing sector at the present time. The verticalization strategy which is being pursued by Amazon and which is shaking the publishing industry and bookstores to their foundations is a typical example of this kind of disruptive market change. Another case in point is the firm of Reuter, which has demonstrated that even the plumbing, heating and ventilation sector – usually regarded as being hidebound by tradition, with its three-part distribution system seemingly set in stone for all time – is by no means immune to “e-pace upheavals”. For the companies affected, internal organization of their own sales, marketing and business processes is absolutely critical for success, because business models of this type are not viable without time-optimized processes and proper system support. In addition, seamless automation is necessary, otherwise competitive edge will be lost. Successful e-commerce business models such as Amazon’s prove that automated processes function not only faster but also more effectively.

Setting up business models of this type calls for massive investment in systems and a “totally customer centric” approach,

in other words a systematic customer focus which must not be based on existing, traditional paradigms. In this connection, the terms “customer value” and “value added” are heard increasingly – objectives which companies must strive to attain in order to be successful. Two innovations are helpful in achieving this. On the one hand, the number of value added stages is reduced. This so-called disintermediation



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enables prices to be trimmed and therefore results in an improved price/performance ratio. Customers no longer have to pay extra for supposed “services” that were not rendered and also not requested. To a large extent, genuine consultative services are no longer provided anyway; and if they are, the advice is often inadequate. But consulting is still a cost driver in the stationary retailing sector. On the other hand, customer value is enhanced by expanding the range of offerings and/or the selection available, by improving information transparency, and by increasing the speed of processing. This means that delivery within a few hours of an order being placed is not possible in forms of organization based on the division of labor. Stationary retailers are not in a position to visually reproduce product ranges made up of millions of items. The real “category killers” are now the digital retailers.

Digitized companies have completely new means of configuring their pricing dynamically – by changing their prices quickly and frequently. This form of dynamic pricing, practiced increasingly in online retailing, works best when it is “fully automated” using basic algorithms and search engines. This is so fast and comprehensive that stationary sales and marketing is overstretched simply trying to follow it “informationally”. Companies which operate this type of pricing manually, or try to (and amazingly there are still quite a few), employ a lot of personnel who cannot come anywhere near the performance of a corresponding price tool. Unfortunately, firms which fail to upgrade their systems and prefer to stay with stationary sales and conventional methods will sooner or later fall by the wayside. This will not affect the

so-called “pure players” so much for the foreseeable future. Multi-channel services are of no real importance to them, being primarily a means for stationary retailers to sharpen their profile in connection with the convergence of online and offline channels. The “online-goes-offline” strategy, which is currently the subject of discussion, could result in easily accessible showrooms for the pure players if “touch&feel” is to the fore. However, if customers require specialist advice and a real shopping experience, the opening of showrooms should also be an option for pure players, though only for certain subsections of the product range. This calls to mind, conversely, a digital shelf extension for stationary retailers by means of which online sales can be boosted for chains. There could also be online expansion of the produce range if this range cannot be displayed in stationary branches for reasons of space; this applies in particular to small outlets, such as fashion jewelry stores with high customer footfall, or to shop-in-shop systems.

However, the important factor which must not be forgotten in connection with pure players is the subject of mobile commerce, which is considered to be the “extended arm” of online retailing but which calls for its own systems and spheres of responsibility. Simply transferring websites to mobile formats is not sufficient and neglects the special nature of these mobile platforms, where the primary focus is of course on localization of the customer. In addition, the majority of “social networkers” – whose number has probably risen to more than 30 million in Germany alone – use mobile devices for their interactions. This combination of social interaction, location-based services and mobile commerce

is a factor which features prominently at present, especially in stationary retailing, which in Germany unfortunately still has an uneasy relationship with innovative business models of this kind.

Innovative and operative excellence, however, are absolute “musts” for every retailing company as digitization progresses – whether online or offline.

But online projects mainly differ from offline projects in that decision-making on investment and systems is in most instances irreversible and/or difficult to correct, and consequently should not be incremental. With a final, visionary status, aspired to in the future, in mind, the decisions required for this today must be reworked and accordingly construed as options. This in turn requires strong powers of conceptualization, since the “gut feeling” decision-makers in sales and marketing are frequently overstretched. And online projects must be undertaken speedily, since an ongoing process of improvement is a key factor for success on account of technological development and the multiple means of measuring performance.

How stationary sales can benefit even more from e-commerce and what the benchmark is for companies pursuing multi-channel strategies is without doubt dependent on channel networking. It will be less and less possible in the future to talk about purely online or purely offline worlds in the sales and marketing sector. Both will converge into “no line” systems, in which the modes merge with each other. This paves the way for a significant development, namely the convergence of old and new modes of operation to form sales systems that can breathe new life into outmoded formats, thereby catapulting them from the end of their lifecycle back to the beginning. The “dinosaurs” among the vendors have understood this – at least in the United States, where Nordstrom, WalMart and, in particular, Macy’s are mutating from department store operators to integrated “no line” retailers – and enjoying quite a renaissance. The benchmark is being set by traditional retailers in the English-speaking countries, including time-honored British houses such as Debenhams and John Lewis. Regrettably, not a single German retailer can be added to this list – instead, they are currently hitting the headlines for blunders, bad luck and bankruptcies.

In view of the current digital hype and the strong competitive pressures, people are beginning to ask whether the online boom has come to an end. In fact, we are still at the start of the digital revolution and anyone who thinks that the digital hype is likely to come to an end in the foreseeable future is most probably in the wrong. The boom has still to reach its peak and today we just cannot imagine which business models will be around in five or even ten years’ time. The smartphone is six years old, real mobile commerce some three years, tablets likewise three years. Who foresaw the boom in these sectors? Over the next few years, in particular, many more strategic windows of opportunity will open up for startups and pioneering companies than during the past few years. Exciting times lie ahead!

LITERATURE REFERENCE

Digitization of retailing with e-pace

The innovative business models which the digital revolution is producing in the e-commerce sector are changing customers’ expectations radically as far as product availability, price transparency, service, and consulting are concerned. In this end-to-end management study, all the relevant factors in innovative e-commerce business models are presented and explained by way of practical, up-to-date examples involving well-known companies in the digital world.

Published by: Prof. Dr. Gerrit Heinemann, Kathrin Haug, Mathias Gehrckens

Professor Dr. Dirk Morschett

CHALLENGES AND SOLUTION CONCEPTS

LOGISTICS IN INTERNATIONAL E-COMMERCE IN 2025



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Professor Dr. Dirk Morschett has been Professor of Management at Fribourg University in Switzerland since 2007. Previously he had been a researcher and consultant at Saarland University's Institute for Commerce & International Marketing from 1996 onward.

He continues to lecture in a number of master programs at home and abroad, specializing in matters of retailing management, consumer behavior and internationalization. He has also been a guest lecturer in Hong Kong, Dublin, Bangkok, Cluj-Napoca, Santiago de Chile, and Lyon. Prof. Dr. Morschett has additionally written or co-authored more than ten books; this includes co-authorship of the study "HandelsMonitor – Mega Trends in Retailing", which was published in 2012.

The principal focus of his work is on retailing management, especially in the fields of online retailing, different retail formats, cooperation, and retail branding. He is also a lecturer, presenter and consultant on these subjects. In this capacity he has undertaken work for DER MITTELSTANDSVERBUND, coop@home, SAP AG, E/D/E, Euro-MAT, Kaufland, VEDES and GS1 Switzerland, for example. He is also a member of the Strategy Advisory Board of retailsolutions, a company headquartered in Zug, Switzerland, and a member of the E-Commerce Expert Group of the international standards organization GS1 (Switzerland).

The dynamic growth in online retailing – Amazon celebrates its 20th birthday this year! – has been having a massive impact on the logistics sector.

Major online vendors have established their own warehousing centers, in some cases even setting up several centers in one country (Amazon is again an example of this), parcel delivery services are expanding steadily in partnership with the online retailers, while multi-channel retailers have begun to link together store logistics and online shop logistics. There can be no doubt that online retailing will continue to grow unabated throughout the next decade. In the author's opinion, by the year 2025 online channels will probably account for a quarter to a third of total sales revenues in the non-food retail sector – possibly with an even higher proportion in certain product groups. In most countries the online retailing of foodstuffs will presumably be on a much less significant scale. These hypotheses are dealt with in detail in *HandelsMonitor*, which is published by the author together with Prof. Dr. Joachim Zentes and others. Accordingly, the primary focus will be on the non-food retailing sector.

So how will e-logistics develop in the future? Forecasts are difficult, especially with such a lengthy timescale.

Disruptive technologies can alter processes radically. For example, at present there is a considerable amount of public debate about 3-D printers, for which some experts predict enormous potential. In the author's view, however, this potential for the mass market is greatly overestimated. It appears highly unlikely that today's typical retail products – foodstuffs, clothing, textiles, DIY articles, electrical equipment, etc. – originated in the printer. And even if this were technically possible in the distance future, would consumers really take delivery of large quantities of the necessary raw materials in order to print their own products from them? Viewed objectively, it seems certain that this will remain a niche market and will not take the place of standard retailing volumes.

With e-logistics there will still be a need to transport products physically from A to B. The principal – and decisive – changes will be point of origin A and terminal point B in these logistics chains (and this change process is already under way). As far as the



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point of origin of the flow of goods is concerned, the internationalization of online retailing will probably bring about the greatest transformations.

*Amazon logistics center,
Bad Hersfeld, Germany*

At present e-commerce is for the most part still confined within national boundaries. According to a recent study undertaken by the European Commission, only about one online retailer in four in the EU sells to customers in other countries.

The main reasons for this are higher costs (especially for logistics), greater risks for retailers (with regard to payments from customers, for example), and the cost of adapting to different rules and regulations in other countries.

It can clearly be assumed here that by the year 2025 cross-border online retailing will have become standard practice. The single European online market will doubtless be in place by then. Barriers will be swiftly removed as a result of customers' wishes to shop abroad (in particular customers in smaller countries with limited national offerings), the European Commission's wish to promote international online competition and to bring the legal provisions into line, technical advances, and continual improvements to logistics services. Even today it is noticeable that online retailers – unlike their stationary counterparts – begin the process of internationalization shortly after going into business.

However, it would be wrong to talk about "globalization". Rather, it is more a matter of transnational regionalization.

For the past decade or so, international management researchers have pointed out that supposed



globalization is in actual fact generally internationalization within one and the same region – or in two regions of the world at most. What has very clearly been demonstrated for the largest global manufacturers and retailers (taking the Fortune 500 list as an example) will no doubt also apply to online retailers in the future. Needless to say there will be exceptions, i.e. online retailers which are successful in all parts of the world, but the majority will – sensibly – concentrate on their own region, whether it be Europe, North America, South-East Asia, etc.

This in turn has consequences for the logistics industry. If online retailing takes place on a regional rather than a global scale, then logistics flows could possibly be centralized for many countries, especially if they belong to regional integration agreements or treaties (e.g. EU, ASEAN, MERCOSUR, NAFTA). In this case the challenge is to optimize the logistics network. How many warehouses should one build? For what products? In what countries? In online retailing, the development of optimal warehouse structures will probably take place at high speed (compared with stationary retailing, for instance). Companies with

pure-play Internet business models will probably proceed quickly, but carefully: where possible, new markets will be served from the existing central warehouse, normally in the domestic market, on an export basis. In cases where it is necessary to have goods available locally in a particular country and the market volumes allow it, it seems advisable – in view of the powerful market dynamics and the uncertainty which this entails – to opt for an outsourcing solution. If the country portfolio has become clear after a number of years and the quantities can be estimated with a reasonable degree of reliability, an optimal warehousing network for all markets in the region can be set up. Not every product needs to be available in every warehouse; it might be advisable to make use of special transnational warehouses for slow-moving merchandise, with only fast-moving goods in the various national warehouses.

At the same time, this means that in 2025 there will be distinct differences in logistics services in the different markets.

Delivery periods in international logistics will of course be shorter, generally speaking. But if goods are unavailable in a particular country, longer

There are, however, at least two challenges which will increasingly be causes of concern if the proportion of online retailing sales in 2025 amounts not to five to ten percent but rather to 25 to 35 percent: namely, deliveries to individual customer households and the volume of road traffic.

delivery periods will still be required. Online retailers will divide their markets into two categories: core markets and “occasional” markets. In their core markets online retailers will probably maintain a central warehouse (or several warehouses), either their own or outsourced, in order to provide same-day deliveries. However, it will hardly be economically viable to maintain warehouse stocks in all foreign markets. So when it comes to decisions on which online retailer is to define specific countries as core markets and thus offer an optimal delivery service, retailers will need to maintain a permanent competitive edge.

A different approach is adopted by “multi-channel retailers” in the stationary retailing sector. By 2025, these retailers will no doubt also be selling online in all those countries where they have a stationary presence. It is already becoming apparent that in this respect they have additional logistics options compared with the so-called pure players. Progressive multi-channel retailers (Macy’s in the United States has been one of the pioneers in this field) are already using their stocks of goods in stores for online retailing purposes; they can dispatch the items from the stores or have them picked up by the customer. These are the areas in which spectacular logistics services (delivery within an hour of placing the order, etc.) are possible. But whether this is an economic proposition is another matter. But in all probability multi-channel retailers will at least be offering customers this as an option in many delivery areas in 2025.

One factor which is closely associated with the international logistics structure is the question of the last mile.

Over the past few years it has become clear that multi-optionality will be the long-term solution concept for customers. Delivery to the home, to a store, to a parcel collection point, etc.: these are solutions that are already possible in a number of countries.

There are, however, at least two challenges which will increasingly be causes of concern if the proportion of online retailing sales in 2025 amounts not to five to ten percent but rather to 25 to 35 percent, namely, deliveries to individual customer households and the volume of road traffic. With an increase of this magnitude, the continuation of

present-day logistics solutions would simply not be possible – completely new concepts are required. In 2025, avoiding unsuccessful delivery attempts because the customer is not at home, avoiding returns, and the efficient “bundling” of deliveries are no longer simply a question of the individual online retailer’s profitability calculations: they are matters which concern society as a whole. Although it is too early today to speculate about operational solution concepts for individual issues (such as parcel boxes for every household), it should soon become apparent over the next few years which of these models shows the greatest promise.

A more fundamental question is the concentration of resources. If, on the one hand, individual online retailers draw their competitive edge increasingly from a superior logistics service and extremely short delivery periods, including deliveries of individual orders by a courier service within one hour, while on the other hand a large number of individual logistics solutions and small-scale deliveries result in chaotic traffic conditions and are not generally popular among customers, then the principal challenge in this scenario over the next decade will be to offer the cross-company bundling of resources, but without leveling out the competitive advantages between online retailers.



Professor Shashi Matta, Fisher College of Business, The Ohio State University
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FIVE CONSUMER TRENDS THAT WILL SHAPE E-COMMERCE

Professor Shashi Matta is a faculty member in Marketing at Fisher College of Business at The Ohio State University. He holds a Bachelors degree in Engineering, an MBA, and a PhD in Business Administration. His industry experience includes positions in brand management, advertising, and as head of marketing operations.

Professor Matta engages extensively with industry through consulting and keynote speaking at companies in the U.S. and around the world on diverse issues and topics relating to marketing strategy, branding and customer experience. He teaches at all levels at Fisher College of Business at The Ohio State University, including in the full-time MBA program, the Undergraduate program, and the Executive Education program, and has won multiple teaching awards.

Professor Matta's research is in the areas of branding, consumer behavior, and services marketing. His research includes an understanding of the cognitive and affective processes that underlie consumers' perceptions of marketing elements and product/service features, and how those perceptions influence evaluations of the brand. His research has been published in the Journal of Marketing, Journal of Consumer Research, Journal of Consumer Psychology, Journal of the Academy of Marketing Science, and Review of Marketing Research.



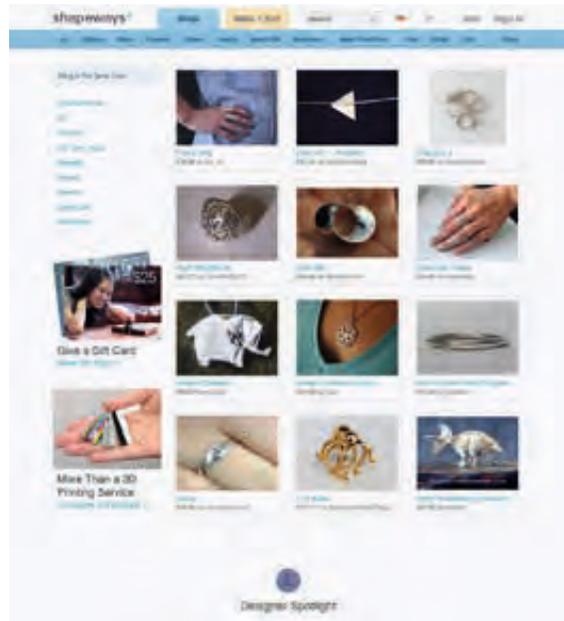
Connor Heaton is a Junior at Fisher College of Business, at The Ohio State University, studying Marketing and Cognitive Science. An alumnus of the Honors Cohort program and member of Fisher's consumer packaged goods industry cluster, he's currently working on the Fisher branding initiative and his own research on packaging and consumption behavior.

Companies, at a frenetic pace, are scrambling to unearth the next big consumer trend that will shape their industry and give them a leg-up to survive, compete and grow.

The desire to uncover future consumer behavior has never been this urgent or this potent. Trend watchers, on the other hand, are increasingly wary that the reports they churn out to these companies forecast trends that are no longer fresh. The challenge is to uncover trends that no longer seem jaded and intuitive by the time a report is compiled. To compose a thought piece on trends that will shape e-commerce in the future is an equally daunting task. After all, industry practitioners accuse academics of producing research and theory that lags practice. Despite these reservations, we present to you five consumer behavior trends that we believe will shape the practice and scope of e-commerce.

1. Crowd-Shaping

Crowd-Sourcing is passé. What it has evolved into, is Crowd-Shaping. Consumers will join, link, connect, fund and shape ideas and products that reflect their preferences as expressed by them. This can happen in small groups (for example, music or food at a local restaurant shaped by regular consumers, entrepreneurs funded by a group of consumers to produce customized, niche products), or large (traffic routing by using vast amounts of cell phone and GPS data, smarter cities shaped by big data on millions of city residents). How does crowd-shaping impact e-commerce? Agile back-end processes of e-commerce websites, that track how products and services are being shaped and changed by consumers, will become the order of the day. Where as successful e-commerce strategies of today focus on learning everything there is to know about each individual consumer and predict their future behavior, crowd-shaping will dictate that e-commerce strategies of tomorrow are able to model and monitor how groups of consumers together shape the very product, its lifecycle, and the demand for it.



Shapeways is a 3D printing and design company that allows consumers to have their product ideas realized and to sell these products directly to other consumers.

2. The Social Marketplace

A social marketplace allows consumer-to-consumer commerce. If eBay was the quintessential social marketplace of the last two decades, meet version 2.0 of the social marketplace – where consumers design and shape products that can then be bought by other consumers. Shapeways, a Dutch founded, New York based 3-D printing marketplace does exactly that. Emerging from the Philips Lifestyle Incubator Program, of Royal Philips Electronics, Shapeways is a 3-D printing and design company that allows consumers to have their product ideas realized and to sell these products directly to other consumers. Consumers design their own 3-dimensional products through rapid prototyping by uploading a design file on to the Shapeways website to 3-D print. These consumers/designers can also sell their own designs to be 3-D printed on demand for other consumers. While Shapeways handles the financial transaction, product printing, distribution, and customer service, profits go to the designer.

How does the rise of social marketplaces impact e-commerce? Consumers designing products and selling directly to each other online makes such a business model contingent upon unknown quantities: a design that's submitted by a consumer could go viral the next instant, or fail to take off. E-commerce firms that embrace the social marketplace model will need real time models for printing and

distribution of products that can span extremely diverse categories. Logistics solutions providers supporting such a model will need to make decisions on where to locate 3-D printing facilities and how to integrate them into a flexible shipping network. 3-D printing and the evolution of social marketplaces will indeed leave their mark on e-commerce of tomorrow.

3. Gamification

Gamification, or the use of game thinking and game mechanics in non-game contexts to engage users, has been successfully utilized by product and service manufacturers and marketers to drive and shape consumer behavior. Loyalty and reward programs, for example, are among the earliest exemplars of this concept. eBay is another – it transformed shopping online into an experience where consumers could compete with other shoppers and win a bid. It turned buying into winning. Yet another successful implementation of gamification is by the floral e-commerce and wire service, Teleflora. The company enhanced its social media efforts by instituting a system that awarded points for activities like writing reviews, comments, and answers to other consumers' questions, with bonuses for being the first to review an item or answer a question. This was coordinated with a leaderboard system with accompanying badges for different performance levels. The firm saw a 105 percent increase in Facebook referrals and a ten-fold increase in picture and video uploads, as well as a conversion rate improvement of 92 percent.

Gamification relies on several core human drives such as scarcity, impulsivity, success, empowerment, and goal-driven behavior. Gamification, as widely as it is being used in e-commerce today, will only amplify, as consumers experience the concept in every sphere of their lives. Gamification is ubiquitous, for example, on mobile apps. How does gamification impact e-commerce? E-commerce companies can use gamification to proactively shape and guide consumer behavior. It can be integrated to drive usage patterns for existing products, encourage specific behaviors like social media engagement or enhance demand for complementary products.

4. Guilt-Free Consumption & Sustainability

Following the global economic downturn in 2008, there was a marked decrease in consumers' conspicuous consumption of luxury products and services. Pragmatic consumption became the norm. However, there seems to be an exception to this trend – if the purchase is perceived to be guilt-free, consumers are willing to purchase premium products and services, and even consume them conspicuously. Tesla's all-electric cars are a symbol of guilt-free luxury consumption. Can companies with visibly sustainable and ethical products and services charge a premium for consumers' conspicuous consumption of these products and services? Consider Fairphone, a smartphone from the Netherlands, which has sold over 25,000 phones since its inception a few months ago. Fairphone's USP is that it is made without using conflict minerals (like gold, tin, tantalum and tungsten) and that its workers work in fair labor conditions. In the e-commerce realm, Warby Parker, which makes prescription eyeglasses and sunglasses, is an early example of guilt-free consumption. For every pair of Warby Parker glasses purchased, a pair is distributed to someone in need. More recently, Singapore based e-commerce retailer, Shop for Social, with its partnership with local social enterprises and nonprofits has successfully sold handicrafts and products across multiple categories.

How will guilt-free consumption affect e-commerce in the future? Packaging and transportation are two highly visible components of an e-commerce business that are subject to scrutiny. Will sustainable packaging and shipping create differentiation in the marketplace? Will consumers pay a premium for visibly sustainable e-commerce practices? As consumers increasingly become eco-conscious, and guilt-free consumption goes mainstream, it will undeniably impact e-commerce.



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5. Hyper-Connectivity

Meet the hyper-connected consumer of today – she watches television on demand on her laptop computer and notices an ad for a travel destination that she bookmarks on her web browser, pulls up that bookmarked website on her tablet device later that night to make flight reservations, and receives an alert on her smartphone on a deal for a rental car to complement her travel. Successful e-commerce businesses have harnessed the power of hyper-connectivity and the vast amounts of real-time data that it affords, through strategies such as behavioral targeting, recommendation agents, dynamic pricing, and dynamic promotions. Managing the consumer journey to deliver a seamless shopping experience regardless of the touch point – in-store, online, mobile – is the current best practice for e-commerce today. How will this evolve in the e-commerce of the future? Hyper-connectivity of the future will take on the added dimension of the industrial Internet – where objects are connected to and communicate with other objects. It amplifies what the consumer Internet has done to e-commerce. Hyper-connected consumers, hyper-connected products, and hyper-connected processes will change the way products and services are anticipated, produced, managed and

delivered. Will a single wearable device connect with everything else in a hyper-connected consumer's world? Time will tell, soon enough. For cutting edge e-commerce companies, Peter Drucker's seminal quote should be the guiding business mantra – "The only way to predict the future is to create it."

Meet the hyper-connected consumer of today – she watches television on demand on her laptop computer and notices an ad for a travel destination that she bookmarks on her web browser.

LOCAL WILL BE A COMPETITIVE BATTLEGROUND

eBay is a synonym for e-commerce. A pioneer for online retailing, who shaped today's e-commerce landscape. Carl Gish, Vice President Global Shipping and Logistics with eBay Marketplaces, talks about his expectations for the future, and the online versus offline predicament.



Carl Gish

Vice President Global Shipping and Logistics at eBay Marketplaces

Mr. Gish, online retailing is on the rise. Is the end of offline retailing in sight?

Traditional retail isn't going away; it is transforming. Not online versus offline – it's online plus offline. Not surprisingly, advancements in how people can shop are leading to more-demanding shoppers. Today's consumers want it all. They want cheaper and faster shipping, better returns, improved customer service, and endless selection. These may seem like the basics of digital commerce, but the bar has been set high, and it is still rising. eBay partners with merchants of all sizes to help grow their businesses by meeting these unique challenges.

What will be the consequence of "online plus offline" for the retail business?

Retailers, brands and smaller sellers must now look for new ways to bring their goods to a more demanding and technology savvy customer. And that requires new thinking; a new way of merging the best of digital and traditional shopping. All of this points to a very exciting – and very different – future for both buyers and sellers.

Does the growing share of e-commerce mean that we will see further local stores closed?

Today, approximately 75 percent of shopping occurs within 15 miles of people's homes. Clearly, people have an affinity for shopping in the stores around them. And retailers have inventory already there

– in local markets – that satisfy most of people's needs and wants. In the commerce revolution, local will be one of the competitive battlegrounds. Local is where and how most people shop and local represents enormous opportunity for eBay. A year ago, we introduced a new service called eBay Now. It was built on the idea that shoppers should be able to shop their local stores – and have items delivered in about an hour. This service provides a channel for retailers to meet the rising expectations of the modern consumer and increase their store sales.

You have mentioned that customers are more demanding than ever. What issues should retailers address to improve the shopping experience?

The most important change we see in the retail space is this rising demand for both utility and engagement. Utility – what buyers and sellers "need" from their shopping experience – includes things that help reduce friction, speed up the shopping process and build trust. Things like fulfillment. Making sure that consumers have choices in how they can get their goods, and have confidence they will receive them quickly and conveniently. Engagement is about the things people "love" about shopping. Things like being inspired, finding something unique to who you are, and stumbling across a great find you didn't even know you wanted. We are harnessing the power of our technology and combining it with human curation to

deliver a more personalized, more relevant, more engaging shopping experience.

Some retailers already implemented this new way of engagement...

Exactly. In the last 18 months, an entirely new category of digital shopping has emerged. This is shopping through browsing, discovery and even entertainment. It is less about fulfilling a mission – a need – and more about fulfilling a want or a passion.

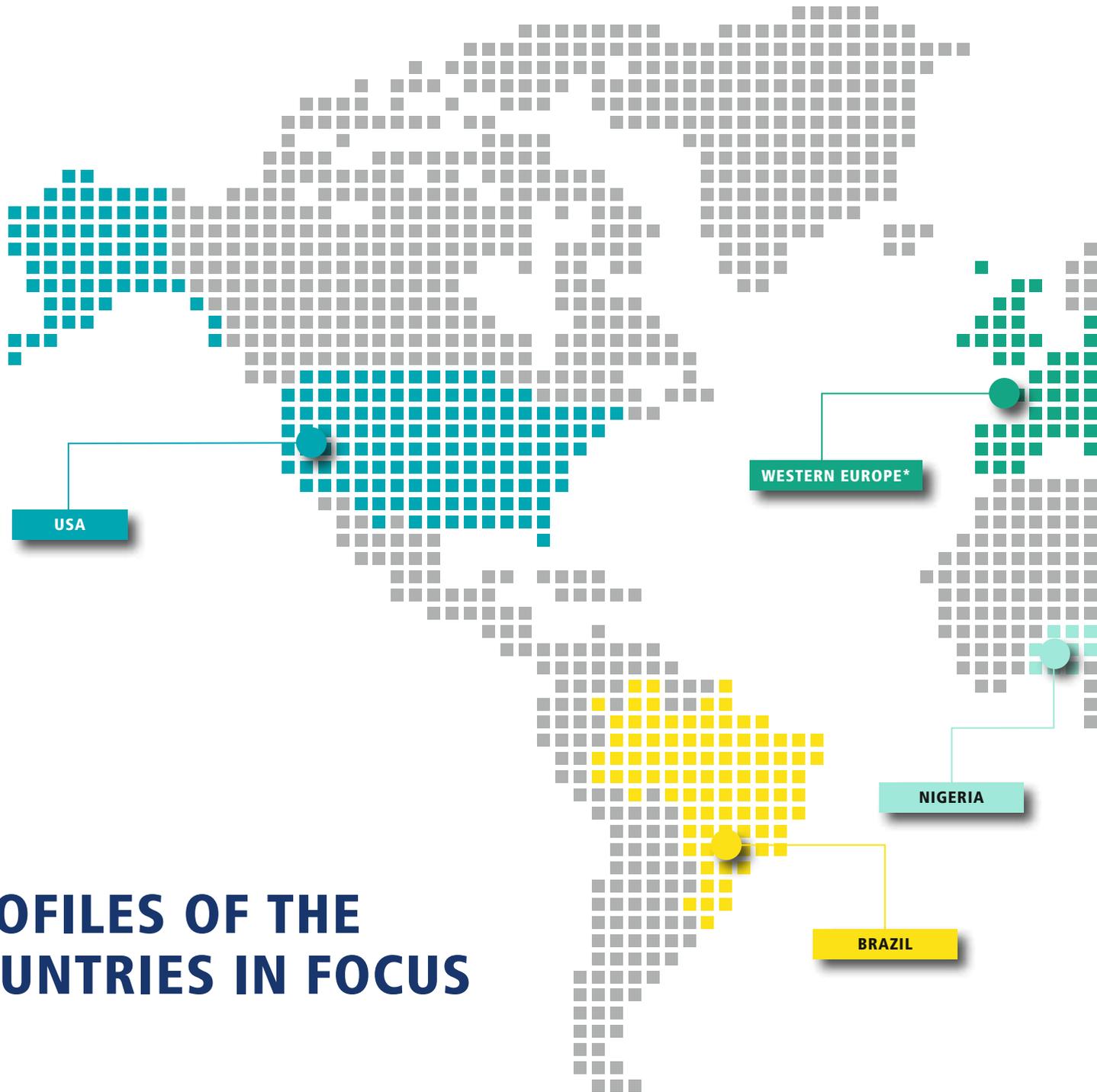
Let's take a look at the bigger picture. What will be the main driver for future growth in online retailing?

The addressable market is rapidly expanding. In the next three years, another billion people will come online – taking the total of connected consumers to nearly half of the world's population. About 91 percent of this Internet user growth will come from BRIC and emerging markets. These same markets are expected to account for almost 60 percent of e-commerce growth. Many of these consumers will connect to the Internet for the first time via a mobile device. Which means brands and retailers will need to be more aware of how to deliver the best experiences to their customers, across screens, languages, cultures and more.

And what's in it for eBay?

It's clear, retail and commerce are fundamentally changing – and technology is the driving force. We

expect this will cause the \$10 trillion commerce market to be turned on its head in the years to come. In 2012, eBay enabled \$175 billion of commerce. Over the next three years, we expect to grow that to \$300 billion of enabled commerce. eBay is actively helping shape the future of commerce and partnering with retailers of all sizes.



PROFILES OF THE COUNTRIES IN FOCUS

The interaction between technological infrastructure, economic power and consumption habits is complex. That is why online shopping is part of everyday life for many people in developed, western-style economies, who are primarily attracted by the convenience of it. Online shopping in many emerging and developing economies, meanwhile, is still in the stages of infancy. Not for long though, since especially in less developed economies, growth expectations for e-commerce are disproportionately high. This is partly

because the trade and transport infrastructure is often only rudimentary. The opportunities for rapidly expanding online retail are higher if fewer goods are available locally. The worldwide rural exodus also supports this development as more and more people move into cities. For commercial enterprises, the formation of new megacities in Asia, South America and Africa means better central access to an increasing number of people. In developed economies, on the other hand, the existing nationwide retail network is increasingly

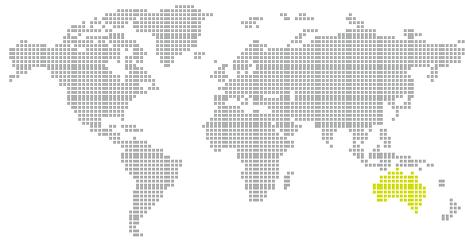


thinning out. The Global E-Tailing 2025 study examined economic parameters, digital indicators and consumption habits in twelve countries and groups of countries across all continents to develop four future scenarios. On the following pages, you will find country-specific core data and a forecast for the year 2025 within the outlined framework of the first scenario “Hybrid Consumer Behavior in Convergent Worlds of Retailing”.

* Western Europe comprises the following countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Portugal, Republic of Ireland, Spain, Sweden and United Kingdom.

** Eastern Europe comprises the following countries: Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia and Turkey.

AUSTRALIA



GENERAL FACTORS

Indicator	Current data		Forecast 2025*	Change
Population	22.3m	(2010)	26.6m	+19 %
Urbanization rate	89 %	(2010)	91 %	+2 %
GDP/	\$902bn	(2011)	\$1,329bn	+47 %
GDP per capita	\$41,461	(2011)	\$53,055	+28 %
Average Household size	2.4 people	(2011)	2.3 people	
Gini coefficient	30.5	(2006)		
Logistics Performance Index	Rank 16 / Score 3.81	(2014)		

*The forecast is based on the study's first scenario "Hybrid Consumer Behavior in Convergent Worlds of Retailing" (see pp. 13–31).

CONSUMPTION

Indicator	Current data		Forecast 2025*	Change
Retail sales per capita	\$11,270	(2011)	\$14,698	+30 %
Disposable household income	\$49,130	(2011)	\$57,043	+16 %
Volume of online retailing	\$29.6 Mrd.	(2011)	medium growth →	

THE DYNAMIC WEST

Australia is a prosperous western-style country. However, the predicted growth rates are considerably higher than in the "traditional" western countries, for example, and indicate not only an increase in population (+19 percent) but also in GDP (+47 percent). This is accompanied by growth in household income, which – not surprisingly – results in a considerable increase in sales revenues in the retailing sector (+30 percent per head). Following on from developments between 2000 and 2011, a high degree of Internet affinity can be anticipated in the future. Even in 2011, three-quarters of Australians are mobile Internet users.

BRAZIL



GENERAL FACTORS

Indicator	Current data		Forecast 2025*	Change
Population	195m	(2010)	216m	+11 %
Urbanization rate	84 %	(2010)	88 %	+4 %
GDP/	\$1,120bn	(2011)	\$2,037bn	+82 %
GDP per capita	\$5,505	(2011)	\$8,785	+60 %
Average Household size	3.4 people	(2011)	2.6 people	
Gini coefficient	51.9	(2012)		
Logistics Performance Index	Rank 65 / Score 2.94	(2014)		

*The forecast is based on the study's first scenario "Hybrid Consumer Behavior in Convergent Worlds of Retailing" (see pp. 13–31).

CONSUMPTION

Indicator	Current data		Forecast 2025*	Change
Retail sales per capita	\$5,514	(2012)	\$8,597	+56 %
Disposable household income	\$10,720	(2011)	\$17,734	+65 %
Volume of online retailing	\$25.6bn	(2011)	medium growth →	

CROSSING THE THRESHOLD

The population grows at a much slower rate (+11 percent), whereas prosperity levels rise sharply: a GDP of +82 percent (+60 percent per capita) indicates that the increasing economic performance is impacting the entire Brazilian society. Accordingly, disposable household income and retail sales per capita will more than double. A reduction in the Gini coefficient to a higher uniform distribution (currently 0.52) can also be expected. Huge increases in Internet usage are possible, since less than half the population has access at present. Relatively few Brazilians have broadband and mobile access.

CHINA



GROWTH IS NORMAL

China is growing – and aging. With a moderate population growth of four percent and smaller-sized households, China will still be a powerhouse on the world stage. This is ensured by the phenomenal 180 percent increase in GDP (+169 percent per capita) and household incomes which have more than trebled. According to forecasts, there will only be a slight downturn in the Chinese tendency to save money, while retail sales will „only“ rise by 162 percent. The 33 percent increase in the urbanization rate means that by 2025 the majority of consumers are city dwellers and Internet users. In China the Internet is primarily a mobile medium: 30 percent of usage is mobile, although only 38 percent of the population have access, i.e. there is immense scope for growth too.

GENERAL FACTORS

Indicator	Current data		Forecast 2025*	Change
Population	1,341bn	(2010)	1,395bn	+4 %
Urbanization rate	49 %	(2010)	65 %	+33 %
GDP/	\$4,189bn	(2011)	\$11,748bn	+180 %
GDP per capita	\$3,134	(2011)	\$8,423	+169 %
Average Household size	3.1 people	(2010)	2.9 people	
Gini coefficient	48.0	(2009)		
Logistics Performance Index	Rank 28 / Score 3.53	(2014)		

*The forecast is based on the study's first scenario "Hybrid Consumer Behavior in Convergent Worlds of Retailing" (see pp. 13–31).

CONSUMPTION

Indicator	Current data		Forecast 2025*	Change
Retail sales per capita	\$1,702	(2010)	\$2,752	+162 %
Disposable household income	\$4,000	(2010)	\$13,784	+345 %
Volume of online retailing	\$37.2bn	(2011)	high growth ↗	

EASTERN EUROPE

Eastern Europe comprises the following countries: Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia and Turkey.



PROGRESS – WITH A STAGNATION FACTOR

In eastern Europe, people will benefit from economic growth which is high by European standards – albeit starting from a fairly low level. Since there is no growth in population, the 63 percent increase in GDP is distributed over the same number of residents, which in turn means a 64 percent rise in household income by the year 2025. The trend toward urbanization continues on a moderate scale in eastern Europe: three-quarters of the population will be city dwellers, according to predictions for 2025. Most people are Internet users and almost one person in five has a broadband connection. There is a significant level of mobile usage – currently 17 percent.

GENERAL FACTORS

Indicator	Current data		Forecast 2025*	Change
Population	174m	(2012)	174m	0 %
Urbanization rate	67 %	(2011)	76 %	+15 %
GDP/	\$1,598bn	(2011)	\$2,609bn	
GDP per capita	\$9,184	(2011)	\$14,994	+63 %
Average Household size	2,6 people	(2011)	2.5 people	
Gini coefficient	30.7	(2011)		
Logistics Performance Index	Rank 40 / Score 3.31	(2014)		

*The forecast is based on the study's first scenario "Hybrid Consumer Behavior in Convergent Worlds of Retailing" (see pp. 13–31).

CONSUMPTION

Indicator	Current data		Forecast 2025*	Change
Retail sales per capita	–		–	–
Disposable household income	\$15,523	(2011)	\$25,436	+64 %
Volume of online retailing	\$11.8bn	(2011) ¹	medium growth →	

¹missing data for Bulgaria, Estonia, Latvia, Lithuania, Slovenia, Source: Household income: <http://www.oecdbetterlifeindex.org>

INDIA



GENERAL FACTORS

Indicator	Current data		Forecast 2025*	Change
Population	1,225bn	(2010)	1,459bn	+19 %
Urbanization rate	31 %	(2010)	37 %	+20 %
GDP/	\$1,334bn	(2011)	\$3,649bn	+174 %
GDP per capita	\$1,122	(2011)	\$2,613	+133 %
Average Household size	4.8 people	(2007)	3.7 people	
Gini coefficient	36.8	(2004)		
Logistics Performance Index	Rank 54 / Score 3.08	(2014)		

*The forecast is based on the study's first scenario "Hybrid Consumer Behavior in Convergent Worlds of Retailing" (see pp. 13–31).

CONSUMPTION

Indicator	Current data		Forecast 2025*	Change
Retail sales per capita	\$447	(2010)	\$1,265	+283 %
Disposable household income	\$1,420	(2011)	\$3,529	+249 %
Volume of online retailing	\$10.0bn	(2011)	medium growth →	

SLUMBERING GIANT

The population of India is forecast to exceed that of China by the year 2025 – thanks to a growth rate of 19 percent – but in economic terms China will still outperform the subcontinent. In 2025, even a 174 percent increase in GDP will not be sufficient for India to reach the level which China has attained in 2013. In India, the response to increasing household income (+249 percent) is quite different, with the primary focus on consumption. Thus, retail sales grow at a higher rate than household income. With a low rate of urbanization and moderate growth, the Internet community in cities remains small: only 10 percent of the population has access and only one person in 100 has a broadband connection.

INDONESIA



GENERAL FACTORS

Indicator	Current data		Forecast 2025*	Change
Population	240m	(2010)	272m	+13 %
Urbanization rate	50 %	(2010)	60 %	+21 %
GDP/	\$402bn	(2011)	\$854bn	+112 %
GDP per capita	\$1,632	(2011)	\$3,084	+89 %
Average Household size	3.9 people	(2010)	3.4 people	
Gini coefficient	36.8	(2009)		
Logistics Performance Index	Rank 53 / Score 3.08	(2014)		

*The forecast is based on the study's first scenario "Hybrid Consumer Behavior in Convergent Worlds of Retailing" (see pp. 13–31).

CONSUMPTION

Indicator	Current data		Forecast 2025*	Change
Retail sales per capita	\$990	(2010)	1,408	+42 %
Disposable household income	\$2,940	(2011)	5,834	+98 %
Volume of online retailing	\$1.4bn	(2011)	medium growth →	

STEADY UPWARD TREND

A steady, positive trend, with GDP more than doubling, is forecast for the island state. And Indonesians enjoy the benefits of this development: average household income almost doubles. But since income as a whole remains modest in 2025 at less than \$6,000, retail sales do not grow to the same extent. The 60 percent urbanization rate is indicative of the fact that by 2025 Indonesia has made the rapid transition to a largely city-dwelling society. On the other hand, the Internet community is still developing: although almost twice as many people (18 percent) have Internet access as in India, broadband connections are few and far between and only a very limited number of Indonesians have mobile Internet access.

NIGERIA



POPULATION SIZE AN INHIBITING FACTOR

Nigeria, the oil-rich African country, enjoys a very favorable economic growth forecast – with a 91 percent rise in GDP. However, this wealth is distributed unevenly and is swallowed up by the steep rise in population (+45 percent) which is anticipated. As a consequence, the per-capita GDP goes up by 35 percent. The increases in disposable household income (+29 percent) and retail sales per capita (+38 percent) come close to this level. By 2025, according to forecasts, more than half the population will reside in major conurbations. A comparatively high level of Internet usage is evident: even in 2011, just under one-third of Nigerians have (mainly mobile) Internet access.

GENERAL FACTORS

Indicator	Current data		Forecast 2025*	Change
Population	158m	(2010)	230m	+45 %
Urbanization rate	49 %	(2010)	58 %	+18 %
GDP/	\$167bn	(2011)	\$319bn	+91 %
GDP per capita	\$1,010	(2011)	\$1,360	+35 %
Average Household size	4.4 people	(2008)	3.6 people	
Gini coefficient	43.7	(2003)		
Logistics Performance Index	Rank 75 / Score 2.81	(2014)		

*The forecast is based on the study's first scenario "Hybrid Consumer Behavior in Convergent Worlds of Retailing" (see pp. 13–31).

CONSUMPTION

Indicator	Current data		Forecast 2025*	Change
Retail sales per capita	\$675	(2011)	\$931 (2025)	+38 %
Disposable household income	\$1,280	(2011)	\$1,654 (2025)	+29 %
Volume of online retailing	–		medium growth →	

RUSSIA



FEWER PEOPLE, GREATER PROSPERITY

By 2025, the population of this vast country will have declined, while the number of urban dwellers will have increased. GDP growth of 67 percent is comparable with eastern European levels, but the per-capita figure is higher as a result of the decrease in population. But prosperity is unevenly distributed in Russia. Consumerism plays a key role in this massive country. By 2025, per-capita retail sales will have grown more strongly than disposable household income, according to predictions. Less than half the population are Internet users: 49 percent. The use of new technologies such as broadband and mobile web access remains the domain of a technically minded minority.

GENERAL FACTORS

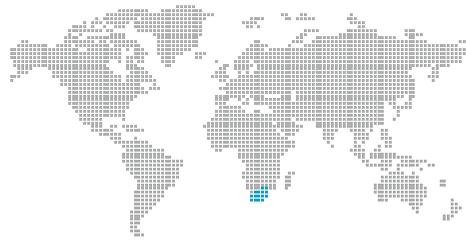
Indicator	Current data		Forecast 2025*	Change
Population	143m	(2010)	139m	–3 %
Urbanization rate	74 %	(2010)	77 %	+4 %
GDP/	\$944bn	(2011)	\$1,578bn	+67 %
GDP per capita	\$6,627	(2011)	\$11,263	+70 %
Average Household size	2.8 people	(2005)	2.6 people	
Gini-Index	42	(2010)		
Logistics Performance Index	Rank 90 / Score 2.69	(2014)		

*The forecast is based on the study's first scenario "Hybrid Consumer Behavior in Convergent Worlds of Retailing" (see pp. 13–31).

CONSUMPTION

Indicator	Current data		Forecast 2025*	Change
Retail sales per capita	\$6,447	(2011)	\$11,467	+78 %
Disposable household income	\$10,730	(2011)	\$18,412	+72 %
Volume of online retailing	\$11.0bn	(2011)	medium growth →	

SOUTH AFRICA



GENERAL FACTORS

Indicator	Current data		Forecast 2025*	Change
Population	50.1m	(2010)	53.7m	+5 %
Urbanization rate	62 %	(2010)	68 %	+10 %
GDP/	\$297bn	(2011)	\$530bn	+79 %
GDP per capita	\$6,070	(2011)	\$10,876	+79 %
Average Household size	3.6 people	(2011)	2.7 people	
Gini coefficient	65	(2005)		
Logistics Performance Index	Rank 34 / Score 3.43	(2014)		

*The forecast is based on the study's first scenario "Hybrid Consumer Behavior in Convergent Worlds of Retailing" (see pp. 13–31).

CONSUMPTION

Indicator	Current data		Forecast 2025*	Change
Retail sales per capita	\$2,914	(2011)	\$4,809	+65 %
Disposable household income	\$6,960	(2011)	\$13,044	+87 %
Volume of online retailing	\$1.5bn	(2011)	medium growth →	

DEVELOPMENT AFFECTED BY UNEVEN DISTRIBUTION

Against a background of moderate population growth in Africa, an impressive 79 percent GDP growth rate is forecast. An increase in population is therefore not a significant barrier to dynamic growth in Africa's southernmost country. The pivotal factor is the extremely uneven distribution of goods – the Gini coefficient is 0.65. Although household income grows statistically by 87 percent up to 2025, growth in retail sales is well below this level. The number of people able to purchase top-quality consumer goods remains limited. Accordingly, Internet usage is not widespread: only about one-fifth of South Africans have Internet access, though more than half of these users have mobile web access.

SOUTH KOREA



GENERAL FACTORS

Indicator	Current data		Forecast 2025*	Change
Population	48.2m	(2010)	50.2m	+4 %
Urbanization rate	83 %	(2010)	86 %	+4 %
GDP/	\$1,055bn	(2011)	\$1,679bn	+59 %
GDP per capita	\$21,630	(2011)	\$34,004	+57 %
Average Household size	2.7 people		2.3 people	
Gini coefficient	31	(2010)		
Logistics Performance Index	Rank: 21 / Score: 3.67	(2014)		

*The forecast is based on the study's first scenario "Hybrid Consumer Behavior in Convergent Worlds of Retailing" (see pp. 13–31).

CONSUMPTION

Indicator	Current data		Forecast 2025*	Change
Retail sales per capita	\$5,151	(2011)	\$8,385	+63 %
Disposable household income	\$13,100	(2010)	\$22,943	+75 %
Volume of online retailing	\$16.7bn	(2011)	high growth ↗	

ECONOMIC POWERHOUSE WITH STRONG FORECAST

The East Asian "tiger state" has a highly developed economy and yet it posts a powerful GDP growth rate of 59 percent. This is accompanied by increases in both disposable household income and per-capita retail sales – the former by three-quarters, the latter by a lesser amount. In South Korea the Internet is already in common use today: after all, the country is one of the world's main suppliers of smartphones. 84 percent of the population have Internet access and more than one-third of South Koreans have broadband connections (in fact, until 2006 South Korea boasted more broadband connections per head than any other country). More than half of South Koreans have mobile Internet access.

USA



THE DYNAMICS OF AN INTERNET NATION

The forecast for what is still the world's largest economy is a clear indication that even the global leader can provide powerful impetus for growth. GDP is set to grow by 43 percent and Americans can look forward to a one-third rise in disposable household income. Although the USA is a mature industrialized nation, a relatively significant increase in population is predicted for 2025, namely 13 percent, i.e. three times higher than in western Europe. Without doubt, this will give strength to the dynamic economic growth which is anticipated. As the cradle of the digital era, the country has had a very high level of Internet usage from the outset – and it still has: more than three-quarters of the population have access, 27 percent via broadband. The proportion of Americans with mobile Internet access is close to 50 percent. This is reflected in the very large volume of online retailing, which exceeded \$300bn in 2011.

GENERAL FACTORS

Indicator	Current data		Forecast 2025*	Change
Population	311m	(2010)	350m	+13 %
Urbanization rate	82 %	(2010)	85 %	+3 %
GDP/	\$13,299bn	(2011)	\$19,035bn	+43 %
GDP per capita	\$42,620	(2011)	\$55,327	+30 %
Average Household size	2.6 people	(2012)	2.5 people	
Gini coefficient	45	(2007)		
Logistics Performance Index	Rank: 9 / Score: 3.92	(2014)		

*The forecast is based on the study's first scenario "Hybrid Consumer Behavior in Convergent Worlds of Retailing" (see pp. 13–31).

CONSUMPTION

Indicator	Current data		Forecast 2025*	Change
Retail sales per capita	\$15,113	(2011)	\$20,016	+32 %
Disposable household income	\$38,100	(2012)	\$48,774	+28 %
Volume of online retailing	\$311bn	(2011)	high growth ↗	

WESTERN EUROPE

Western Europe comprises the following countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Portugal, Republic of Ireland, Spain, Sweden and United Kingdom.



HIGH LEVEL WITH MODEST UPWARD TREND

Economically, western Europe can be described as "saturated" and the outlook for 2025 provides for only moderate growth. This applies not only to GDP but also to disposable household income and retail sales. All forecasts are within the range of 20 to 27 percent. Population growth is also low, at just four percent. In 2011, Internet usage in western Europe reached levels comparable with the "online nation" USA: three-quarters of the population have web access. Broadband and mobile usage is well established. All this despite the fact that western Europe entered the digital era later than the land of Silicon Valley. On the other hand, online retailing at just under €300 billion has not quite reached U.S. levels (absolutely and per capita).

GENERAL FACTORS

Indicator	Current data		Forecast 2025*	Change
Population	401m	(2012)	417m	+4 %
Urbanization rate	76 %	(2011)	79 %	+4 %
GDP/	\$13,533bn	(2011)	\$16.837bn	+24 %
GDP per capita	\$33,003	(2011)	\$39,677	+20 %
Average Household size	2.3 people	(2011)	2.2 people	
Gini coefficient	30.7	(2011)		
Logistics Performance Index	Rank 17 / Score 3.8	(2014)		

*The forecast is based on the study's first scenario "Hybrid Consumer Behavior in Convergent Worlds of Retailing" (see pp. 13–31).

CONSUMPTION

Indicator	Current data		Forecast 2025*	Change
Retail sales per capita	\$8,781	(2009)	\$11,163	+27 %
Disposable household income	\$25,641	(2011)	\$30,826	+20 %
Volume of online retailing	\$298.0bn	(2011)	medium growth →	

APPROACH AND METHODOLOGIES

“Global E-Tailing 2025” examines the development potential of international e-tailing in the business-to-consumer segment up to the year 2025 and the resulting impact on the logistics sector. Based on four explorative scenarios, the study describes possible perspectives for e-tailing in the medium and long term, without claiming to make a valid forecast.

Within the framework of applied future studies methods, scenarios have been widely used among companies, public administrations and other organizations for years. They are a useful tool for the long-term planning or launch of new products. Scenarios are self-contained alternative visions of the future. Not only does the scenario method map a possible future: it presents alternative views of the future which indicate potential trends and challenges. The scenario process on which the study is based was developed and implemented by the Germany-based Z_punkt GmbH – The Foresight Company at the request of Deutsche Post DHL (see Table 2).

From abstract developments to concrete examples

Interviews with experts in both the theoretical and practical aspects of retailing and with logistics experts of Deutsche Post DHL, together with ethnographic trend scouting in major cities in 12 focus markets (see Table 1), form the basis for the scenarios. With the integration of trend scouting based on ethnographic interviews, this scenario process features an innovative expansion as far as methodology is concerned.

From environmental analysis to raw scenarios

The structure of the scenario process was based on the typical pattern for the exploration of alternative visions of the future. The key questions are as follows:

1. In what ways can the economic, political and social environments develop between now and 2025?
2. Under these conditions, in what ways will retailing structures change between now and 2025?
3. What significance will these changes have for the logistics industry?

The first step in the environmental analysis was the identification of 38 relevant factors influencing e-tailing. Following an uncertainty-impact analysis and a workshop with experts from Deutsche Post

TABLE 1

Focus countries and major cities for trend scouting

Focus country	Metropolis
Australia	Sydney
Brazil	São Paulo
China	Shanghai
Eastern Europe	Istanbul
India	Bangalore
Indonesia	Jakarta
Nigeria	Lagos
Russia	Moscow
South Africa	Cape Town
South Korea	Seoul
Western Europe	London
USA	New York

TABLE 2

Process Steps – E-Tailing 2025

Process step	Result	Procedure
Scanning of influencing factors	<ul style="list-style-type: none"> • 38 influencing factors • Including six givens (= certain factors) 	<ul style="list-style-type: none"> • STEEP analysis (identification of social, technological, economic, ecological and political factors) • Uncertainty-impact analysis (online-based) • Workshop with internal experts
Selection of key factors	<ul style="list-style-type: none"> • 14 key factors 	<ul style="list-style-type: none"> • Analysis of interdependency
Creating projections	<ul style="list-style-type: none"> • Two or three alternative projections (= future developments) per key factor 	<ul style="list-style-type: none"> • Interviews with external scientific experts and customer experts • Workshop with internal experts
Selection of raw scenarios	<ul style="list-style-type: none"> • Four raw scenarios 	<ul style="list-style-type: none"> • Consistency analysis • Workshop with internal experts
Description of the scenarios and deriving implications for logistics	<ul style="list-style-type: none"> • Formulated pictures of the future • Major city spotlights from trend scouting 	<ul style="list-style-type: none"> • Interviews with internal regional experts • Ethnographic trend scouting in twelve major cities • Workshop with internal experts

DHL and Z_punkt, it was possible to reduce this list to 23 factors. Six more “certain” influencing factors were included, whose development up to the year 2025 could – with a high degree of probability – be taken as given, for instance development of the global population, transportation and goods flow systems, and traffic infrastructures (see Tables 3 and 5). In future research terminology, “givens” is the term used for the certain framework conditions that are of equal importance for all alternative images of the future.

In order to further define the key influencing factors and to identify the most powerful drivers of future developments in the e-tailing sector, the interdependencies of the 23 “uncertain” factors were analyzed. Software-based analysis of these interdependencies pinpointed 14 key factors, for which alternative future projections were made (see Table 3). These projections were identified, discussed and analyzed through interviews with experts. In addition to well-known scientists, Deutsche Post DHL customers and internal experts were interviewed. Based on statements by these experts, 40 individual projections were made, distributed over the 14 key factors to produce the morphological box (see Table 4) which forms the

plausible scope of feasibility for the future of e-tailing in 2025.

A software-based consistency analysis checks a key factor’s projections, together with all the projections of every other key factor, in order to establish that there are no contradictions. All the projection clusters, i.e. the consistent combinations of characteristics of the different key factors, form the sum total of the scenarios which are theoretically possible.

In addition to the criterion of the scenarios’ internal homogeneity or consistency, further criteria were postulated in a workshop of all involved experts and the Foresight agency. In this workshop assumptions about the causalities or the “logic” of the individual scenarios and developments were discussed. The experts also developed and elaborated on the potential implications of these future developments for the logistics industry. Altogether, the four identified scenarios cover the complete morphological box, with the result that all plausible projections of the key factors are reflected in at least one of the scenarios.

TABLE 3A

Key Factors

Key factors	Definition
Customer requirements	Dominance and distribution of traditional customer expectations (range, price and quality of products and services) and the relevance of service, safety, security and experience aspects with respect to the products and transactions before, during and after the purchase.
Consumption patterns	Dominance and influence of the value systems, lifestyles and developed mindsets/habits of consumers (e.g. materialistic status orientation or post-materialistic sustainability orientation) on purchasing behavior and the corresponding expenditure structure relative to different product categories (e.g. FMCG) and basic services (e.g. mobility).
Digital communication patterns	Diversity and usage intensity of different digital communication formats and the resulting changed, speedier communication behavior in the form of e-mails, messaging, social media, social networks, etc.
Devices/terminal equipment and user interfaces	Diversity and significance of digital communication devices/terminal equipment (smartphones, tablets, data glasses, etc.) and the evolution of user interfaces (e.g. man-machine communication, voice control, touchscreens, holographic elements).
Ambient intelligence	Progress in the degree of ambient networking through the use of RFID, near field communication, sensor systems and the digital networking of devices and "intelligent" objects (the Internet of Things).
Web technologies	Development, acceptance and usage domains of technologies and platforms in the Internet: centralized/closed versus decentralized/open concepts with their impact on the number and independence of digital marketplaces and media.
Data management	Progress in and utilization of intelligent knowledge-based systems (semantic web, AI and agent technology) for the analysis and efficient use of large volumes of data (e.g. pattern recognition -> data mining and reality mining) and as a means of ensuring data security (e.g. the security of digital/mobile payment systems).
Economic development	Speed and variance of real GDP (gross domestic product) growth, both globally and regionally.
Development and distribution of income	Development of relative household incomes and size of the middle class and income disparity in different regions of the world (absolute income can be calculated from the combination of income distribution and economic development).
Innovation dynamics	Intensity, primary focus and quality of the innovation activities of companies, measured by the average duration of innovation cycles, the sector with the highest number of patent applications, and the proportion of radical as opposed to incremental innovations.
Availability and price of raw materials	Development of the availability and prices of raw materials (metals, oil and other energy sources), particularly in view of growing demand from emerging countries, the increase in efficiency measures, and the discovery of new sources.
Development of foreign trade policy	Increase/decrease in and forms of tariff-related and non-tariff-related trade barriers, especially with respect to protectionist tendencies and the harmonization of trade between nations and within regional alliances.
Data and consumer protection	Legal regulations for data and consumer protection and consumer information (labeling of goods, data security, customers' rights, etc.).
Regulation of postal and parcel markets	National and international legal regulation of letter and parcel mail, particularly in the light of competition policy and standardization of the products and services available.

The future has already begun

The next step involved expanding the four raw scenarios with the addition of regional characteristics and concrete examples. The findings already derived from interviews with experts and from the scenario workshop were used for this. In addition, further interviews were held with regional Deutsche Post DHL management. The key element in this process stage was ethnographic trend scouting in the selected major cities in the focus countries (see Table 1). The world's metropolises serve as a seismograph for the future as it develops. The trend agency SEE MORE compiled "metropolis reports" which provided an insight into the most recent developments in e-tailing at local level. It undertook open, structured interviews; questioned and monitored people in the various large cities; and researched their attitudes and wishes with respect to web-based retailing.

The consumer insights and examples collected by the trend scouts can be regarded as initial signs of the way in which the future has already begun. Forms of customer behavior that are currently visible are interpreted with regard to their relevance for the future. Thus, they not only make it easier to think beyond specific examples of applications in everyday e-tailing, but also provide a clearer

insight into the possible development paths from now until the relevant scenario in 2025. The consumer insights enable links to be established from the present to a longer-term future and also increase the plausibility of the scenarios that have been developed. The methodological combination of the scenario technique and ethnographic trend scouting has therefore proven to be a crucial innovation and a major asset in the compilation of this future study.

In 1952, the futurologist Robert Jungk, who would have been 100 years old this year, stated: "Tomorrow is already here, but it disguises itself as harmless, it is masked and exposed behind the familiar. The future is not utopia, cleanly replaced by the relevant present: the future has already begun." The scenario process for this study takes its cue from this thesis.

TABLE 3B

Givens

Givens	Definition
Development of global population	Increase/decrease in global population, taking due account of regional variations and the composition of age structures.
Urban and rural population	Quantitative and qualitative development of the urban population in comparison with the rural population: growth of cities, increase in the proportion of city dwellers, spread of urban lifestyles to neighboring regions which had previously been rural.
Family and household structures	Quantitative and qualitative change in lifestyles, taking due account of different types of households: in addition to "traditional" families, this includes singles; unmarried cohabiting couples with or without children; patchwork families; single parents.
ICT infrastructures	Architecture, availability and performance capabilities of IT systems and communication networks in terms of the development of computing capacity, bandwidth, memory capacity, and network configuration (decentralized versus centralized, e.g. cloud computing).
Transportation and goods flow systems	Technological development and degree of usage of intelligent transportation and goods flow systems, especially in connection with intralogistics, city logistics and the "last mile" in rural areas, but also tracking & tracing across the entire delivery process.
Traffic infrastructures	Development status and condition of traffic infrastructures (road, rail, water), for long-distance, inner-city and rural/regional traffic.

TABLE 4

Morphological Box

Key factors	Projection 1	Projection 2	Projection 3
Customer requirements	Dominance of price and convenience	Strongly safety and security oriented	Status and prestige versus experience and authenticity
Consumption patterns	Global hybrid consumer world	Regionally varied consumption ¹	Regionally varied, but globally sustainable ²
Digital communication patterns	Digital saturation	Digital "high culture"	Digital differentiation
Devices/terminal equipment and user interfaces	Differentiation of digital devices	Invasion of embedded interfaces	
Ambient intelligence	Increasing networking and transparency	Internet of Things	Digital nervous system
Web technologies	Pluralism in the open Web 3.0	High concentration in Web 3.0	Monocultural Web 3.0
Data management	Big Data Basic	Big Data Premium	Big Data Intelligence
Economic development	Stabile global economy ³	Global boom thanks to emerging countries	Extended global stagnation
Development and distribution of income	Global class society	Leveling in regions	Broad global middle class
Innovation dynamics	ICT focus, speedier, networked, incremental	Disruptive, speedier, networked	Transition from ICT to a new era
Availability and price of raw materials	Dramatic shortages, energy prices Factor 2	Transformation in efficiency, energy prices increase up to Factor 1.5 ⁴	Transformation in efficiency, new sources, falling prices ⁵
Development of foreign trade policy	Further liberalization ⁶	Subtle protectionism between trading blocks	Open protectionism
Data protection (DP) and consumer protection (CP)	DP: stagnation/erosion, CP: upward trend ⁷	DP: improvement, CP: upward trend ⁸	DP: clearly stronger, CP: upward trend ⁹
Regulation of postal and parcel markets	Competition-friendly regulation	Partial monopoly	

1 Regionally varied consumption of basic goods and hedonistic and individualized lifestyle products

2 Regionally varied but global sustainability course in consumption

3 Stable global economy with slightly decreasing growth in China

4 Transformation in efficiency, energy price increase up to Factor 1.5

5 Transformation in efficiency, new sources of raw materials and declining energy prices

6 Further liberalization of international trade

7 Data security: from stagnation to erosion; consumer protection: on the increase

8 Improvement in data security, increased consumer protection

9 Marked improvement in data security, increased consumer protection

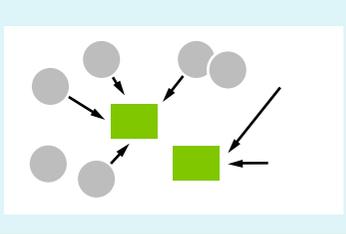
TABLE 5

Givens – Certain Framework Conditions

Givens	Projection
Development of global population	By 2025, the world's population will have grown to more than eight billion. The main growth regions are Asia and Africa, while populations in Europe are either stagnating or even declining.
Urban and rural population	The level of urbanization continues to increase worldwide. Whereas in the emerging countries the economic benefits are attracting people to the cities, the main drivers in the developed countries are aging populations and the desire for a better quality of life.
Family and household structures	The trend toward smaller average household sizes continues up to 2025. The ongoing spread of individualized, western lifestyles is reflected in the diversity of family structures.
ICT infrastructures	The availability and performance capabilities of IT systems are increasing continuously, although the speed of development slows down slightly after 2013. Continued expansion of communication networks and greater bandwidth, but many rural areas still remain "cut off".
Transportation and goods flow systems	Efficiency-enhancing creation and restructuring of transportation and goods flow systems, especially at (intermodal) interfaces. Tracking & tracing is becoming a standard feature for almost all goods and products.
Traffic infrastructures	Continued expansion of traffic infrastructures worldwide. However, in the emerging countries the development of these infrastructures cannot keep pace with demand, whereas in the developed economies financial shortages in the public sector lead to inadequate maintenance of the traffic infrastructures.

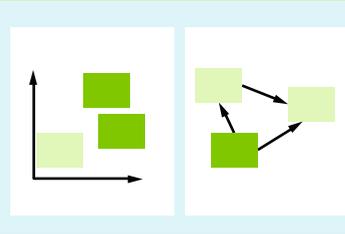
BRIEF DESCRIPTION OF THE PROCESS

1. Influencing factors



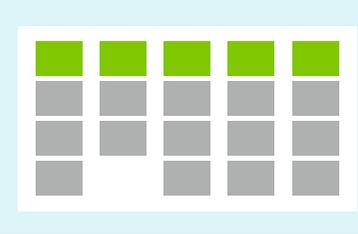
- Field scanning produced 38 relevant factors.
- As a result of the uncertainty-impact analysis and the findings of the expert workshop, this was reduced to 23 influencing factors whose occurrence by the year 2025 is uncertain, and six factors which are considered to be certain.

2. Key factors



- Determining 14 key factors by means of expert assessments and analysis of interdependency.

3. Projections



- Evaluating possible development paths for the key factors (projections) on the basis of surveys of experts. A total of 40 projections were compiled.

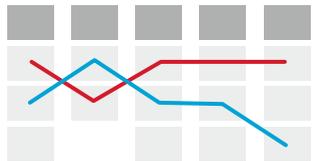
1. First of all, the principal influencing factors were identified on the basis of a field analysis.
2. 3. A software-supported analysis of interdependencies, coupled with internal and external interviews with experts, provided the database for the determination of key factors and their future development (future projections).
4. On this basis, it was possible to develop raw scenarios with the aid of a software-supported consistency analysis. The projections for a key factor were checked with all the projections of the other key factors to ensure that there were no contradictions.
5. Expansion and drilldown of the raw scenarios were facilitated by specific regional characteristics and concrete examples. The pivotal new element in this process step was the integration of ethnographic trend scouting.
6. The outcome of all this was four future scenarios. In a final impact analysis, the effects of the different scenarios on logistics were examined.

4. Raw scenarios

	1	2	0	0	2
	3	-3	1	1	-3
	-3	2	3	2	2

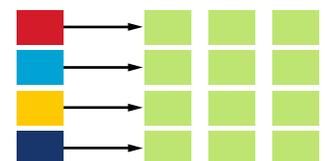
- Carrying out a consistency analysis for the projections.
- Using the findings of the analysis for the development of four raw scenarios.

5. Final scenarios



- Raw scenarios are developed into detailed scenarios by incorporating specific regional characteristics and concrete examples.
- The prime innovation and the key element in this process step was the ethnographic trend scouting in the selected metropolises in the focus countries.

6. Effects



- Working out the strategic implications of the individual scenarios for the logistics industry based on the assessment by management.

7. Publication



- Collation of the scenarios and implications in the definitive publication

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The strategy and foresight consultancy Z_punkt also played a pivotal role in the development of the scenarios, controlling the scenario process skillfully and – together with SEE MORE trend researchers – enhancing this process with the findings obtained by trend scouts operating on all continents.

Finally, Doc Robert's illustrations combine terms, definitions, symbols and everyday items from the worlds of online and offline retailing with unorthodox designs featuring artistically created 3-D effects.

Any questions or comments relating to the study? Please get in touch with us:

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