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Chief Investment Office GWM
Investment Research

E-commerce – update

Longer Term Investments

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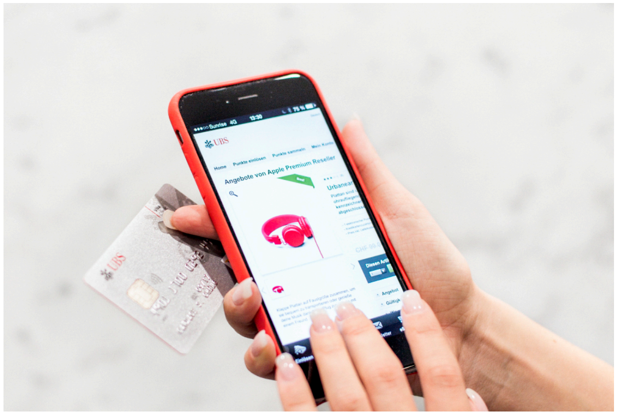
- The global e-commerce market is worth an estimated USD 5tr in 2021, or almost 20% of total retail sales. We expect that figure to climb to more than USD 7tr by 2025, accounting for 25% of total retail sales. In our view, the e-commerce theme offers attractive long-term investment opportunities.
- The COVID-19 pandemic has accelerated the already existing structural trend of shoppers shifting online. We expect e-commerce to grow over 10% annually over the next 10 years thanks to rising smartphone and internet penetration, technological advances, and improving consumer convenience.
- We have compiled a reference list showing relevant publicly traded companies with exposure to e-commerce. Please note that this list is only for reference and is not a recommendation list.



Source: UBS Photo Database

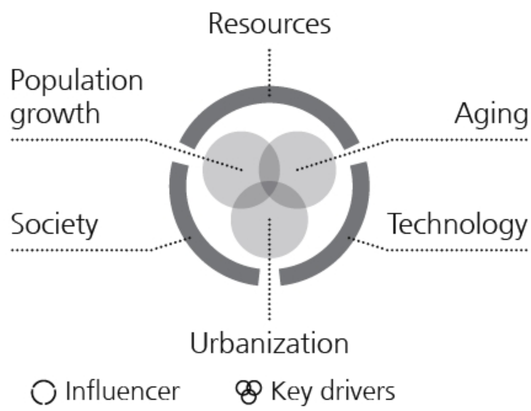
Our view

Consumer behavior is changing as goods are increasingly bought online. Greater smartphone penetration has dissolved boundaries of time and place, enabling consumers to buy products whenever and wherever they choose. Manufacturers and retailers can offer a larger range of goods online without having to invest in new stores. Large urban areas lend themselves to efficient product delivery.

Emerging market (EM) population growth is boosting sales volumes, with the growing EM middle class providing an attractive sales tailwind for consumer companies. The rising number of internet and mobile users is accelerating consumer companies' online revenue. Urbanization is fueling consumption growth as well, since urban consumers benefit from the greater availability of goods and services. Higher population density is also catalyzing e-commerce by making it easier, faster, and cheaper to distribute products and services to customers. Access to better internet connectivity is combining with urbanization trends to foster the boom in online sales.

The Longer Term Investments (LTI)

This series contains thematic investment ideas based on long-term structural developments, with investment opportunities influenced by the interplay of technological advancement, resource scarcity, and societal changes.



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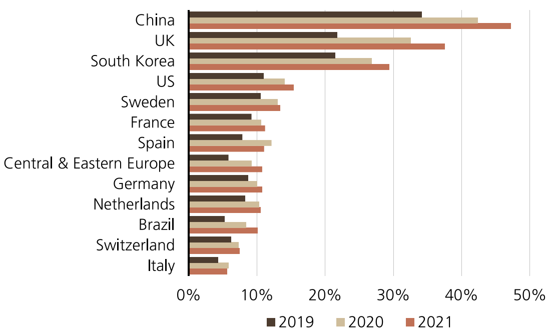
E-commerce is growing across all age groups. It offers those with limited mobility the chance to shop online and receive deliveries at home. Moreover, as consumers become more familiar with buying products online, positive feedback should result in long-term e-commerce growth.

Pandemic impact on e-commerce

The COVID-19 pandemic has accelerated the shift to digital and spurred e-commerce growth. We saw developments last year that we had previously expected to see in only two to three years' time. As physical stores were forced to close in response to government measures to contain the virus and global travel restrictions put tourism-related consumption under pressure, sales shifted online and e-commerce growth spiked. People who were not shopping online before could try it out, and we think some of them will stick with it now that they've experienced the convenience it offers (e.g., home delivery). In addition, product categories like grocery and food moved online, and the penetration rate increased from around 3–4% to 20% of total retail sales following the onset of the pandemic. The global e-commerce market surged by 26% to USD 4.2tr in 2020 compared with 2019. The e-commerce penetration rates in all regions rose in 2020 (Fig. 1). For example, in China the online penetration rate rose from 34% in 2019 to 47% in 2021, and is expected to even exceed 50% by 2022, according to eMarketer. We see potential for other markets to grow in the same direction in the next several years. The leading markets in terms of e-commerce penetration rates are China, the UK, South Korea, and the US, and the laggards are Italy, Switzerland, and Brazil.

Fig. 1: Pandemic acceleration

E-commerce penetration rates (in %)



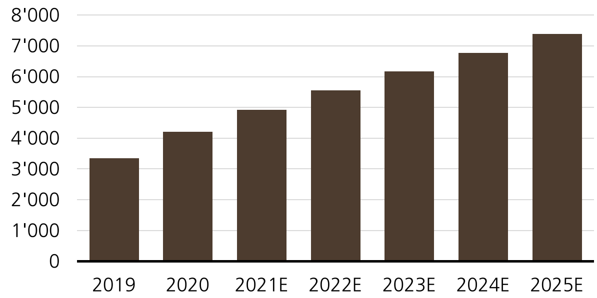
Source: eMarketer, UBS, as of May 2021

Key growth drivers of e-commerce

Global e-commerce revenues are an estimated USD 5tr per year in 2021, and they are expected to grow to more than USD 7tr by 2025, according to eMarketer. Along with population growth, urbanization, and aging, this structural trend is fueled by technological evolution, digitalization, increased consumer convenience, and the expansion of companies' online channel offerings. We expect e-commerce to grow by more than 10% annually over the next 10 years (Fig. 2). We anticipate it will claim an ever greater percentage of total sales, and gain market share from traditional retailers that rely on physical stores alone.

Fig. 2: Global e-commerce is expected to grow over 10% annually over the next 10 years

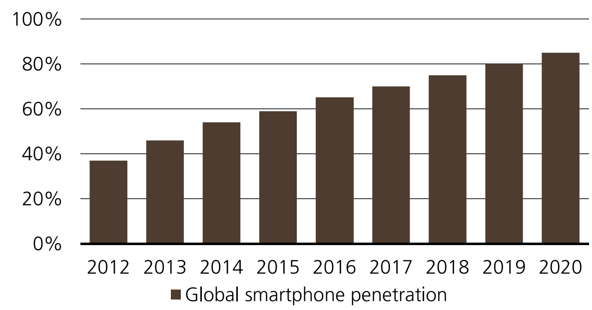
Global retail sales generated online (in USD billion)



Source: eMarketer, UBS, as of May 2021

Fig. 3: Rising global smartphone penetration

Global smartphone penetration rate (in %)



Source: UBS, as of July 2021

Evolution of technology

As the performance and functionality of personal computers and mobile phones have improved, their prices have fallen. As a result, internet and smartphone penetration rates have continually climbed globally, particularly in the emerging markets that have catch-up potential (Fig. 3). Consumers benefit from faster internet speeds enabled by 4G and the upcoming 5G standard, as well as from other tech advances and user-friendly mobile applications. Virtual and augmented reality (VR/AR) features facilitate a new e-commerce experience via simulation and visualization, both of which reduce the number of product returns and raise sales conversion ratios. They make it possible, for example, to visualize how new furniture or artwork would look in an apartment. Artificial intelligence (AI) also enhances the consumer experience by boosting data analytics, upgrading website performance, and enabling greater personalization (e.g., search rankings based on individual needs or product suggestions based on personal taste and previous purchases). AI also makes the delivery process more efficient by analyzing the optimal delivery route. Such technology will only keep improving the online sales experience and deepening online sales penetration.

Consumer convenience
Convenience is a key reason why consumers shop online. They can buy desired goods and services whenever and wherever they want. Unlimited availability should also lead to more impulse transactions: Shopping is not restricted by opening hours, nor do customers have to leave their home to engage in it. Greater price transparency, with easier price comparisons that don't involve visiting multiple physical stores, also increases the appeal of online shopping. Delivery options, too, are becoming faster and cheaper. Consumers need not venture beyond their doorstep to pick up or return the products they've ordered. Technology has also eased the payment process (e.g., in-app payment opportunities), and entering a credit card number is no longer necessary for every transaction.

Increasing availability and growing product offering
Online stores and marketplaces enable companies to increase their revenue by expanding their product offering without having to rent or build new physical stores. For example, food retailers can offer third-party toys, gardening tools, and other assorted items on their webpage without having to display them on shelves. While e-commerce penetration rates vary by country, they remain low overall, at slightly over 10% of total retail sales in most countries (Fig. 1). Online retail offers consumer companies an entry point into new markets on an asset-light basis. We expect cross-border trade to gain in importance, especially given the global ambitions of the e-commerce giants. Consumers benefit from an extended offering in online marketplaces, where products not available in local stores can be bought. New regulations and increased import duties levied to protect domestic economies represent the biggest threat to cross-border trade growth.

Barriers to entry

Building an online store does not require a great deal of investment. Costs associated with setting up a website are relatively low. But successful e-commerce companies have to spend heavily to gain consumer traction. So online companies sacrifice earnings growth in the short term to establish their business model and turn profitable in the long term. In our view, the highest barriers to entry result from economies of scale, brand recognition, product differentiation, technology, logistics, and delivery options.

Economies of scale
Large companies benefit from lower costs per unit, as fixed costs are spread over more units. So the higher the volume, the lower the costs, which should result in lower prices and greater demand. New competitors entering the market will have to underprice existing competitors or offer better quality at a good price. Due to lack of scale, they need the financial capability to absorb losses in the startup phase.

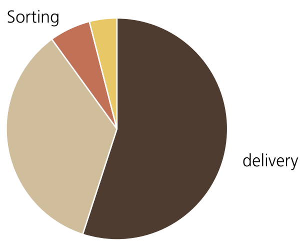
Brand recognition
Well-established online market platforms, which benefit from consumer recognition and a positive reputation, are usually consumers' first choice for comparing or buying products. New competitors have to build up strong brand recognition to attract customers, and that requires capital investment. Consumers generally compare services and prices at well-established marketplaces, pressuring new contenders to offer better deals.

Product differentiation
Consumer companies need to offer a wide variety of products to attract customer interest. Online marketplaces try to establish a good relationship with manufacturers to provide this variety. Because the size of orders matters to manufacturers, considerable expenditure is needed at the outset by such marketplaces to attract enough consumers to become a relevant partner for brand manufacturers. To protect their brand equity, manufacturers may refrain from selling their products in a marketplace without a clear, well-established profile.

Technology
Ease of use is a main differentiator for online marketplaces. Since technology changes fast and can be copied, an interface alone is usually not a significant hurdle for new challengers. But knowing clients well can set marketplaces apart. Existing e-commerce companies use big data to target users with personalized offers. Highlighting products that may interest consumers based on their online shopping history increases the probability of transactions and basket sizes alike.

Logistics and delivery options
The last mile of delivery, in which products are efficiently delivered to store networks and homes and offices, is critical and expensive (Fig. 4). Global e-commerce firms are testing new technologies to deliver goods faster and more efficiently (e.g., using AI, drones, and robots). The same-day delivery option is becoming more important, as consumers expect to rapidly receive the goods they order. New competitors need to build up a delivery network or else rely on local distributors. Pricing power vis-à-vis delivery companies is a prime issue early on. So new entrants often have to subsidize deliveries to drive sales growth. The two largest global players are building their own logistics networks to gain more flexibility and exert control over the fulfillment process.

Fig. 4: Last-mile delivery is expensive
Cost structure per parcel (in %)

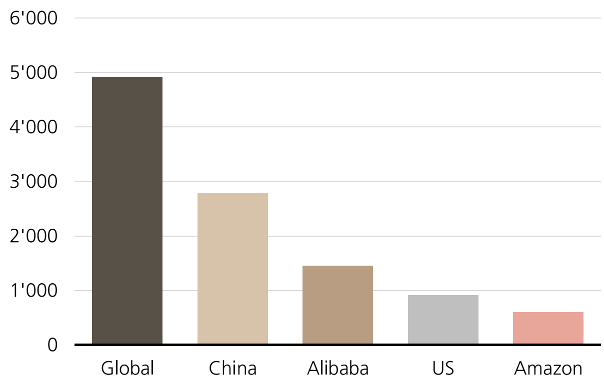


Source: UBS estimates, as of September 2021

Largest e-commerce markets

Global
Global e-commerce is currently a market of around USD 5tr worldwide and accounts for almost 20% of total consumer retail sales. More than half of these transactions are processed through mobile phones and applications, defined as m-commerce. We expect m-commerce's share of sales to rise due to increasing smartphone penetration, the improving mobile experience, and the fact that millennials primarily use this channel. Growth of retail sales in emerging markets (e.g., China and India) is being fueled by m-commerce, in particular. More than two-thirds of the gross merchandise value (GMV) of China's e-commerce market leader stems from mobile transactions.

Fig. 5: Global e-commerce is dominated by two companies and two markets
Gross merchandise value (sales) (in USD billion)



Source: eMarketer, company reports, UBS, as of June 2021

Successful e-commerce companies have to adjust to local preferences and culture in terms of the products, delivery options, payment techniques, and local language websites they offer. E-commerce companies are expanding their reach in emerging markets. At the moment, the global e-commerce market is heavily dominated by two regions, namely China and the US, and two companies, Alibaba and Amazon (Fig. 5).

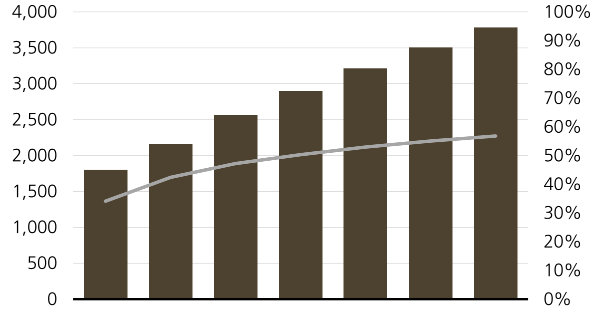
China
China is the largest e-commerce market and made up more than half of the global e-commerce market at USD 2.2tr in 2020. The online penetration rate in China is expected to further rise from the current 47% to 57% in 2025, according to eMarketer (Fig. 6). The market is dominated by the local e-commerce giant Alibaba, which is the biggest e-commerce player in the world offering online marketplaces, online payment, financial services, logistics, video and content, and cloud services. Alibaba has faced some challenges recently, with its Chinese market share dropping below 50% in 2020. Even so, together with Pinduoduo (13%) and JD.com (17%), the three e-commerce companies will account for 77% of the Chinese e-commerce market in 2021, according to eMarketer.

In China, regulatory risks have increased. The government announced it would prioritize tightening regulations across the internet sector over the next six months. Key regulatory themes include anti-trust and unfair competition, common prosperity, protection of teenagers, data protection, and cybersecurity. That said, China remains focused on its long-term goal of technological self-sufficiency and supremacy on the global stage. The regulatory landscape there is still evolving. The latest developments need to be monitored, particularly with regard to how they may affect e-commerce delivery costs and take rates, or commissions for smaller merchants. On the one hand, the Chinese government wants to support the rise of the technology sector and is bolstering it by, for example, giving away 5G licenses for free to stimulate innovation and development. But on the other hand, the government has increased its regulatory focus both on how the big technology companies are managing cybersecurity risks and data privacy, and on market domination risks.

On the positive side, AI companies have an advantage operating in China, as there is a huge pool of collected data from the big domestic market of around 660 million online shoppers. Growing e-commerce penetration in lower-tier cities and new marketing channels, such as WeChat mini programs (simple apps that users can open without first installing software), social networks, and videos, are driving market growth. Livestreaming social commerce is growing heavily and is expected to account for more than 50% of social commerce by 2022.

Fig. 6: Chinese e-commerce market growing

Retail e-commerce sales (lhs) (in USD billion) and e-commerce penetration rate (rhs) (in %)



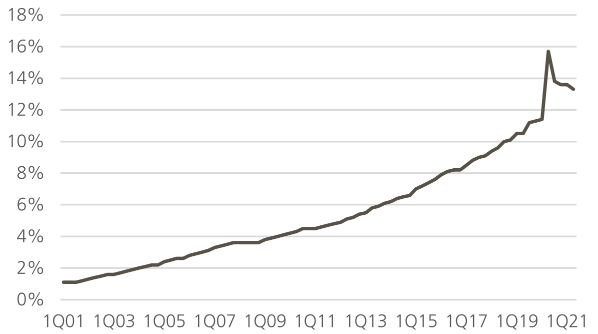
Source: eMarketer, UBS, as of May 2021

US

The e-commerce penetration rate in the US has surged from around 11% of total retail sales in 2019, prior to the onset of the pandemic, to an estimated 15% in 2021 (Fig. 7).

Fig. 7: Spike in e-commerce share in the US in 2020

US e-commerce penetration rate (in %)

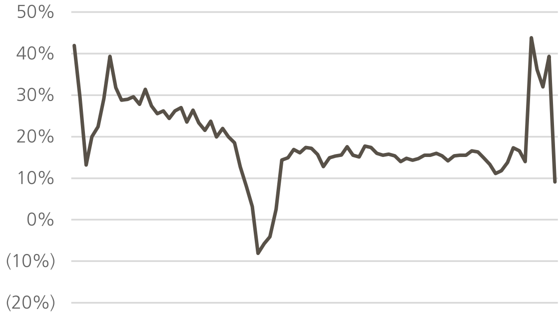


Source: US Census Bureau, UBS, as of September 2021

We think this penetration rate will likely continue to rise, as consumers may be reluctant to return to physical stores, particularly for merchandise that is easily procured online. According to eMarketer, e-commerce retail sales are forecast to rise to around 24% by 2025. Once a product has moved online, brick-and-mortar stores have never been able to recover their previous share of those sales. Similarly, no cohort of the economy—from baby boomers down to millennials and Gen Z—has ever bought less online (as a percentage of total spend) the following year than it did the year before. During the pandemic consumers learned to shop online and appreciate the convenience of delivery, even for grocery and food items, and we only expect this trend to accelerate going forward. Despite the maturation of the e-commerce market, the annual sales growth rates remain very robust. Although below the early 2000s growth rates (when e-commerce was in its infancy), e-commerce sales growth rates have remained very strong and currently hover in the 10% range after averaging 15% annual growth for several years (Fig. 8).

Fig. 8: E-commerce sales growth normalizing in 2Q 2021

E-commerce sales growth (y/y) (in %)



Source: US Census Bureau, UBS, as of September 2021

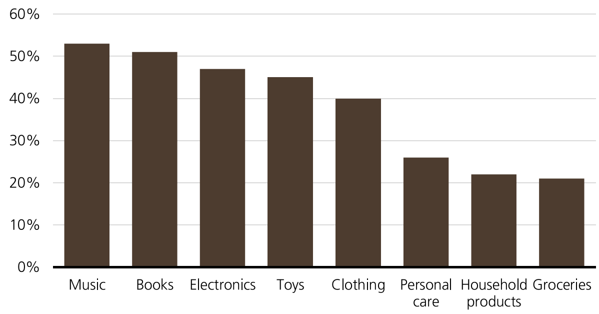
E-commerce has provided consumers with many benefits during lockdown periods, which has led to even faster growth in its use. E-commerce's growth rates could accelerate in the future, which in turn would likely lead to further reduction in brick-and-mortar retail. This is particularly true in grocery and fresh foods, as a rising portion of the population has used various forms of fresh food delivery throughout the pandemic. In 2019, only around 3–4% of grocery shopping was done online, but last year the online grocery penetration rate rose to around 10–15%, with high-density urban areas even approaching 20%. We forecast that number will reach close to 30% by 2030, in line with other industry estimates.

A potential mitigant to a more rapid migration to e-commerce could be the greater use of click-and-collect. Click-and-collect, that is buying online and picking up in the store, has certainly been on the rise over the past few years. And it may become even more popular as retailers and e-tailers seek to offset the substantial increase in e-commerce-related shipping costs. In addition, curbside pickup has become one of the natural outgrowths of the pandemic as retailers and consumers alike have adopted social distancing practices. Many consumers are realizing substantial convenience benefits from curbside pickup, and they could push retailers to make it a permanent offering. That would enable brick-and-mortar retail to offer a compelling counterargument to the e-commerce convenience proposition. In addition, retailers are continuing to connect with shoppers throughout their shopping journey with the support of social media. According to eMarketer, it is estimated that one in four digital buyers in the US will use a buy now, pay later service.

The online penetration rates in the US as of the end of last year vary by product category, with the highest exposure in categories like music, books, and electronics and the lowest exposure in groceries and household products (Fig. 9).

Fig. 9: US online penetration rate by category (2020)

US online sales in % of total retail sales (in %)



Source: UBS Evidence Lab, UBS, as of December 2020

What is omni-channel retailing?

Given the growth of e-commerce spending, most retailers have looked to integrate their brick-and-mortar and online operations. These efforts are known as omni-channel initiatives. Essentially, a true omni-channel retailer is one unconcerned about how, where, and when a consumer shops or interacts with its brand. The goal of such retailing is to make stores an extension of the supply chain, where purchases may be made in-store but are researched in various ways.

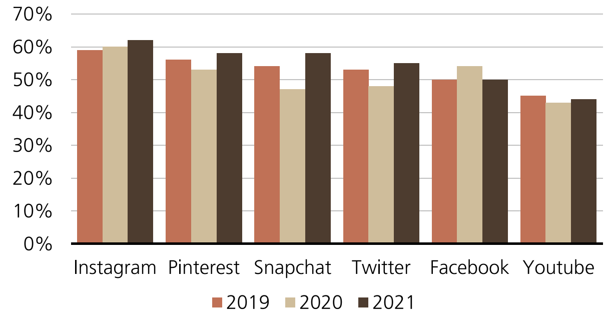
All purchase channels at an omni-channel retailer are designed to connect effortlessly and provide a seamless shopping experience. Pricing is typically consistent across all channels, and purchases made online can easily be returned in-store and vice versa. In our view, a retailer or brand must invest in several areas to ensure its long-term omni-channel success. These areas include fulfillment capabilities, service, and search and consumer engagement through the use of big data.

With e-commerce becoming an important avenue of growth for traditional brick-and-mortar retailers, logistics and fulfillment are emerging as determinants of whether their omni-channel initiatives can succeed. Traditional retailers begin at a competitive disadvantage to online pure-plays, which can invest some of the money they save by not having physical store locations in free shipping. Unlike several years ago, however, when some investors were calling for their demise, physical store locations are now viewed as playing a key role in e-commerce fulfillment, and retailers need to leverage their existing store bases to offer convenient pickup options for the consumer.

Smartphones can be used for an omni-channel experience. They offer the possibility to shop on the go or compare prices and features in stores, and they can be used as marketing instruments by the retailers that advertise their offerings on mobile apps like Facebook or Instagram (Fig. 10). In addition, you can track your order online in real time with your smartphone. Social networks are increasingly engaging users to shop directly on their platforms. Social commerce refers to e-commerce that involves social networks, online media, and social interaction. It has grown more popular in recent years and amounts to around 12% (vs. 4% in 2015) of total e-commerce GMV.

Fig. 10: Effectiveness of ads varies by platform

% of monthly users taking action upon seeing an ad (in %)



Source: UBS Evidence Lab, UBS, as of April 2021

Investment opportunities in the e-commerce market

The global e-commerce market is comprehensive, with companies offering a variety of products and services. We see the following primary long-term investment opportunities in this theme (Fig. 11), although sector and theme exposure can change quickly in response to industry trends:

Online marketplaces

Companies like Amazon, Alibaba, Vipshop, Ebay, and others are online platforms that connect buyers and sellers of products and services. The marketplace operator processes transactions, and multiple third parties provide products and services offered on the platforms. Generally, marketplaces aggregate products from many providers, which results in a wide selection, high availability, and more competitive pricing than in vendor-specific online retail stores.

Online retailers

Companies like Zalando sell their products to customers online and use no other channel. Online retailers set up webshops where consumers can buy their products online, offering online (and other forms of) payment options and home delivery. In addition, several business models (e.g., video streaming and gaming) have moved completely online.

Multi-channel retailers
Companies like the retailer Next use an omni-channel strategy to sell their goods via physical stores and online and mobile platforms. Consumers can order online, have clothes delivered to their home, and go to the nearest store to return or exchange their purchase.

Logistic operators
Logistics companies are benefiting from the rise in e-commerce as more and more goods are being ordered online and need to be delivered to shoppers' homes. These companies establish efficient distribution and storage networks to ensure fast delivery at low cost. E-commerce increases the demand for warehouses and storage facilities near big cities and within them. So real estate companies that own, operate, or develop industrial real estate stand to gain. Companies such as express or parcel carriers profit from the growing number of parcels being shipped, though competition is increasing since Amazon entered this market.

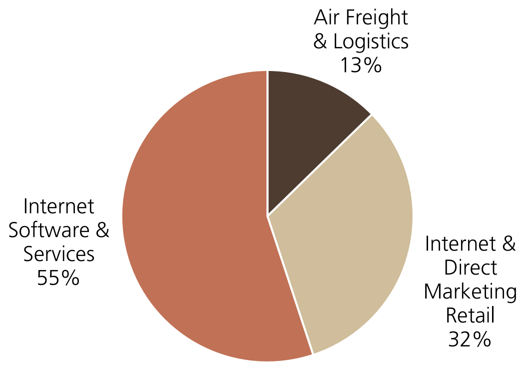
Payment facilitators
In addition to credit card operators like Mastercard, Visa, and American Express, companies like PayPal facilitate payments for online transactions. Payment facilitators seek to make online payment safer and cheaper, and they could start to offer other services such as consumer credit.

Price comparison platforms
Companies like Expedia seek to increase price transparency by enabling the prices different providers charge for services like travel to be researched and compared to ensure shoppers find the cheapest offer for each purchase. These companies generate revenue through transfer or advertising fees.

Network providers
Telecom companies provide the technology and infrastructure that underpins e-commerce. In doing so they gain considerable information about their clients' spending behavior and preferences, information that is key to targeting them with personalized offers. Telecoms are not the main beneficiaries of e-commerce in the short term, though. They have to invest heavily in infrastructure to increase speed connectivity and network stability.

Cybersecurity
The success of e-commerce growth also depends on hardware manufacturers and software companies, since clients want to safely execute transactions online without becoming a victim of cybercrime. For further information, please refer to our Longer Term Investments theme Security and safety, published on 24 February.

Fig. 11: E-commerce theme is currently dominated by software and retail sectors
Industry mix in the reference list (in %)



Source: FactSet, Bloomberg, UBS, as of September 2021

Sharing economy

The sharing economy is based on the idea of better asset utilization. The changing lifestyle of younger generations seems to be shifting consumer preferences from embracing the concept of ownership to that of access and rental. Many people now favor hiring what they need at the time they need it rather than owning it—whatever "it" may be. In the age of smartphones and big data, consumer-to-consumer rental and lending have become easier, less time-consuming, and less costly through electronic platforms. This trend will continue and has the potential to disrupt traditional, asset-heavy business models in several industries (e.g., car manufacturing, tourism and hotels, and real estate). The most popular concepts are currently property and room sharing, and transportation and car sharing. But people are also sharing offices, parking spaces, self-storage space, and jewelry.

Sharing-economy platforms often leverage social networks like Facebook and LinkedIn to recruit users who want to access their services. Trust is key for the sharing economy and social networks can help build connections while attempting to establish and maintain the trustworthiness of users.

As highlighted in our LTI report "Smart mobility" (published on 17 June), smart mobility is in full acceleration mode. Regulatory changes, consumer preferences, and technological advances will likely lead to even greater electrification of cars and, eventually, autonomous driving. Growing adoption of new car-sharing mobility concepts and, ultimately, robo-taxis should lower costs to consumers and generate a viable business model for providers. The underlying long-term growth in car demand has been 2–3% a year, but urban areas are becoming denser, which supports car-sharing concepts. Given the low estimated 4% average utilization per vehicle (i.e., around 1% per seat), privately owned cars are an underused asset, and each car used by a car-sharing service could in theory replace up to 25 private automobiles.

In the US, millennials (individuals born between 1980 and 1999) are an influential segment of the economy akin to the aging baby boomers. They often need to live close to metropolitan areas that offer employment. This should benefit sharing-economy businesses that tend to flourish in metropolitan areas where the internet and mobile devices can conveniently provide services and goods on demand without the need for any ownership commitment.

The sharing economy has already disrupted several industries and will continue to grow rapidly worldwide, in our view. While there have been several high-profile IPOs in the space, namely Lyft and Uber, many of the key players are private, though they could pursue an IPO in the coming years. For now, investment in this segment is primarily undertaken through private equity funds or direct investments.

Investment risks

We see the following major risks to investing in our e-commerce Long Term Investment theme.

Regulatory and tax risk
E-commerce is evolving constantly and gaining more market share worldwide. Regulations and taxes tend to still focus on traditional business models, but unfavorable regulations and taxes implemented in the future could alter the e-commerce framework. For example, governments could limit cross-border trade via taxes and regulations. In the US, the big technology conglomerates face the risk of a breakup due to regulatory concerns. In Europe, governments are debating how to tax the tech companies, and General Data Protection Regulation (GDPR) and data privacy laws are also affecting the outlook for these companies.

In China, regulatory risks have increased. The government has announced it will prioritize tightening regulation across the internet sector over the next six months. But the regulatory landscape is still evolving there. The latest developments need to be monitored, particularly when it comes to e-commerce delivery costs and take rates or commissions for smaller merchants. Key regulatory themes are anti-trust and unfair competition, common prosperity, protection of teenagers, data protection, and cybersecurity. However, China remains focused on its long-term goal of technological self-sufficiency and supremacy on the global stage.

Margin risk
E-commerce enables consumers to compare prices online easily. So companies are always competing to offer the best price or the best service (e.g., shortest delivery time). While shoppers are the big beneficiaries, manufacturers and retailers suffer lower margins from price deflation.

Currency risk
E-commerce companies increasingly operate internationally. Products are shipped to customers around the world, so businesses are exposed to greater currency risks. In particular, weak emerging market currencies can offset the strong sales growth expected in these regions.

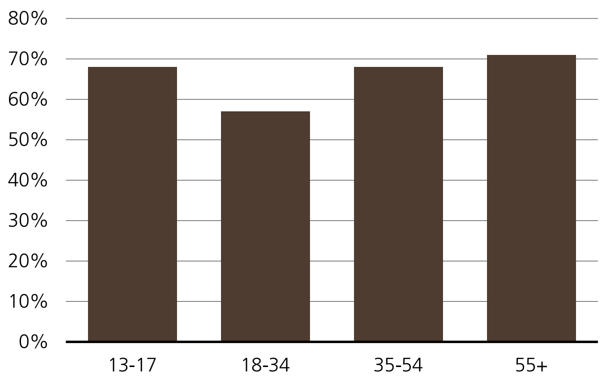
Technology risk
The risk of cybercriminal attacks during the purchasing process is a key reason consumers avoid buying online. Any large cyberattack could weigh on consumer trust and lead to declining online sales. In particular, companies that have demonstrable security deficiencies can quickly lose their customer base.

Winner-takes-all risk
Scale matters in e-commerce. Companies unable to attain it disappear because they cannot compete on price and service. As a result, there is a risk that the e-commerce market will be dominated by only a few large players.

Data privacy/cybersecurity risk
People share a lot of personal data on social media. But concerns regarding the protection of private information are rising (Fig. 12). Data breaches could reduce the willingness of people to spend time on social media. Data protection and constant access to servers are essential for the success of online business models, including e-commerce.

Fig. 12: Privacy concerns

Percentage of Facebook users concerned about sharing personal information on the platform (by age group) (in %)



Source: UBS Evidence Lab, Report "Assessing The Consumer Usage & Ad Engagement Landscape (14th edition)", UBS, as of May 2021

What does this mean for entrepreneurs?

E-commerce offers new business opportunities for innovative companies. We cover big structural trends in the e-commerce space, which is growing as consumers change the way they shop. This theme is driven by advances in technology and the disruption of traditional retail models.

Entrepreneurs have to fulfill consumer expectations to remain relevant. Consumers want to buy their goods online 24/7, and they expect fast delivery of their orders, ideally in one day. Modern logistics are needed to meet these expectations.

Urban logistics, which support last-mile delivery near the big consumption centers, are in high demand. Entrepreneurs should try to benefit from the structural growth in this sector, invest in it in key locations, and leverage the new technology of robots and AI to increase efficiency.

E-commerce helps to boost the effectiveness of product offerings and marketing spending for entrepreneurs thanks to potential consumers' data trace on the internet. Companies like Facebook and Alphabet (Google) have the capability (i.e., the data) to offer third parties the opportunity to approach a specific target group.

For example, if you are selling sports cars, Instagram can advertise specifically to those who follow and like particular car brands. Companies can also better analyze the interest in and success of particular products. In brick-and-mortar stores, data is mainly limited to inventory and products sold. The situation is different online. Thanks to click statistics, entrepreneurs can analyze detailed customer patterns. For example, a high number of clicks on a dress but few purchases may indicate that the price is too high.

Smartphone penetration is rising in emerging markets and is already high in developed countries. Entrepreneurs can benefit from the increased time spent on smartphones. Time of day and location no longer limit consumers from buying a product. The mobile phone also plays an essential role in the advertising process of brands on social media (e.g., Instagram, Facebook, and WeChat), as well as in tracking deliveries of purchases.

Existing business owners are being compelled to join the online world, or at least to combine their physical stores with online ones. Companies with limited in-house expertise often work together with larger technology firms that specialize in online marketing.

Innovations like m-commerce, online payment systems, AI, and big data enable better marketing of products to consumers in a customized manner, increasing sales and market efficiency. AR/VR features can support purchases by giving customers an idea of how the products they can buy online will look in real life.

External view: insights from business owners (The UBS Industry Leader Network Members)

Meetings with clients who own private companies confirm that e-commerce is an increasingly important part of doing business, one that opens up a number of growth opportunities. These clients are increasing investment in e-commerce platforms to meet rising consumer demand. However, their attitudes toward e-commerce differ across regions and industries.

Based on conversations with members of the UBS Industry Leader Network,* the biggest e-commerce growth opportunities appear to be in emerging markets, as consumer shopping behavior is evolving in response to rising internet access (often through smartphones). But consumer-facing businesses here are using local online commerce platforms rather than the global giants'. They say they want to tap local consumers first, and they identify local platforms as being best placed to grow their business to consumer (B2C) sales. Some Industry Leaders are also moving onto global platforms as well.

Industry Leaders in developed markets say the balance of sales (and investment) between physical and online stores is more complex. They observe that consumers increasingly regard online sales platforms as a way to shop conveniently. These platforms are also faster than physical stores in responding to changes in consumer behavior and seasonal spending patterns. For example, they enable customers to buy summer clothes online in spring or fall during a heat wave, when they may not be available in brick-and-mortar stores that follow traditional seasonal procurement patterns. But consumers still appreciate access to physical stores for special, one-off purchases, when searching for niche products, or if they are looking for an "experience."

Industry Leaders do not think e-commerce will necessarily replace physical stores entirely. In fact, they expect that some of the advantages enjoyed by e-commerce businesses are likely to erode over time (such as preferential tax treatment and online delivery subsidization by parent companies in the case of some grocery companies). Government policies and consumer preferences may lead, say some Industry Leaders, to a "more level playing field" between physical and online shopping. This trend potentially speaks to a diversified "omni-channel" sales strategy to meet shifting customer demand.

The global pandemic has solidified the need for e-commerce, which became the primary method of shopping.

Despite persistent cross-country differences, the crisis has enhanced dynamism in the e-commerce landscape across countries and has expanded the scope of e-commerce, including through new firms and consumer segments.

In addition, the industry leaders mentioned the increasingly urgent need to take into consideration higher costs for cybersecurity, as risks in the space have been increasing during the pandemic following the large shift to online shopping.

*The UBS Industry Leader Network is a global group of UBS clients and prospects who are private business owners and executives. Their views may differ from those of UBS.
Matthew Carter (CIO Investment Office Content UK) and Vishakha Rajput (UBS Industry Leader Network)

Table 1: E-commerce - Part 1
This is not a list of recommendations

Company name	ISIN	Country	Market cap in USD bn
North America			
Alphabet Inc. Class A	US02079K3059	United States	1,923
Amazon.com, Inc.	US0231351067	United States	1,761
Facebook, Inc. Class A	US30303M1027	United States	1,061
Visa Inc. Class A	US92826C8394	United States	479
PayPal Holdings Inc	US70450Y1038	United States	340
Mastercard Incorporated Class A	US57636Q1040	United States	336
Netflix, Inc.	US64110L1061	United States	261
Shopify, Inc. Class A	CA82509L1076	Canada	194
United Parcel Service, Inc. Class B	US9113121068	United States	172
American Express Company	US0258161092	United States	127
Square, Inc. Class A	US8522341036	United States	124
Airbnb, Inc. Class A	US0090661010	United States	99
Booking Holdings Inc.	US09857L1089	United States	95
Fidelity National Information Services, Inc.	US31620M1062	United States	77
Fiserv, Inc.	US3377381088	United States	77
Uber Technologies, Inc.	US90353T1007	United States	76
FedEx Corporation	US31428X1063	United States	71
DoorDash, Inc. Class A	US25809K1051	United States	65
Activision Blizzard, Inc.	US00507V1098	United States	63
Twitter, Inc.	US90184L1026	United States	52
Lululemon Athletica Inc	US5500211090	Canada	51
eBay Inc.	US2786421030	United States	50
Roblox Corp. Class A	US7710491033	United States	48
Global Payments Inc.	US37940X1028	United States	46
Electronic Arts Inc.	US2855121099	United States	42
Match Group, Inc.	US57667L1070	United States	41
Cloudflare Inc Class A	US18915M1071	United States	41
Pinterest, Inc. Class A	US72352L1061	United States	36
Chewy, Inc. Class A	US16679L1098	United States	32
AppLovin Corp. Class A	US03831W1080	United States	29
Wayfair, Inc. Class A	US94419L1017	United States	28
Etsy, Inc.	US29786A1060	United States	28
Affirm Holdings, Inc. Class A	US00827B1061	United States	25
FLEETCOR Technologies, Inc.	US3390411052	United States	22
Expedia Group, Inc.	US30212P3038	United States	22
Expeditors International of Washington, Inc.	US3021301094	United States	21
Burlington Stores, Inc.	US1220171060	United States	20

Source: FactSet, UBS, as of 7 September 2021

Important note: This is a company reference list showing relevant publicly traded e-Commerce companies globally. In the following we describe our screening process. To select the stocks in this list, we used the FactSet business classification system (RBICS), which uses a bottom-up approach to classify companies according to the products and services they provide. Out of more than 1,500 subsectors in the FactSet RBICS classification, 30 are in the scope of our investment theme. We filtered the 30 subsectors for stocks that have at least 25% sales exposure (calculated as the sum of individual sales exposures across all 30 subsectors, equal to or exceeding 25%). We excluded companies with market capitalization of less than USD 10bn. Please note that this list is only for reference and is not a recommendation list. 30 FactSet sub-sectors: Automotive classifieds and directories media/sites, E-Commerce Service Providers, Electronic Gaming/Entertainment Electronics Makers, Electronic Payment Processing, Express Couriers, Food delivery services, Games Software, General Internet and Online Services, Internet Accessories Retail, Internet Apparel Retail, Internet Building Materials / Garden Supply Retail, Internet Department Stores, Internet Discount Stores, Internet Electronics Retail, Internet Entertainment Retail, Internet Footwear Retail, Internet Furniture and Home Furnishings Retail, Internet Off-Price Retail, Internet Warehouse / Superstore Retail, Logistics and Supply Chain Service Providers, Media Download and Streaming Digital Content Sites, Online Casinos, Online Game Websites and Software, Other Classifieds and Directories Media and Sites, Retail Industry Software, Travel Arrangement and Reservation Services, Web Development Software Makers, Web-Based Data and Services, Internet Off-Price Retail, Internet Pet and Pet Supply Retail.

Table 1: E-commerce - Part 2
This is not a list of recommendations

Company name	ISIN	Country	Market cap in USD bn
North America			
J.B. Hunt Transport Services, Inc.	US4456581077	United States	19
Take-Two Interactive Software, Inc.	US8740541094	United States	19
Lightspeed Commerce Inc	CA53229C1077	Canada	17
Nuvei Corporation	CA67079A1021	Canada	17
Marqeta, Inc. Class A	US57142B1044	United States	15
Williams-Sonoma, Inc.	US9699041011	United States	13
Dick's Sporting Goods, Inc.	US2533931026	United States	13
C.H. Robinson Worldwide, Inc.	US12541W2098	United States	12
IAC/InteractiveCorp.	US44891N2080	United States	12
Five Below, Inc.	US33829M1018	United States	11
XPO Logistics, Inc.	US9837931008	United States	10
Europe			
Prosus N.V. Class N	NL0013654783	Netherlands	191
Industria de Diseno Textil, S.A.	ES0148396007	Spain	109
Adyen NV	NL0012969182	Netherlands	97
Deutsche Post AG	DE0005552004	Germany	87
IHS Markit Ltd.	BMG475671050	United Kingdom	49
Spotify Technology SA	LU1778762911	Luxembourg	48
Kuehne & Nagel International AG	CH0025238863	Switzerland	45
Vivendi SE	FR0000127771	France	43
Delivery Hero SE	DE000A2E4K43	Germany	38
Flutter Entertainment Plc	IE00BWT6H894	Ireland	35
Zalando SE	DE000ZAL1111	Germany	29
Yandex NV Class A	NL0009805522	Netherlands	28
Adevinta ASA	NO0010844038	Norway	27
Worldline SA	FR0011981968	France	24
Nexi S.p.A.	IT0005366767	Italy	22
Just Eat Takeaway.com N.V.	NL0012015705	Netherlands	20
Allegro.eu Societe anonyme	LU2237380790	Luxembourg	19
Poste Italiane SpA	IT0003796171	Italy	18
Entain PLC	IM00B5VQMV65	United Kingdom	16
Farfetch Limited Class A	KY30744W1070	United Kingdom	15
Next plc	GB0032089863	United Kingdom	15
Edenred SA	FR0010908533	France	14
THG PLC	GB00BMTV7393	United Kingdom	13
Embracer Group AB Class B	SE0013121589	Sweden	12
Schibsted Asa Class A	NO0003028904	Norway	12
Global-e Online Ltd.	IL0011741688	Israel	12
Playtika Holding Corp.	US72815L1070	Israel	11
Ozon Holdings Plc Sponsored ADR	US69269L1044	Cyprus	11

Source: FactSet, UBS, as of 7 September 2021

Important note: This is a company reference list showing relevant publicly traded e-Commerce companies globally. In the following we describe our screening process. To select the stocks in this list, we used the FactSet business classification system (RBICS), which uses a bottom-up approach to classify companies according to the products and services they provide. Out of more than 1,500 subsectors in the FactSet RBICS classification, 30 are in the scope of our investment theme. We filtered the 30 subsectors for stocks that have at least 25% sales exposure (calculated as the sum of individual sales exposures across all 30 subsectors, equal to or exceeding 25%). We excluded companies with market capitalization of less than USD 10bn. Please note that this list is only for reference and is not a recommendation list. 30 FactSet sub-sectors: Automotive classifieds and directories media/sites, E-Commerce Service Providers, Electronic Gaming/Entertainment Electronics Makers, Electronic Payment Processing, Express Couriers, Food delivery services, Games Software, General Internet and Online Services, Internet Accessories Retail, Internet Apparel Retail, Internet Building Materials / Garden Supply Retail, Internet Department Stores, Internet Discount Stores, Internet Electronics Retail, Internet Entertainment Retail, Internet Footwear Retail, Internet Furniture and Home Furnishings Retail, Internet Off-Price Retail, Internet Warehouse / Superstore Retail, Logistics and Supply Chain Service Providers, Media Download and Streaming Digital Content Sites, Online Casinos, Online Game Websites and Software, Other Classifieds and Directories Media and Sites, Retail Industry Software, Travel Arrangement and Reservation Services, Web Development Software Makers, Web-Based Data and Services, Internet Off-Price Retail, Internet Pet and Pet Supply Retail.

Table 1: E-commerce - Part 3
This is not a list of recommendations

Company name	ISIN	Country	Market cap in USD bn
China			
Tencent Holdings Ltd.	KYG875721634	China	603
Alibaba Group Holding Ltd.	KYG017191142	China	460
Meituan Class B	KYG596691041	China	195
Pinduoduo, Inc. Sponsored ADR Class A	US7223041028	China	128
JD.com, Inc. Class A	KYG8208B1014	China	125
NetEase, Inc	KYG6427A1022	China	63
Baidu, Inc. Class A	KYG070341048	China	58
Kuaishou Technology Class B	KYG532631028	China	48
S.F. Holding Co., Ltd. Class A	CNE100000L63	China	40
Bilibili, Inc. Class Z	KYG1098A1013	China	33
JD Logistics, Inc.	KYG5074S1012	China	27
ZTO Express (Cayman) Inc. Class A	KYG9897K1058	China	26
Trip.com Group Ltd.	KYG9066F1019	China	20
Tencent Music Entertainment Group Sponsored ADR Class A	US88034P1093	China	15
Mango Excellent Media Co., Ltd. Class A	CNE100001Y83	China	13
Weibo Corp Sponsored ADR Class A	US9485961018	China	12
Pop Mart International Group Limited	KYG7170M1033	China	11
Vipshop Holdings Ltd Sponsored ADR	US92763W1036	China	10
Other regions			
Sea Ltd. (Singapore) Sponsored ADR Class A	US81141R1005	Singapore	190
MercadoLibre, Inc.	US58733R1023	Argentina	97
Naspers Limited Class N	ZAE000015889	South Africa	78
Nintendo Co., Ltd.	JP3756600007	Japan	65
NAVER Corp.	KR7035420009	South Korea	64
Kakao Corp.	KR7035720002	South Korea	60
Coupang, Inc. Class A	US22266T1097	South Korea	51
Z Holdings Corporation	JP3933800009	Japan	51
Afterpay Limited	AU000000APT1	Australia	28
DLocal Limited Class A	KYG290181018	Uruguay	20
PagSeguro Digital Ltd. Class A	KYG687071012	Brazil	19
NEXON Co., Ltd.	JP3758190007	Japan	18
SG Holdings Co., Ltd.	JP3162770006	Japan	18
BANDAI NAMCO Holdings Inc.	JP3778630008	Japan	16
Rakuten Group, Inc.	JP3967200001	Japan	16
Nippon Yusen Kabushiki Kaisha	JP3753000003	Japan	14
StoneCo Ltd. Class A	KYG851581069	Cayman Islands	14
Brambles Limited	AU000000BXB1	Australia	13
ZOZO, Inc.	JP3399310006	Japan	12
NCsoft Corporation	KR7036570000	South Korea	12
SAMSUNG SDS CO., LTD.	KR7018260000	South Korea	11
momo.com Incorporated	TW0008454000	Taiwan	10
GMO Payment Gateway, Inc.	JP3385890003	Japan	10
Yamato Holdings Co., Ltd.	JP3940000007	Japan	10

Source: FactSet, UBS, as of 7 September 2021

Important note: This is a company reference list showing relevant publicly traded e-Commerce companies globally. In the following we describe our screening process. To select the stocks in this list, we used the FactSet business classification system (RBICS), which uses a bottom-up approach to classify companies according to the products and services they provide. Out of more than 1,500 subsectors in the FactSet RBICS classification, 30 are in the scope of our investment theme. We filtered the 30 subsectors for stocks that have at least 25% sales exposure (calculated as the sum of individual sales exposures across all 30 subsectors, equal to or exceeding 25%). We excluded companies with market capitalization of less than USD 10bn. Please note that this list is only for reference and is not a recommendation list. 30 FactSet sub-sectors: Automotive classifieds and directories media/sites, E-Commerce Service Providers, Electronic Gaming/Entertainment Electronics Makers, Electronic Payment Processing, Express Couriers, Food delivery services, Games Software, General Internet and Online Services, Internet Accessories Retail, Internet Apparel Retail, Internet Building Materials / Garden Supply Retail, Internet Department Stores, Internet Discount Stores, Internet Electronics Retail, Internet Entertainment Retail, Internet Footwear Retail, Internet Furniture and Home Furnishings Retail, Internet Off-Price Retail, Internet Warehouse / Superstore Retail, Logistics and Supply Chain Service Providers, Media Download and Streaming Digital Content Sites, Online Casinos, Online Game Websites and Software, Other Classifieds and Directories Media and Sites, Retail Industry Software, Travel Arrangement and Reservation Services, Web Development Software Makers, Web-Based Data and Services, Internet Off-Price Retail, Internet Pet and Pet Supply Retail.

Appendix

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