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2020 GLOBAL E-COMMERCE LOGISTICS OUTLOOK

Beyond the Pandemic – Opportunities from Greater E-Commerce Adoption

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2020 Global E-Commerce Logistics Outlook

Beyond the Pandemic – Opportunities from Greater E-Commerce Adoption

6 October 2020

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Executive Summary

During the pandemic e-commerce volumes have surged and most major etailers have experienced high double digit revenue growth, despite an overall decline in comsumer spending. In turn, this has led to a surge in volumes carried by postal companies, express operators, and other businesses in the air logistics business. Cargo, express and freighter focused airports have seen throughput increase, while traditional air cargo hubs have seen volumes drop as passenger belly capacity has continued to stay grounded.

Has the world irreversibly changed? Some of this recent acceleration of e-commerce adoption will disappear, but we believe that online shopping will continue to remain a growth industry and provide opportunities for companies in the air logistics business to participate in this growth. But more volume does not necessarily mean greater profits. After all, who pays for free shipping?

Where will the opportunities be? The United States, the European Union and the UK, China and Japan account for two thirds of worldwide consumer spending and and also represent the world's largest e-commerce markets. However, some smaller market such as Mexico, India and Indonesia ave grown at a much faster pace. Domestic e-commerce markets tend to be larger, but cross border e-commerce has grown faster. Consequently, e-commerce platforms keep expanding internationally and adopting different approaches around their cross-border e-commerce strategy.

Much of this report focuses on the logistics strategies of the big global and key regional platforms which account for the bulk of worldwide e-commerce revenue, the biggest being Alibaba, Amazon and Jd.com. While the geographical scope of the major e-tailers worldwide is very different, they share a lot of similarities: a focus on own controlled logistics, increased reliance on third party sellers and a shift to faster shipping. This is having fundamental implications for companies providing logistics services. Platforms are becoming integrated commerce, logistics and financial providers, and are moving to insource volumes where possible to drive costs down. This has hurt some transportation providers, but ecommerce platforms have also felt pain as general fulfillment and shipping costs have been outpacing revenue growth.

E-commerce has presented an opportunity for postal networks to contribute to the growth and expansion of cross-border e-commerce transactions. Postal operators have moved beyond traditional delivery to offer a much wider suite of services including warehousing, pick and pack, or even launching their own e-commerce platforms in order to fill the gap caused by the declining volume in mail and increasing parcel volume. Moreover, postal companies are often better positioned to service domestic networks, but they must rely on partnerships with private logistics providers and express operators to fulfill their cross-border offering.

The increase of business-to-consumer traffic in express networks has resulted in a decline of revenues per package - particularly in domestic networks. This fundamental shift for the express business which has in the past been built around high yield business to business traffic. Recently, there has been a decoupling of some integrators from e-commerce platforms they develop and expand their own end-to-end e-commerce products. This may not be enough to guarantee future viability.

Airports also play an important role in the distribution of cross border e-commerce as well as domestic or intra-regional shipments. General freight traffic tends to gravitate around the big combination carrier hubs such as Chicago, New York, Miami and Los Angeles in the United States, Frankfurt, Amsterdam, Paris, and London in Europe and airports such as Shanghai or Hong Kong. On the other hand, express and e-commerce traffic are concentrated around cargo focused airports. E-commerce platforms gravitate naturally towards airports that already have established themselves as express hubs – such as Liege (LGG), Cologne (CGN), Leipzig (LEJ), East Midlands (EMA), Cincinnati (CVG), Shenzhen (SZX) or Hangzhou (HGH). Nevertheless, dedicated flying by Amazon and other platforms has put airports on the map that previously never featured in the cargo world.

1. Introduction and Organization of the Report

This year's e-commerce logistics report outlook examines the immediate impact of greater e-commerce adoption within the pandemic and its long-term implications for companies operating in the sector. As with last year's report, our focus is on companies in the air logistics business, namely postal and express companies, airports, airlines and service providers supporting the air logistics business.

Chapter 2 provides an introduction to the mechanics of e-commerce versus traditional brick and mortar retail fulfillment chains and describes the differences between cross border and domestic fulfillment. We feel this is a good starting point to determine where logistics growth opportunities may be found.

Chapter 3 provides an overview of the largest consumer and e-commerce markets, the main cross border e-commerce markets. This section also looks at the impact of accelerated pandemic e-commerce adoption in 2020 and provides and outlook for what to expect beyond 2020. As a subscriber to this report, you will also have access to our evolving analysis on this topic. Things move fast in the world of e-commerce.

Chapter 4 takes a specific look at logistics strategies 12 important platforms Alibaba (and its subsidiaries), Amazon, JD.com, Ebay, Shopify, Walmart, Rakuten, Otto, Mercado Libre, Flipkart, Wish and Jumia. The strategies of these platforms drive both opportunities and risks for third party (air) logistics providers. The appendix contains detailed profiles on each of the platforms, which we believe will be useful for you in shaping your company's ecommerce strategy.

The following chapters focus on e-commerce exposure and opportunities in the postal (Chapter 5), express (Chapter 6), as well as for airlines and airports (Chapter 7). All of these segments are finding profitable niches to participate in the e-commerce business, but volume does not always equate to profitability. "Who pays for free shipping" continues to be a central question that drives logistics business prospects in e-commerce.

Chapter 8 provides a discussion of e-commerce developments in emerging markets, specifically focusing on the examples of Jumia (in Africa) and Mercado Libre (in Latin America). Growth and profitability in these markets has lagged behind developments in more established markets – China, North America and Europe

The report is complemented with an interactive map application that allows users to analyze and understand the spatial dimensions of different aspects of the e-commerce logistics business. Subscribers will also receive access to periodic updates of e-commerce platform logistics profiles and related research.

We trust that you will find the material presented in the report valuable in shaping your company's ecommerce logistics strategy or e-commerce product offering. We welcome your comments and feedback on the content, as well as subjects that you would like included in future analyses.

2. Fulfillment Channels: The Mechanics of e-Commerce

Key findings:

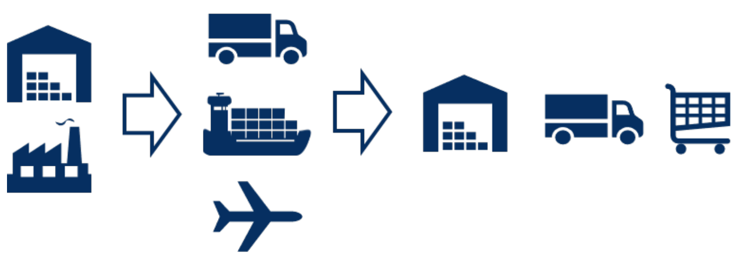
- Cross border and domestic e-commerce are fulfilled through distinctly different channels.
- Postal companies and express carriers are key agents in cross-border fulfillment, where the ability to deal with customs and value-added and other tax regulations are necessary.
- Parcel carriers, postal companies and other ground transportation providers are key participants in domestic and intra-regional fulfillment.
- Air capacity is more important in intercontinental fulfillment, but for domestic and regional fulfillment ground transport is the leader.

Understanding where to find the highest quality opportunities in e-commerce logistics requires an understanding of the mechanics of e-commerce fulfillment and competitive dynamics across the fulfillment chain.

2.1 E-Commerce Fulfillment vs Traditional Retail Chains

Traditional retail and e-commerce fulfillment channels are fundamentally different in nature and involve a different set of providers. Traditional retail fulfillment largely involves wholesale transportation of large lots between factories, distribution centres and retail outlets using linehaul truck, shipping and air transportation. Figure 1 provides a simplified overview of traditional retail fulfillment.

Figure 1 - Traditional Retail Fulfillment



The key transportation providers in traditional retail fulfillment are third party logistics providers and freighter forwarders, shipping lines, airlines and trucking companies. In some markets, rail transport also plays a role in the shipment of containers from port to distribution centres. Shipment sizes tend to be either full or partial container or truck loads.

While much of the front end of the e-commerce retail fulfillment from factory to distribution centre is similar to the traditional retail chain, online retail is primarily centred around movement and delivery of small packages or single items, either domestically or cross borders. Figure 2 provides a simplified overview of the e-commerce fulfillment chain.

Figure 2 - E-Commerce Retail Fulfillment

A customer – be it a consumer or business – places an order which is then picked, packed, and dispatched from a seller or distribution centre using an inhouse or third-party logistics system that may involve pick up, origin handling, sorting and consolidation, road and air linehaul, customs clearance, destination sorting and handing, and last-mile delivery to homes, business or pick up points such as retail outlets and parcel lockers. Large e-tailers use predictive analytics to estimate what customer will order and when, allowing them to pre-stock items on delivery vehicles or local distribution points to provide instant or rapid delivery.

Particularly for domestic e-commerce the customer is generally provided with real-time or near-real-time tracking information. Due to the fulfillment options chosen by sellers in cross border e-commerce, tracking information is often not available to the customer.

E-commerce fulfillment involves more parties than traditional retail fulfillment. These include postal companies, express companies, courier companies, independent contractors as well as wholesale transportation capacity providers such as airlines or trucking companies. The traditional third-party logistics providers and freight forwarders play a lesser role in e-commerce fulfillment, either because platforms manage their own logistics or rely on specialist e-commerce consolidators or other providers to organize transport.

The way shipments are injected into third party carriers' systems depends on how sellers and logistics platforms manage their requirements. In essence, there are interface possibilities at all stages of the chain.

For example, shipments may be handed over to an integrator at origin, injected into last mile networks for delivery without any network impact further upstream.

The next two subchapters describe the mechanics of domestic and cross-border e-commerce fulfillment in more detail. Chapter 4 and accompanying appendix describe how the large platforms manage their logistics requirements.

2.2 Domestic E-Commerce Fulfillment

Fulfillment in domestic networks primarily relies on ground transportation, i.e. trucks and vans. For the purposes of our analysis domestic also includes intra-EU or other customs union markets that essentially operate like domestic markets. Some premium traffic moves by air in express or dedicated networks, and driven by predictive analytics, platforms such as Amazon also move inventory between fulfillment centers using air freight to ensure shorter delivery times to market once actual orders have been placed. Some e-tailers are also trialing delivery by drone or other automated vehicles, but so far this type of delivery is still in the experimental stage.

More detail of the type of traffic moving in different networks can be found in Chapters 5 (Postal), 6 (Express) and 7 (air cargo and dedicated e-commerce networks).

Figure 3 provides an overview of the mechanics of domestic and intra-regional (customs union) fulfillment.

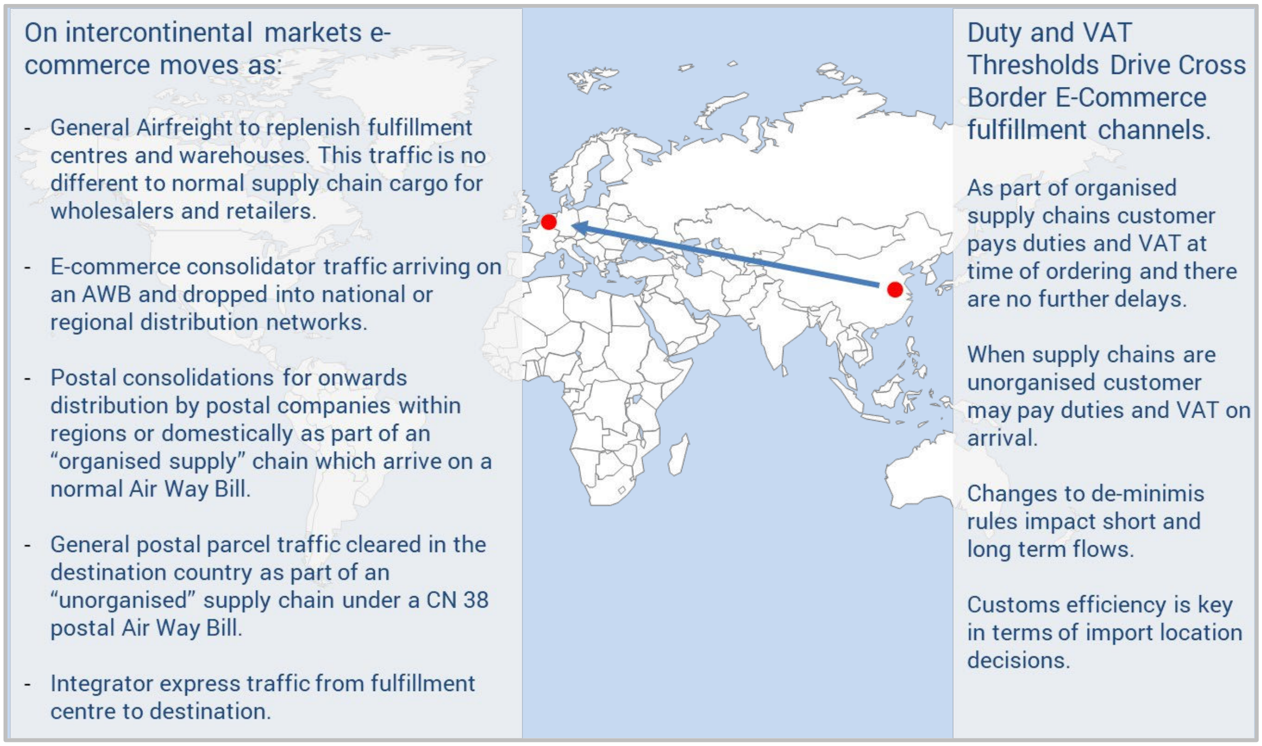
Figure 3 - Domestic Fulfillment

The choice of fulfillment channel and carrier is generally determined either by the seller or e-commerce platform, although in many cases customers can choose a shipping speed and occasionally are also given a choice of different parcel operators.

2.3 Cross-Border E-Commerce Fulfillment

Cross border e-commerce generally involves the use of airfreight, with subsequent on forwarding through postal, express or other parcel networks (see Figure 4).

Figure 4 - Cross Border Fulfillment Channels



Fulfillment channels are driven by customs and tax regulations and practices, particularly rules relating to de-minimis, tax-free thresholds and collection procedures. Changes to these have a fundamental impact on the flow of cross border e-commerce.

Postal, express companies, e-commerce consolidators are the key players in cross border e-commerce. Traditional forwarders and 3PL have tended to remain focused on their traditional business-to-business industrial operations. We do not view the replenishment of e-commerce provider warehouse and fulfillment center inventory as e-commerce. This type of traffic is no different to normal consumers goods and supply chain cargo moving by air (and ocean freight) for the replenishment of wholesaler and retailer stocks. As such we have excluded this from our analysis.

However, as e-commerce gains a greater share of overall retail volumes, we see a potential shift between customers – in favor of wholesale traffic to e-commerce warehouses and away from the distribution centers of traditional wholesale and retail companies.

3. E-Commerce Markets and Growth Drivers

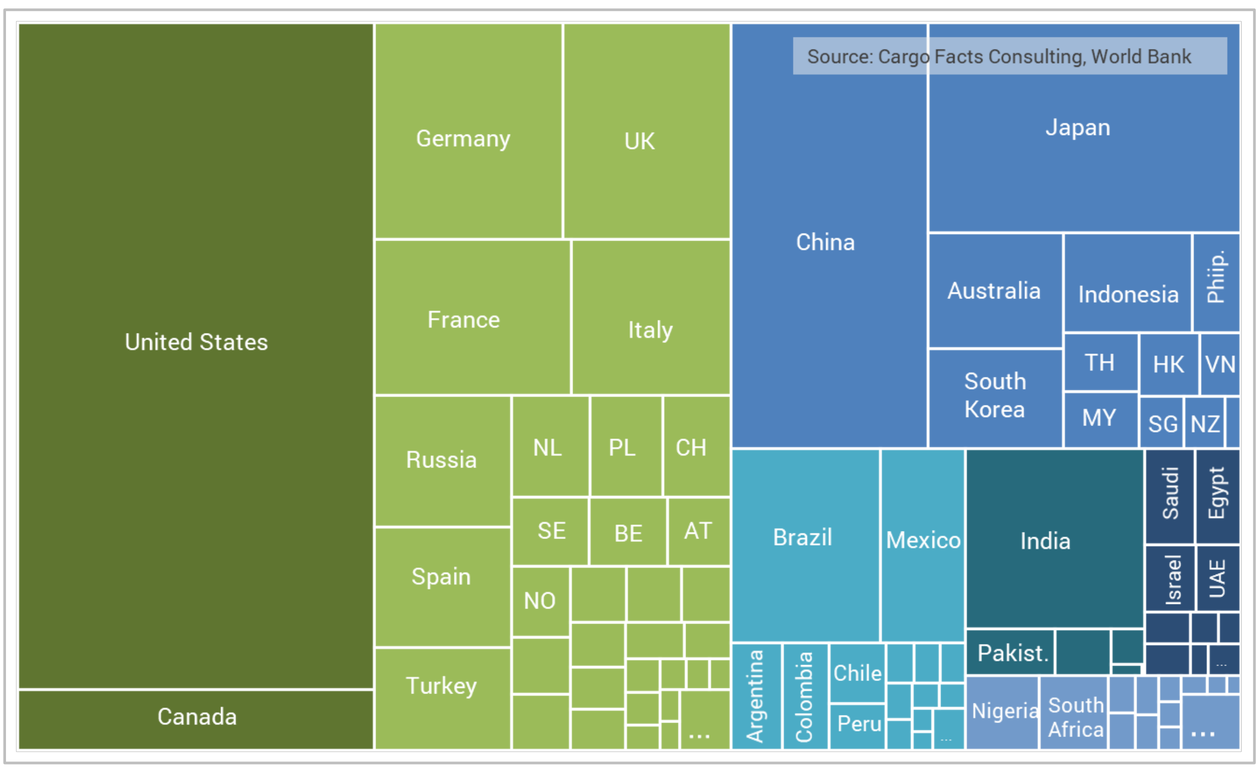
Key findings:

- COVID-19 lockdowns have led to consumers to spend more online, resulting in a spike in e-commerce. Medical supplies, groceries and household essentials have grown strongly.
- Post pandemic, we expect some but not all of this growth to be reversed as consumers return to normal shops.
- The biggest retail markets in North America, Europe and Asia are also the biggest e-commerce markets, but internet penetration varies across markets.

3.1 In Context: Global Retail and E-Commerce in 2019

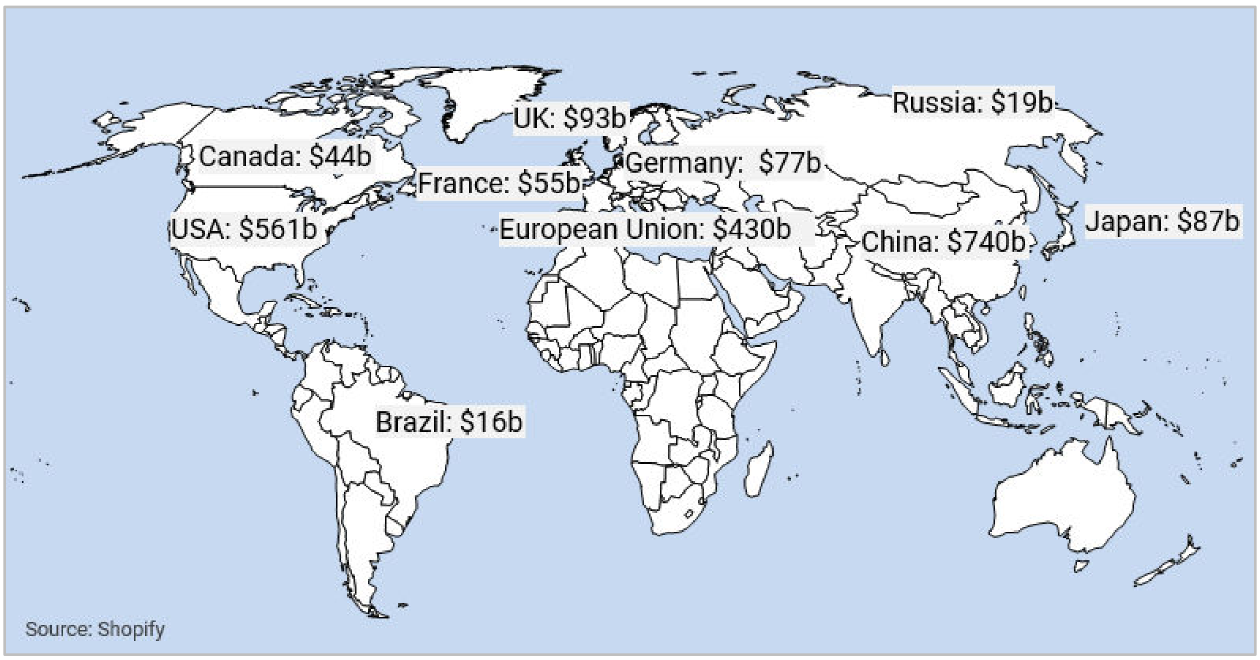
The United States, the European Union and the UK, China and Japan account for two thirds of worldwide consumer spending. The US and the EU alone each account for over a quarter of total household consumption. Figure 5 displays an overview of the retail markets worldwide.

Figure 5 - The World's Largest Retail Markets in 2019



These markets are also the biggest business to consumer e-commerce markets, although China's e-commerce market is proportionally larger relative to its overall level of consumer spending and by some counts Chinese consumers spend more on online shopping than any other country in the world. Figure 6 shows the largest e-commerce markets in terms of revenue. Cargo Facts Consulting estimates that the European Union accounts for approximately $430 billion in e-commerce revenue and is the third largest e-commerce market after China and the United States. The world's largest markets shown in the map have grown 11% in average with China displaying the largest growth of about 16% in 2019 while Japan only grew by 6%.

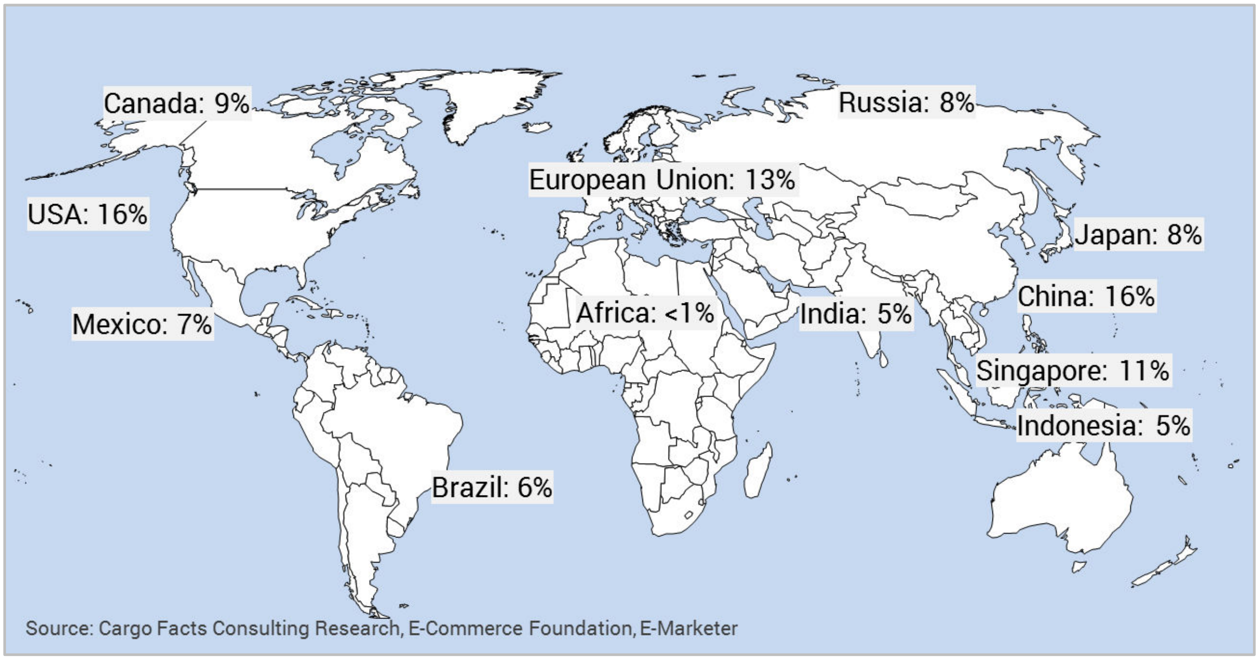
Figure 6 - E-Commerce Revenue by Market 2019



E-commerce sales as a share of the total retail sales shows substantial differences among different individual regions. Our analysis finds that Mexico, India, China and Indonesia have seen the highest rise while some other more mature markets such as Japan or Canada have been – relatively speaking – growing at a slower pace or below the 11% average. (

E-commerce market penetration, the share of retail that is conducted online varies across countries and regions, with China, the United States and the European Union displaying the highest shares. Shares in other parts of the Americas, Asia Pacific and Africa are much lower than these countries (see Figure 7)

Figure 7 - E-Commerce Market Penetration 2019



We have observed a slowdown trend in consumer spending over the last two years, which reflects the uncertainty surrounding global trade and a delicate economic environment. Asia Pacific led the e-commerce growth change in 2019 while the Middle East, Africa and Latin America are seeing higher adoption than North America and Europe. Malaysia, Thailand, Argentina and South Africa are some of the smaller markets that have seen the highest e-commerce penetration rate in the last year.

Even though Canada has an advanced internet penetration and it is one of the largest e-commerce markets, its geographically scattered population has hampered the growth of e-commerce. Long distances from East to West have contributed to the high costs of last-mile delivery, creating logistical inefficiencies across the country. Recent improvements in Canada such as the adoption of a mobile-first strategy has helped, and online spending seems to be accelerating. A mobile-first strategy is defined as the use of mobile devices (smartphones, tablets) as the primary tool for companies' last-mile delivery process.

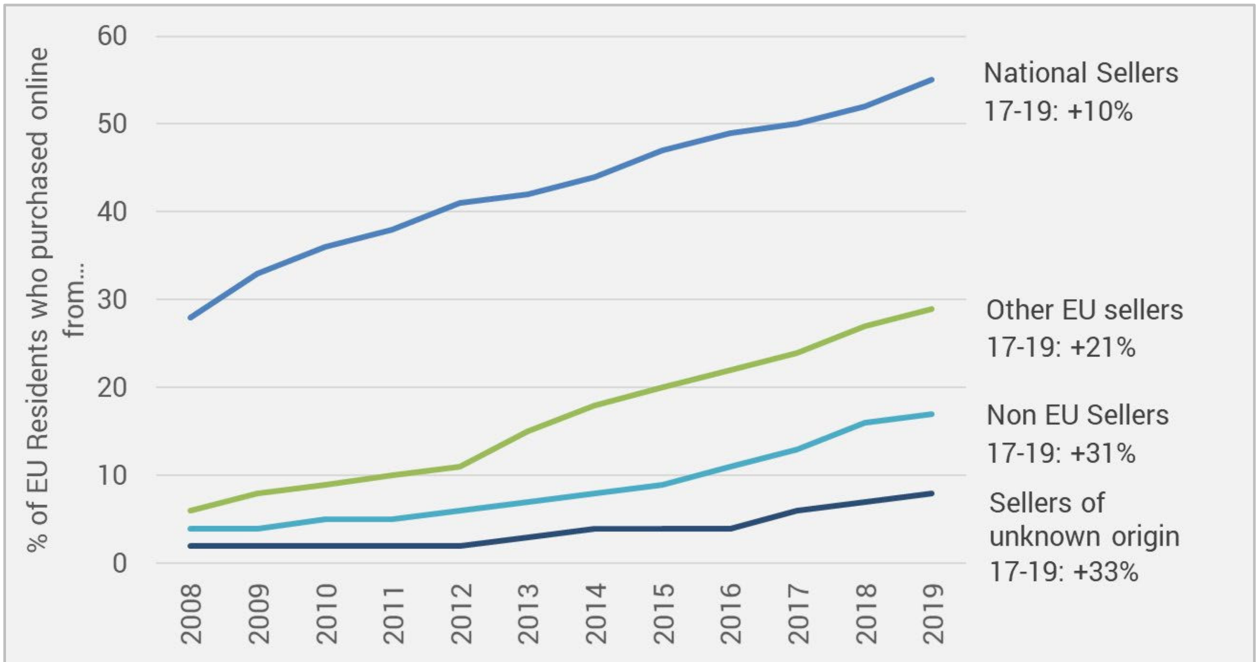
China stands out as the largest e-commerce market and projections show that they will remain in the first position in the foreseeable future, but this country still faces multiple challenges in the e-commerce space. Advertising products through online tools like Instagram or YouTube is not possible in China and online consumers prefer social media or mobile applications over standalone websites to purchase products. It is easier for Chinese businesses to enter Western markets, but the opposite requires an ICP (Internet Content Provider) license from the Chinese Government, a troublesome and lengthy process required for all foreign domains.

E-commerce start-up Pinduoduo is only five years old but its market value of $95.7 billion as of September 2020 makes this company one to follow as its business models differs from the other Chinese giants such as JD.com and Alibaba. This online site specializes in discounts and combines bargain products with entertainment using social media as the main marketing platform. Third-party sellers offer products on sites like WeChat to attract consumers to buy as a group. The NASDAQ listed company with 685 million users and about 50 million orders daily reported revenues of $4.5 billion in the latest fiscal year that ended in March 2020. On the other hand, Pinduoduo's operating losses increased by 10% after seeing its costs soaring but investors seemed enthusiastic about the e-commerce sales boost during the pandemic and its share price has doubled in the last six months. Pinduoduo's revenues originate from its marketing, advertising campaigns and promotions from its 5 million third-party sellers and it does not own stock or warehouse spaces, making it an asset-light based e-commerce company. Pinduoduo is prioritizing growth over profits and it has achieved an impressive user base in a short period of time, but the question is whether this model is sustainable and if Pinduoduo will be able to compete with Alibaba and JD.com in the near term.

3.2 Cross Border E-Commerce in 2019

While domestic e-commerce markets are larger, cross border e-commerce markets have been growing faster. Figure 8 provides an example of this development within the European Union, where more online shoppers have made purchases from national, other EU and non-EU sellers. All categories have grown, but the number of residents purchasing from non-EU based sellers (such as those in China) has grown faster than all other categories.

Figure 8 - EU Cross Border vs Domestic Purchases 2008-2019



Source: Cargo Facts Consulting Analysis of Eurostat data

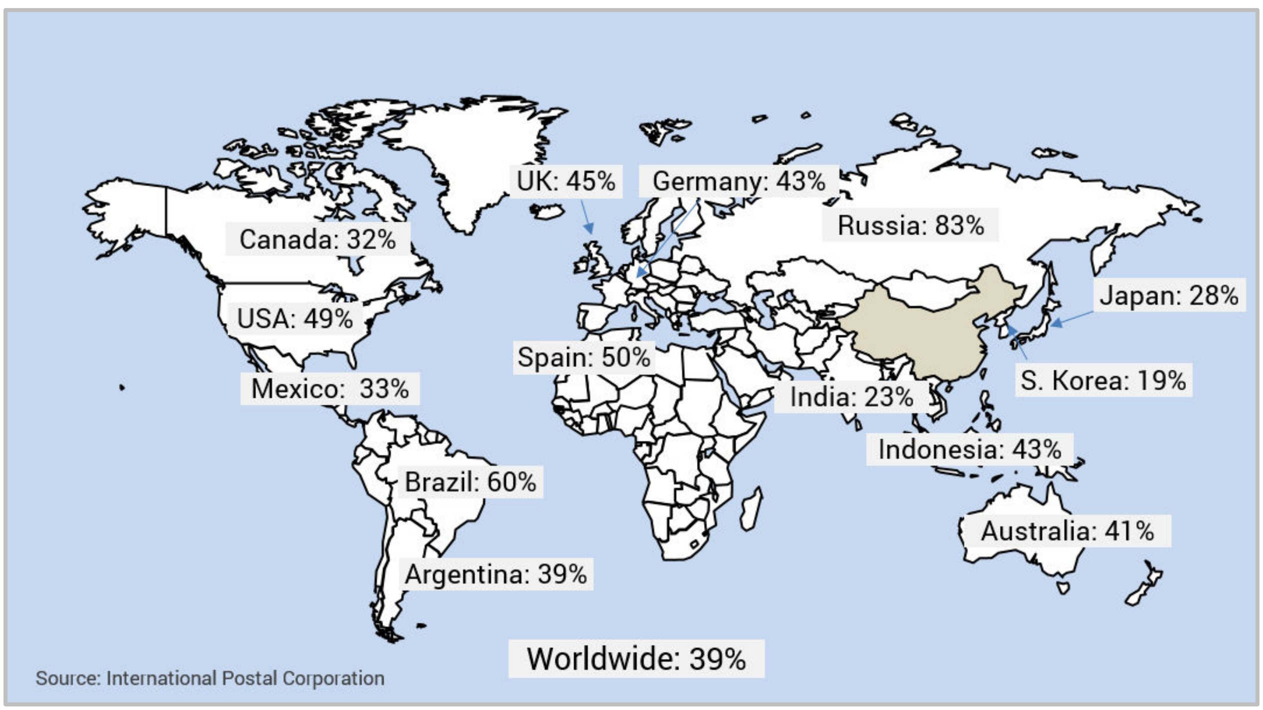
E-commerce platforms keep expanding internationally and adopting different approaches around their cross-border e-commerce strategy. Cargo Facts Consulting has gathered a summary of the different approaches and its advantages and challenges used by different platforms when launching their cross-border operations. A successful strategy requires the correct implementation of one or more of the approaches listed in Table 1. The Chinese giants, Alibaba and JD.com have both introduced branded sites in their international marketplaces with the aim to provide an enhanced customer experience.

Table 1 - Strategies for Cross-Border E-commerce adopted by Platforms

Strategy	Pros	Cons
Partnering with local vendors	Logistics operations managed by experienced local teams	Vendor sourcing process and limited control of brand experience and operating costs
Establish a local entity within the foreign country	Possibility of future expansion, control of full operations, consumer experience and IP	Large upfront investment, long ROI and comprehensive research on import, market, taxes, policies and regulations
Introduce a online marketplace	High traffic and outsourced logistics; continuous monitoring of consumer behaviour	Higher costs to run branded sites and slower servers; higher competition on potential saturated marketplaces

China is the main source of cross border e-commerce, accounting for approximately 39% of all online cross border transactions worldwide. If intra-EU transactions (which are essentially domestic) are excluded this number would be much higher. Figure 9 displays an overview of key e-commerce markets and the share of Chinese cross-border purchases.

Figure 9 - Chinese Share of Cross Border E-commerce by Country 2019



3.3 The Only Game in Town: E-Commerce in 2020

Most e-commerce platforms are withdrawing their financial guidance for fiscal year 2020 and their outlook beyond 2020 due the unprecedented volatility in the economic environment brough by COVID-19. The length and impact of lockdowns, consumer confidence and the scale of economic stimulus reflects the uncertainty surrounding the financial performance of companies in the next months. Those platforms who deliver on their brand promise and adapt to the changing environment will be well positioned for long-term success.

COVID-19 has forced physical shops to shut down for months and reopen under strict conditions. The lockdown periods have caused a sudden expansion of e-commerce activity with more consumers moving away from physical shops and shopping online more frequently. Department stores in the US have suffered sales declines of roughly 25% in the first quarter of 2020 and up to 75% in the second quarter according to the latest IBM US Retail Index report. COVID-19 has also allowed us to identify essential and non-essential goods so items like clothing were less critical and other products including groceries and household goods saw their sales rise.

The boom in e-commerce activity during the pandemic has made warehouse space popular among investment firms and platforms. It is easy to forget the warehouse business since everyone thinks about it as a big space with four walls and a roof, but it is an essential element in the supply chain and demand for e-commerce products certainly requires more warehouse space. In the United States, new warehouses are being built in the abandoned shopping malls outside urban areas. In Europe, a case to highlight is London's Ravenside Retail Park, an area which is set to become a logistics hub in the north of the city after all physical stores have been shut down permanently. COVID-19 has made the warehouse business even more inviting as demand for space has increased especially in large urban areas as online platforms are looking to reduce delivery times.

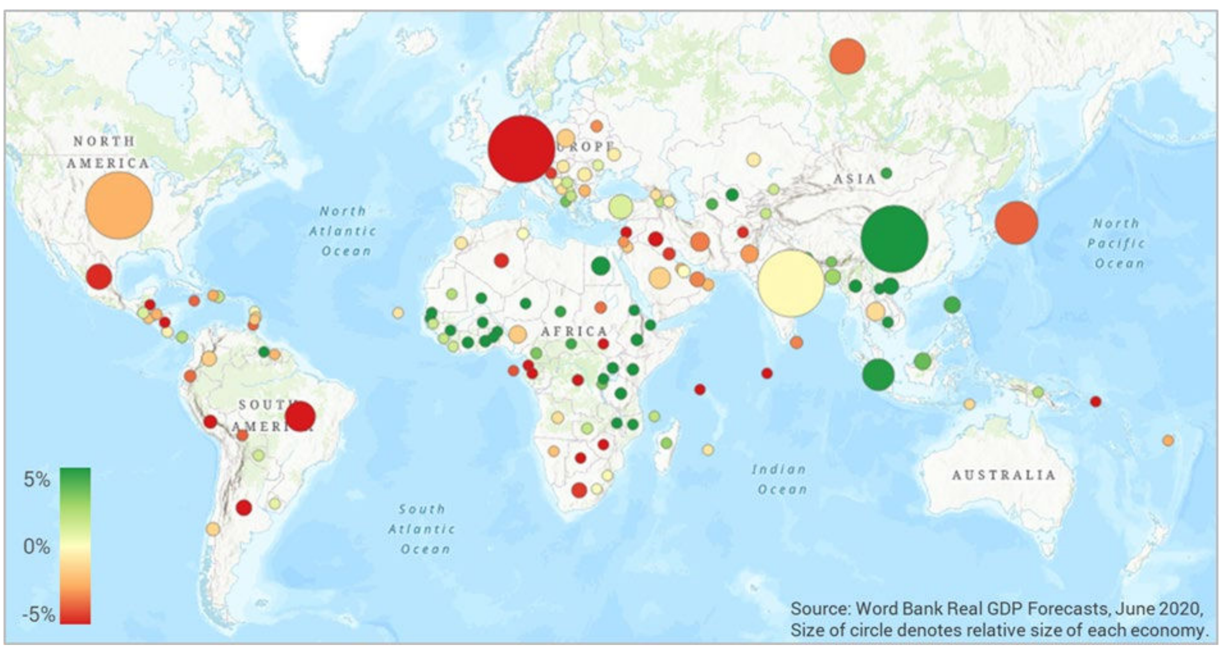
The pandemic has highlighted the strengths and weaknesses of e-commerce platforms. Some of them have become essential tools and 2020 volumes and financials will show which companies were up to the challenge and those that suffer from the increasing demand of products. The boost in sales over the pandemic has resulted in companies to hire more employees and to invest in their delivery capabilities, prioritizing the delivery of essential products, which have lower margins than more lucrative non-essential items. An example is how Amazon saw its sales rise by 26% in Q1 2020, but profits fell by 29% compared to Q1 2019.

Nevertheless, e-commerce platforms have suffered from capacity and fulfillment issues since the pandemic started. Rakuten Intelligence reported that Amazon's share of total online spending in the US declined from 42% in December 2019 down to 34% in April 2020. This shows how Amazon along with other companies could not keep up with the demand of online items and consumers had to rely on other platforms such as Walmart or Target which have expanded their online offering in 2020. In fact, Walmart e-commerce sales were up 97% in second quarter of 2020.

3.4 Beyond 2020: Backwards or Forwards?

Because of the pandemic, many economies worldwide are expected to be smaller in 2021 than they were in 2019. Following growth of 2.4% in 2019, the recent June 2020 World Bank report forecasts expect a worldwide decline of 5.2% in 2020, followed by an increase of 4.2% in 2021. This means the world economy will be 1.2% smaller at the end of 2021 compared to 2019. The Euro Area is expected to be 5% smaller, while China will grow.

Figure 10 - 2021 Forecast GDP as a Percentage of 2019 Levels, Worldwide



It is clear that the pandemic has accelerated the shift to online shopping with most major e-commerce platforms reporting strong sales in the second quarter of 2020. The rate of digitization continues its upward trends and the e-commerce giants have benefited from a higher number of individual consumers shopping online in 2020. Platforms have leveraged their technology and logistics capabilities to ensure the steady supply and on-time delivery of products to consumers, but will this increase in e-commerce adoption stay beyond 2020? Reports indicate that the pandemic has pushed the industry ahead by around five years.

Years before the pandemic, retailers kept fighting an arduous battle against the e-commerce giants but 2020 has certainly accelerated the challenges as malls remained closed for months and consumers relied on online shopping. Brick-and-mortar stores are slowly reopening but they all must adapt to the safety regulations such as limiting the amount of people inside the store, imposing mask wearing, introducing more self-service options and improving the speed of service. This is costly, time-consuming and definitely not appealing to shoppers who are used to seamless online purchases; how can a client buy an item if they are worried about going into a store?

Physical chains are struggling and there will be a lot less at the end of the pandemic if they do not reinvent themselves to survive. Retail chains are looking into fulfillment and logistics centers located behind the stores or nearby to combine the in-store shopping, click and collect option and fulfillment of online orders all in the same place. Since shopping malls are conveniently located in urban areas, retailers believe their stores can become part of the supply chain. Those traditional stores with the capability to increase their online offering and ensure a customer enhanced experience will likely survive the impact.

The COVID-19 outbreak has highlighted some of the weaknesses of digital technologies and tools and in the context of e-commerce, the main lessons learned include the need for greater cooperation between countries to facilitate the cross-border movement of goods, the implementation of online payment options across younger markets and the reduction of the digital divide.

4. E-Commerce Platforms: Shaping Logistics Networks

Key Findings:

- E-Commerce logistics fulfillment networks and service requirements are being shaped by the large global and regional platforms.
- Most e-commerce providers saw their Gross Merchandise Value (GMV) grow last year, a clear sign of a strong e-commerce growth and expansion in 2019.
- A shift from two day to faster overnight and same day shipping has seen fulfillment costs growing faster than revenues and is accelerating a review of logistics networks and subcontractor arrangements.
- Most online platforms reported an increase in net sales over the first six months of 2020, in line with the boom in e-commerce activity during the pandemic.
- Own controlled logistics is seen by the big e-tailers as a major source of competitive advantage and some have started becoming logistics providers themselves.
- Logistics subcontractor requirements are changing as platforms have made moves to insource volumes carried by third party express, postal and parcel companies.

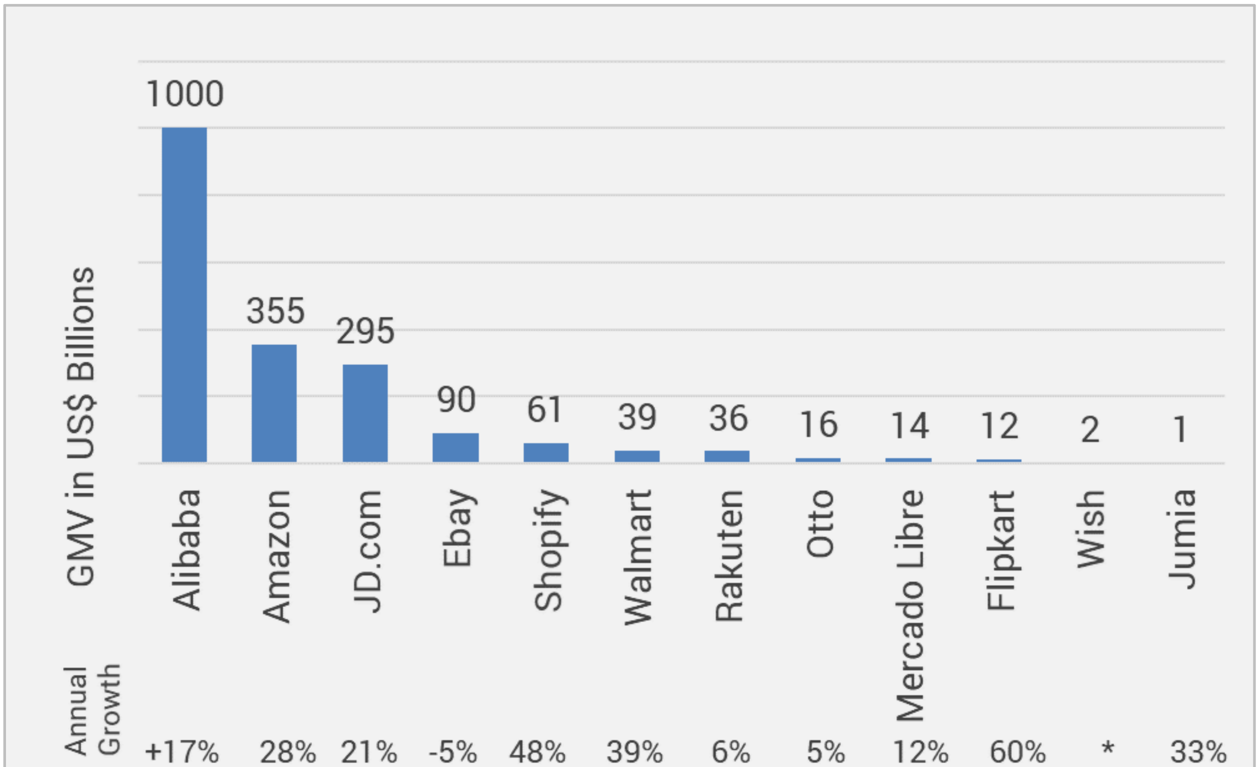
4.1 The Big 3 Drive Global E-Commerce Volumes

With a large share of global e-commerce revenues generated by or via the big global e-tailers and marketplaces, the strategies of the major platforms have a disproportionate impact on shaping e-commerce logistics requirements. As part of our research, we have taken a detailed look at the operations and logistics strategies of 12 key, emerging global and selected regional e-commerce platforms representing approximately 45% of global e-commerce GMV: Alibaba (and its subsidiaries), Amazon, JD.com, Ebay, Shopify, Walmart, Rakuten, Otto, Mercado Libre, Flipkart, Wish and Jumia. Most of these companies have become large and powerful buyers of logistics services. Please note that in Walmart's case, the GMV figure only includes the company's e-commerce business.

While we also track the activities of other platforms such as Pinduoduo, Souq.com (now part of Amazon), Mail.ru, Zalando or Target to name a few, we feel the companies selected provide a valuable cross-industry picture of what is happening in e-commerce logistics. As with other parts of the report, we welcome your feedback on the scope of our coverage in the lead up to next year's report, the research for which starts in the spring. A year in the world of e-commerce is a long time.

Figure 11 provides an overview of the Gross Merchandise Value (GMV) of the platforms included in our analysis. GMV is a measure of scale and consists of the sum of revenue conducted with own retail and revenues achieved by third party retailers. For platforms which host third party sellers, the revenue generated by platform itself (also called net revenues) is usually a fraction of GMV. In Alibaba's case net revenues are about 7% of GMV. This number increases depending on the commissions charged by the platform as well as value-added services provided to sellers, such as fulfillment. Appendix A provides a detailed profile of each of the platforms, their logistics operations, expenditure and strategies.

Figure 11 - Key Global and Regional E-Commerce Platform GMV in 2019



Source: Cargo Facts Consulting, Company Financials

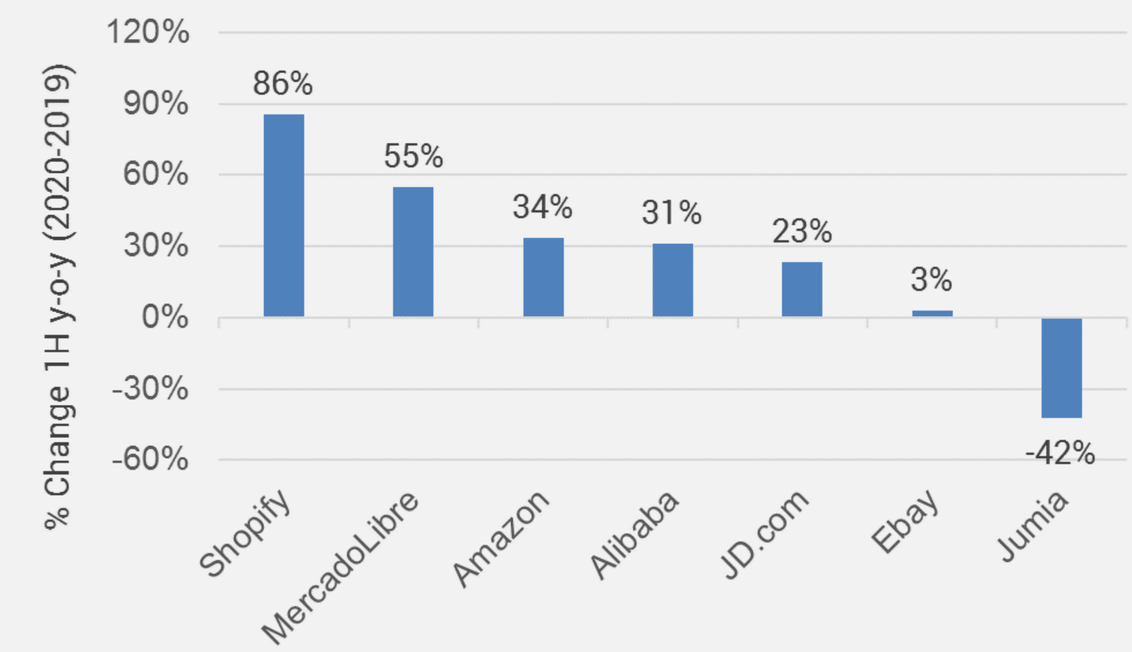
With a total of annual active consumer base of 960 million worldwide, Alibaba achieved a major milestone in FY2020 reaching a GMV of $1 trillion (RMB 7,053 billion), which including China retail marketplaces and local consumer services GMV. All major and minor platforms, with the exception of eBay, Otto and

Rakuten, have shown double-digit growth in overall sales volumes in 2019. Shopify's market value in 2012 was $24 million; since then, it has soared to $1.6 billion currently with sales going up more than 47% last year. But how is Shopify trying to compete with Amazon? CFC has observed that Shopify is trying to avoid direct competition with Amazon by investing in services that help their merchants acquire consumers faster. An example is how Shopify is investing heavily in their Fulfillment division and it recently acquired 6 River Systems Inc., a leading provider of collaborative warehouse fulfillment solutions.

But what does this growth mean for the requirements for air capacity? At this stage we think only the big three — Alibaba, Amazon and Jd.com — have the scale to commit to dedicated air capacity. However, although all three companies follow similar logistics insourcing strategies, Alibaba and Jd.com remain reliant on commercial arrangements with third parties to provide their capacity.

According to the Q2 2020 report from the U.S. Census Bureau, U.S. retail e-commerce reached $211.5 billion, up 31.8% from the first quarter, and 44.5% year-over-year. E-commerce also accounted for 16.1% of total retail sales in Q2, up from 11.8% in the first quarter of 2020. The numbers from the US reflect what has happened in other countries. As a result, most major online platforms have seen their cost of goods sold increased in the first six months of the year as shown in Figure 12.

Figure 12 - E-Commerce Platforms Net Sales Growth 1H 2020 vs. 2019



Source: Cargo Facts Consulting, Company Financials

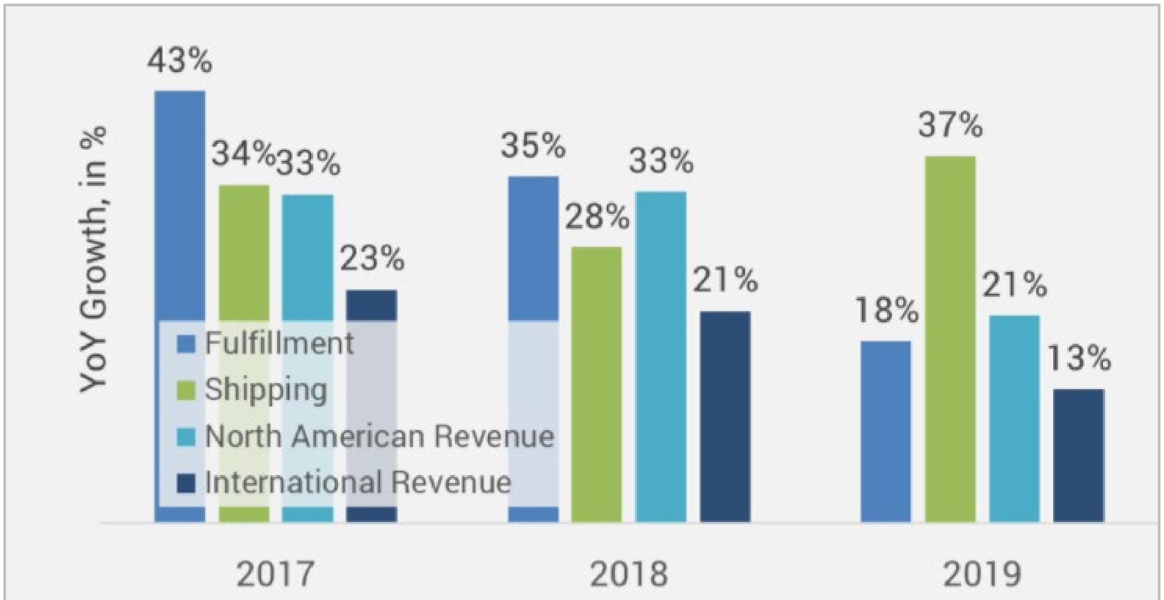
Walmart does not provide details on its e-commerce sales and the share of the total so we decided to exclude them from the chart above but even though Walmart's e-commerce sales rose 97% in the second quarter of 2020, this must be taken with a grain of salt and we do not believe this is a threat for Amazon yet at least. A large amount of Walmart's e-commerce sales involve grocery pickup sales and other standard e-commerce sales including household products that would have taken place at physical Walmart stores if online shopping was not a choice.

4.2 Key Platform Driven E-Commerce Logistics Trends

In last year's report, we identified a number of trends that apply across e-commerce platforms – even though geographical scope and scale vary substantially between platforms. These continue to be valid, specifically:

- **Fulfillment costs are rising faster than revenues** – this is both a sign of a shift in service offering as well as a problem. Many platforms (Amazon, Walmart, JD) have moved from two day to overnight, same day or even delivery within the hour. Companies have not recovered the additional cost of this from their customers through their "Prime"-style memberships. This hurts its margins, and consequently transportation suppliers will be pushed harder to lower prices. Amazon has been spending heavily on expanding its fulfillment and more recently, its shipping capabilities. In 2017 and 2018, fulfillment costs grew by 43% and 35%, respectively, while in 2019 fulfillment costs grew in line with the increase in amount of their space (see Figure 13 below).

Figure 13 - Summary of Amazon Revenues and Cost Development 2017-2019



Source: Cargo Facts Consulting analysis of Amazon financial results

Last year we saw a large increase in shipping costs as Amazon expanded its prime delivery capabilities. Shipping costs grew by 37% in 2019 compared with North American and European revenue growth of 21% and 13%, respectively, a trend that has continued in 2020. UPS has benefited from this in terms of volume growth, but package yields have taken a hit. As Amazon expands its own network, UPS has the most to lose. In Europe, companies like Deutsche Post DHL have also seen volume growth slow as Amazon has insourced more volumes. However, in Europe the e-commerce market is more diversified than in the U.S., where Amazon is by far the most dominant player, so a loss of volume may not hurt as much there.

- **Own controlled logistics is seen as a competitive advantage:** all the above platforms have their inhouse logistics providers, with the exception of Wish, Shopify and Ebay -- although the latter two have recently made moves in the direction of own-controlled logistics. While most run their own fulfillment centres, they tend to rely on third-party carriers for linehaul and last-mile services. Otto is an exception with its own package company, Hermes, as is JD.com, who also runs its own delivery company. Walmart recently announced that it plans to offer one-day delivery for many items to about 75% of the U.S. population by the end of 2020. Still, given the scale and efficiency of Amazon's giant fulfillment and logistics infrastructure and its ability to offset shipping costs via Prime membership fees, Amazon looks better-positioned to support one-day shipping on a large scale in a profitable way.

- **Big platforms are shaping third-party provider networks:** Weekend and late evening delivery are becoming more prevalent around the world, and courier working times and delivery times are being driven by arrival of trucks from fulfillment centres. For example, DHL in Germany has delayed start times of delivery runs to accommodate trucks arriving from Amazon fulfillment centres.

- **Logistics networks are open to third-party sellers:** where platforms host third-party sellers, these can access the platform’s fulfillment networks. This is a logical development as most platforms either rely entirely on third party sellers (e.g. Alibaba) or have seen an increasing share of third-party sellers (e.g. Amazon). However, none of the big platforms have become serious competitors to the traditional 3PL giants like DHL, Kuehne & Nagel or DB Schenker. Cross border as well as domestic e-commerce fulfillment is a fundamentally different business. Cainiao still has the greatest potential to become a threat to the traditional 3PL business.

- **Some logistics networks are open to third parties who are not sellers**: JD.com and Hermes, for example, have opened their parcel networks to thirds parties including the general public. Cargo Facts Consulting believes that once networks have reached a certain scale and maturity, platforms will seek to use these networks to drive additional revenue opportunities.

- **Moving from Controlled to Insourced Logistics:** in order to reduce costs and dependency on third-party providers, some platforms particularly JD.com and Amazon have moved from controlled to increasingly insourced logistics networks. This includes both linehaul, last-mile delivery and establishment of non-courier-based networks of parcel lockers and pick up locations. The latest example is Shopify investing in their warehouse fulfillment solutions.

The following chapters discuss how postal, express and other companies in the logistics business have been positioning themselves to deal with these trends as well as establishing themselves as alternatives to the large e-commerce platforms.

5. Postal Networks

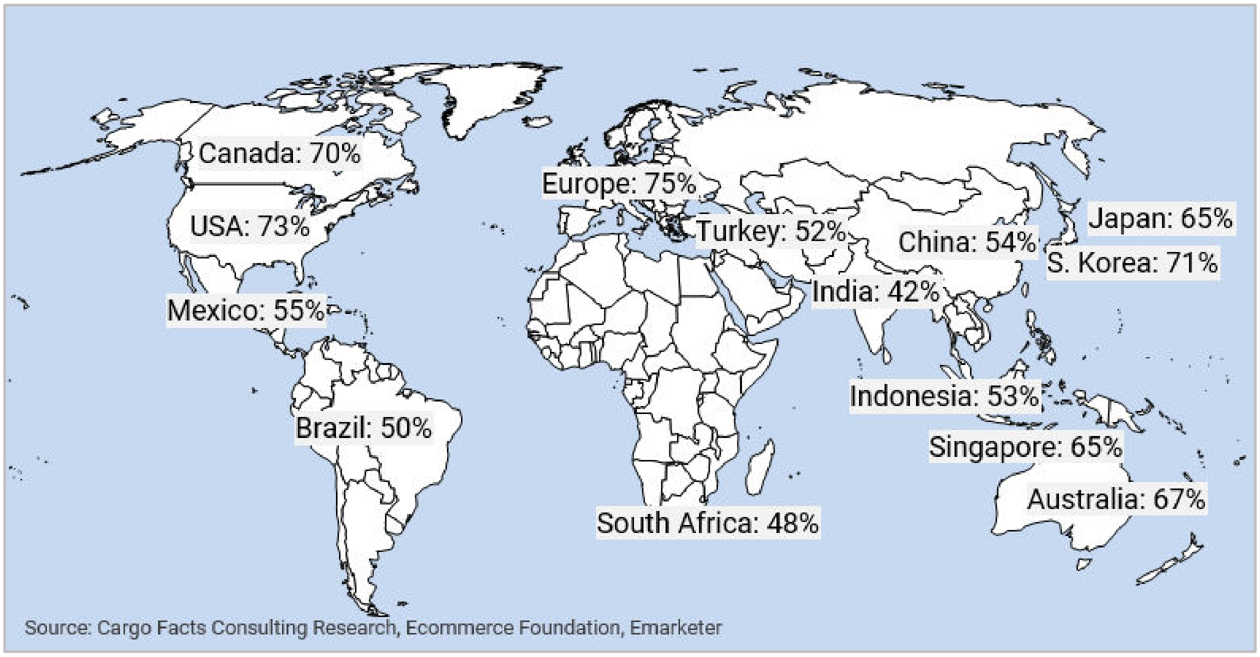
Key Findings:

- Business to consumer e-commerce traffic is becoming the main source of revenue for postal companies as traditional mail volumes continue to decline.
- E-commerce service requirements and volume increases are putting pressure on postal networks which have been forced to adapt operating patterns and invest in physical and IT infrastructure.
- Many, particularly smaller postal companies, are moving beyond the traditional scope of their business and have started providing a wide range of e-commerce related service.

5.1 All Parcels and No Mail: The Changing Face of the Postal Business

The postal business has undergone fundamental changes over the last decade. During this time, the average share of postal revenues from logistics and parcels has increased from 15% to 25%, while traditional mail volumes have continuously declined and represent about 39% of postal revenues today compared to 46% in 2017, according to statistics collected by the Universal Postal Union (UPU). Postal companies are key fulfillment agents in the e-commerce supply chain and most parcels moving through postal networks are e-commerce, although there are differences between markets. Figure 14 shows the share of packages associated with e-commerce in postal networks.

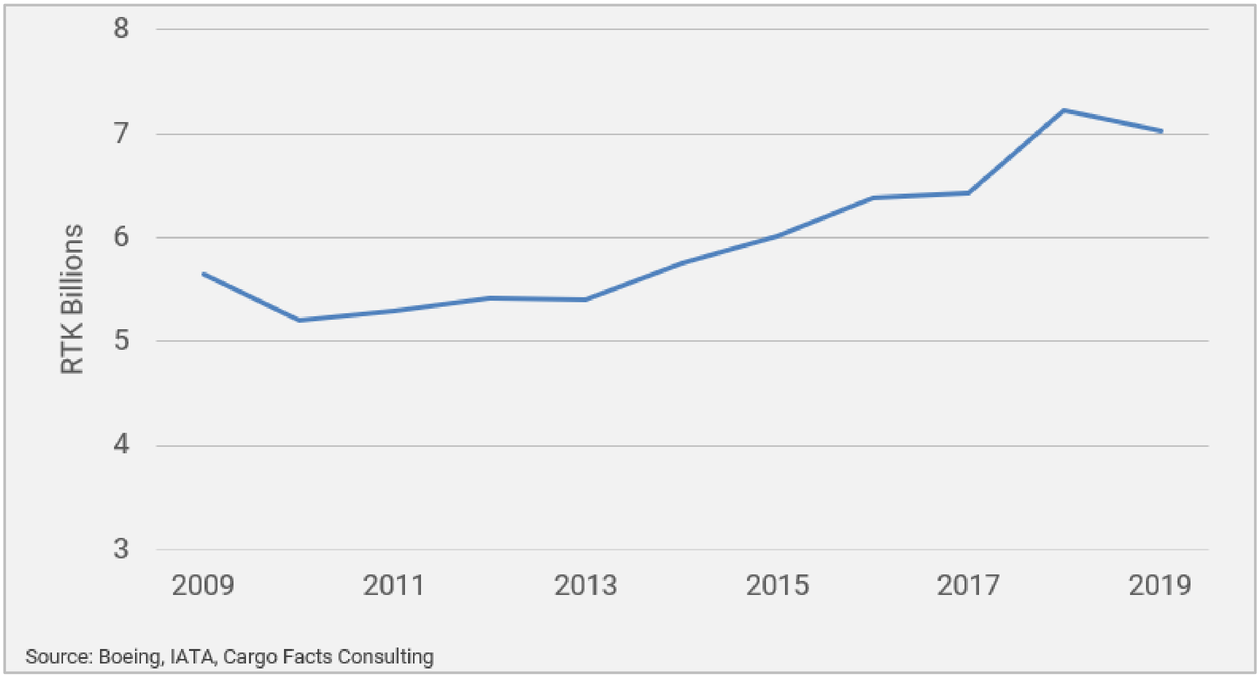
Figure 14 - Share of E-Commerce in Postal Parcel Networks 2019



Airmail plays an essential role in the delivery of letters and parcels between intercontinental and within key domestic markets. According to IATA, 7.4 billion parcels and 328 billion letters were sent via air in 2018 and even though mail volumes have decreased, parcel volumes have risen due to the growth in e-commerce. In 2019, Cargo Facts Consulting estimates that the number of letters in 2019 was about 316 billion while parcels increased to 7.8 billion.

The growth in cross-border as well as domestic parcel traffic has also driven renewed growth of global postal traffic carried by air. Figure 15 shows the global airmail traffic measured in billions of revenue tonne kilometers (RTKs) over the last ten years. In 2019, world airmail traffic declined by 2.6%, in line with the global air cargo volume decline of 3% in 2019. Cross border e-commerce traffic continues to grow strongly but there is also an increasing amount of cross border traffic destined for postal networks that travels as general airfreight and not under a CN 38 postal airwaybill.

Figure 15 - Global Airmail Traffic 2008 – 2019



5.2 Postal Networks Overview: Financial Performance, Challenges and Outlook

E-commerce has presented an opportunity for the postal companies to contribute to the growth and expansion of cross-border e-commerce transactions. Nevertheless, not all postal operators have done well from a financial perspective and their losses keep increasing such as the United States Postal Service. On the other hand, Deutsche Post (Germany), La Poste (France) or Japan Post have broadened their online presence and cross-border reach, capitalizing on e-commerce development and broadening their delivery services. These companies have moved beyond traditional delivery to offer a much wider suite of services including warehousing, pick and pack, or even launching their own e-commerce platforms to serve small and mid-sized businesses wary of the big e-commerce providers. Without any exception, those postal companies that have been successful have invested both in technology and infrastructure.

When it comes to serving customers across different markets through cross-border transactions, there are different needs and requirements. E-commerce offers growth potential for the postal industry but there are some challenges associated that must be considered such as the complexity of the postal product offering, the lengthy customs process, or the lack of adequate infrastructure support. Customers look for simple and affordable postal services and therefore, postal operators must take a customer focused approach with a flexible range of cross-border e-commerce shipping options that can meet customers' needs at all levels.

We have analyzed the largest postal companies in the world in terms of volume and revenue. The consistent trend continues, and we keep observing revenue growth in their parcel business units, fueled by increased e-commerce activity while the mail business is in decline. The shift from traditional letters to parcels is irreversible and most postal operators are also developing solutions for international shippers to consumers (B2C) and expanding their cross-border portfolio of e-commerce services. Most of postal companies in the EU have developed a solution called the E-Parcel Group (EPG) to boost the reliability, speed and tracking of cross-border e-commerce.

Traditional mail remains an important source for the postal operators, but e-commerce is becoming the main driver for the delivery business, filing the gap caused by the declining volume in mail and increasing volume in parcels. Furthermore, our research shows that postal companies are often better positioned to service domestic networks, but they must rely on private logistics providers and express operators to fulfill their cross-border offer.

Table 2 shows the largest postal networks in the world ranked by revenue generated in 2019, their country of origin and volume of pieces handled annually. Furthermore, the table shows revenue and profit reported in 2019 and their main joint-ventures and agreements with large enterprises operating in their territory. Our analysis shows that there is not a clear trend of profitability as a consequence of e-commerce volume growth. Some operators that reported losses last year are showing strong profits and the other way around. Even though operating costs have increased generated by saturated production capacities and uncompetitive labor costs, the e-commerce expansion and parcel handling business seem to have offset these losses.

Table 2 - Postal Network Summary: volumes, financial performance, and agreements

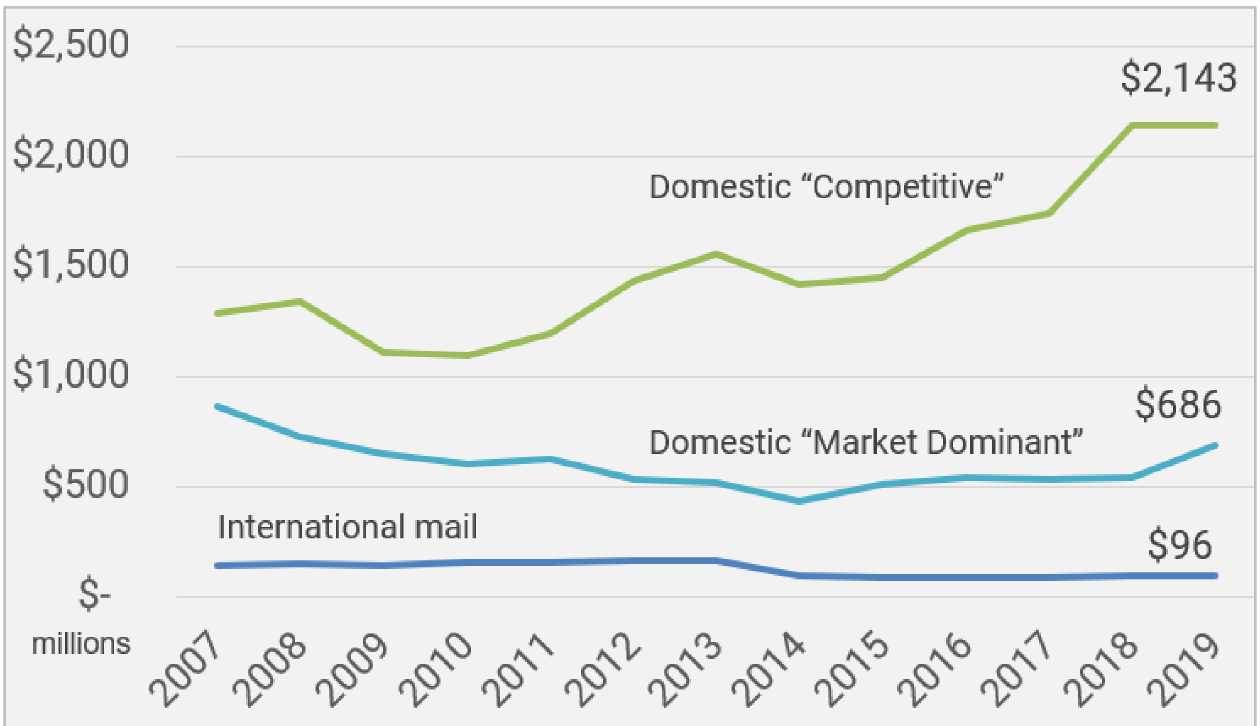
Postal Company	Country	Annual volume (no of pieces in million)	E-commerce as % share of parcel business segment	JV & Agreements	2019 Revenue (USD in billion)	2019 Profit (USD in million)
China Post	China	NA	58%	Alibaba	$89.3	$4.4 (+7%)
USPS	US	67,954	70%	Amazon, USPS, Ebay	$71.1	-$8,810 (+125%)
Deutsche Post	Germany	22,780	77%	Amazon, Zalando, Bol.com	$18.1	$1,441 (80%)
La Poste	France	16,115	71%	Cdiscount, Amazon	$14.2	$478 (-14%)
Japan Post	Japan	21,760	68%	Rakuten, Amazon	$12.9	$565 (42%)
Royal Mail	UK	17,209	73%	Amazon, Marks & Spencer	$10.0	$151 (-41%)
Canada Post	Canada	7,900	67%	Zulily, Amazon	$6.6	-$10.5 (85%)
Poste Italiane	Italy	3,617	71%	Amazon	$4.1	-$98 (+18%)
Correos	Spain	2,945	73%	Amazon, Alibaba	$2.8	$17.3 (+109%)
Russian Post	Russia	5,690	n.a.	Alibaba, Avito, Ozon, Ulmart	$2.7	$38.5 (+14%)
Korea Post	S. Korea	5,302	77%	Coupang, G-Market, 11St	$2.5	NA
India Post	India	6,511	47%	Blue Dart, Bombino, Amazon	$2.5	-$1,685 (21%)
Australia Post	Australia	3,780	69%	Qantas, Toll, JD.com	$1.6	$29.10 (-70%)
Singapore Post	Singapore	n.a.	n.a.	Lazada, Amazon, Shopee	$1.1	$14 (-86%)
Correos Mexico	Mexico	854	55%	Amazon, Mercado Libre	$0.6	$16 (23%)
Correios	Brazil	1,348	52%	Alibaba, Mercado Libre	$0.1	$25/3 (-36%)

Source: Cargo Facts Consulting, Company Financials

The United States Postal Service (USPS) remains one of the largest players in the postal market and its product offering is divided into two categories: Market Dominant and Competitive. The market-dominant category includes First-Class Mail, Marketing Mail, Periodicals, Package Services and other services, such as Certified Mail. These products are market-dominant because USPS is the only alternative to physically deliver them. On the other hand, the competitive type includes several products that compete directly with other delivery companies. This category includes Priority Mail, Priority Mail Express and commercial package services like Parcel Select and Parcel Select Return.

USPS spend on domestic air in 2019 was $3.1 billion, 6% higher than in 2007 and 55% higher from its lowest point recorded in 2010. Figure 16 shows how much USPS has spent on airmail in the domestic and international segments. In 2019, the market dominant category accounted for most of the spend growth while the domestic competitive and international segments remained flat. Over 2019, First-Class Mail volume declined by 1.8 billion pieces, resulting in a 2.6% loss in volume. Marketing Mail volume also declined considerably, by 1.6 billion pieces. USPS has stated that Consumer Price Index rate increases were not enough to offset revenue lost from declining mail volumes.

Figure 16 - USPS Domestic Air Spend by Category 2007 – 2019



Source: Cargo Facts Consulting analysis of USPS Financials

Nevertheless, the growth in parcel volumes has provided business opportunities for a range of suppliers across the transportation and logistics sectors. Lynden Air Cargo, Alaska Airlines and Kalitta Air saw the largest increases in revenues generated with the United States Postal Service. Table 3 provides and overview of the top air express and airline related suppliers to USPS.

Table 3 - USPS Top Contractors FY 2016- 2019

Rank	USPS Supplier	FY 2019 Spend, $ Millions	FY 2018	FY 2017	FY 2016
1 (1)	FedEx	2,051 (+2%)	2,001	1,610	1,679
6 (5)	UPS	211 (+2%)	206	172	169
9 (10)	United Airlines	177 (+6%)	167	165	161
10 (21)	Kalitta Air	171 (+68%)	102	83	78
23 (23)	American Airlines	85 (-13%)	98	93	86
25 (25)	Delta Airlines	83 (-2%)	85	74	72
35 (33)	Northern Aviation Services/ Aloha	60 (+2%)	59	56	57
44 (53)	Alaska Air Group	49 (+26%)	39	37	31
75 (75)	Everts Air Alaska	32 (+3%)	31	27	29
82 (>250)	Amerijet International	30			
116 (87)	Japan Airlines Co., Ltd.	18 (-31%)	26	20	22
115 (136)	Lynden Air Cargo	19 (+27%)	15	13	14

Source: Hush Blackwell (Feb 2020, 2019, 2018, 2017)

As companies such as Amazon insource more of their volumes, this will also affect growth opportunities for the big USPS subcontractors.

5.3 Postal Networks: Future Evolution

To survive, postal companies must remain competitive and for that, they need innovate and provide an enhanced customer experience and service offering. Those players willing to innovate are looking to optimize their operations in the areas of delivery, transport, pick-up, sorting and handling and we have observed some of these postal companies investing in modernizing their logistics facilities to support the grow of e-commerce parcel market, setting them up for near-term success in the parcel handling and distribution segment which is rapidly becoming their most profitable sector.

Postal networks are working on automating their logistic centers with higher processing capacity, allowing them to meet all delivery time requirements and improving the tracing and tracking information so customers can manage volumes in real-time and more efficiently. Some of these initiatives include the adoption of new automation technologies to support production and sorting processes and the implementation of lean production systems with the goal of reducing the number of full-time employees across various sites. The long-term objective with this labor reduction is to lower operating costs.

Dependence on a single type of traffic is dangerous, given that the big e-commerce platforms have been insourcing their logistics operations and building their own inhouse delivery capabilities including last-mile delivery. The volumes most likely to move out of postal into private networks are those in higher-density urban areas. Postal companies that do not take a thorough look at their business model and evolve into different revenue streams may be left with the obligation to service a whole country but not enough volume in the cities to cross-subsidize this.

Postal networks are a critical part of the global supply chain and the development of their own e-commerce services and online platforms show their commitment in the expansion of cross-border growth. The cooperation between postal operators across different countries is an opportunity to achieve higher reliability, security and accessibility from end-to-end services while offering customers new value-added services such as shorter delivery time, track and trace capabilities or customs processing. In 2019, we saw the UK Royal Mail work extensively with its counterparts in Germany and France to renegotiate the import duties and processes due to the departure of the UK from the European Union.

Last year, we saw examples of postal companies investing in infrastructure, fleet and information technology improvements but the pandemic has halted some of the initiatives and instead, postal operators have focused on deliver the highest quality of service during this critical time. Postal operators rely on smooth interconnection between countries, especially in Europe. During the lockdown period between March and June 2020, various country borders were shut down and road connections were heavily impacted while postal companies turned to governments for support in the need to guarantee the freedom of transit for postal services. Multiple postal operators worldwide such as USPS or the Singapore Post were ranked as one of the most essential companies during the pandemic; an evidence of how critical postal services have been for consumers during the pandemic.

Cargo Facts Consulting believes that there is an opportunity for postal companies to respond to the health crisis by partnering with private institutions and build a partnership network for the successful distribution of the COVID-19 vaccine. This public-private partnership between medical suppliers, logistics providers and postal operators is required to address critical supply chain challenges and enable a timely and effective response for future health emergencies.

5.4 The Universal Postal Union (UPU) and Cross Border E-Commerce

Established in 1874, The Universal Postal Union (UPU) is a special agency of the United Nations (UN) created with the goal of coordinating postal agencies among member nations. In the absence of individual bilateral agreement between postal authorities, UPU arrangements regulate onforwarding costs and service requirements for mail and parcel volumes moving between postal networks.

In October 2018 the United States informed the UPU of its decision to withdraw from the organization, effective in October 2019. However, this decision was revoked, and the US decided to stay in the Union with the condition of being able to set its own inbound postage rates. By retaining its membership in the UPU, the US retained the leadership in the global postal organization and served as a major stakeholder in the negotiations of new terminal dues. Starting July 2020, all countries with imports over 75,000 tonnes of mail can set their own charges for the final delivery of postal traffic from that country. Under this new rule, UPU members can raise their rates up to 70% of the price of domestic delivery and those countries below the 75,000 point can increase their charges after 2025. Postal operators are waiting for the US to make the first move and raise prices before other members follow.

Our research shows that this new regulation comes with a high level of complexity and postal companies will have to renegotiate agreements and rates on a case-by-case basis with the goal of remaining competitive. However, we expect that over time UPU terminal dues may become less relevant as cross border e-commerce moves towards a more controlled logistics chain which involves cross border movements taking place under a standard rather than CN38 postal waybill, with post-clearance onforwarding taking place under bilateral agreements between postal companies.

This also has an impact in the traffic carried by express operators that use USPS for final-mile deliveries. UPS and FedEx have a 2% margin on terminal dues as long as they manage the paperwork for the shipper (which is the case most of the time). We do not expect that the changes will have an impact in the flow of packages from China since many Chinese online platforms already have warehouse and distribution centers in North America and Europe while they use domestic logistics operators for final-mile services. We may see more Chinese companies increasing their inventory levels in those markets with the goal of speeding up deliveries and avoid import taxes.

The UPU oversees the Express Mail Service (EMS) program, a global service with the most customer access points in the world, providing last-mile coverage worldwide and supported by a premium postal delivery network. Some of its features include end-to-end tracking, priority handling, acceptance at any post office, pick-up from customer's premises, signature at delivery and delivery to addressee's premises. However, since cross-border international deliveries require the involvement of two postal companies, the EMS features vary depending on the services offered by each postal agency. EMS claims to be the fastest postal product, combining visibility, speed and reliability with an excellent customer service which continuously improves performance and responsiveness to meet the demands of e-commerce. However, our research shows that EMS growth has lagged behind the global integrators DHL, FedEx and UPS.

6. Express Networks

Key findings:

- Express carriers have traditionally played an important role in the distribution of e-commerce, both in their regional and cross border networks.
- Across the express business, the share of business-to-consumer shipments increasing faster than business-to-business shipments and currently stand at approximately 48% of shipment volumes.
- The increase of business-to-consumer traffic in express networks has seen a decline of revenues per package particularly in domestic networks.
- Recently, there has been a decoupling of integrators from e-commerce platforms as express carriers develop and expand their own end-to-end e-commerce product.

6.1 The Role of Express Carriers in E-Commerce Distribution

While postal networks are the primary fulfillment option for e-commerce packages, all the major global and regional integrators play an important role in both cross border as well as domestic distribution. In the context of this report we have taken an in-depth look at the e-commerce product offering, current and expected future exposure to the business. Specifically, we have looked at DHL and its Indian subsidiary Blue Dart, FedEx, UPS, SF Express, EMS/China Postal Airlines and Aramex. All of these but Aramex have their own dedicated air networks. For the purposes of this analysis we have excluded Purolator (Canada), Estafeta (Mexico), YTO (China), Toll (Australia) as well as the express air operation run by Australia Post. Our Air Express Market Outlook includes a more detailed analysis of the major global and regional express operators that focuses on the overall (and not just e-commerce-related) express business which will include all the express operators mentioned earlier.

Express companies participate in the e-commerce package delivery and fulfillment business on different levels, namely as:

- **Subcontractors to e-commerce platforms and major retailers**: both FedEx and UPS generate significant volumes from companies such as Amazon, Walmart or Target. The bigger the ground operation, the more likely that an express carrier generates substantial revenues from business-to-consumer packages.

- **Subcontractors to postal authorities**: for example, in 2019 the United States Postal Service spent $2 billion with FedEx and $211 million with UPS (see Table 3) which included a sizeable portion for airport to airport delivery of priority mail and priority mail express. These volumes ultimately included e-commerce packages shipped via the Postal Service.

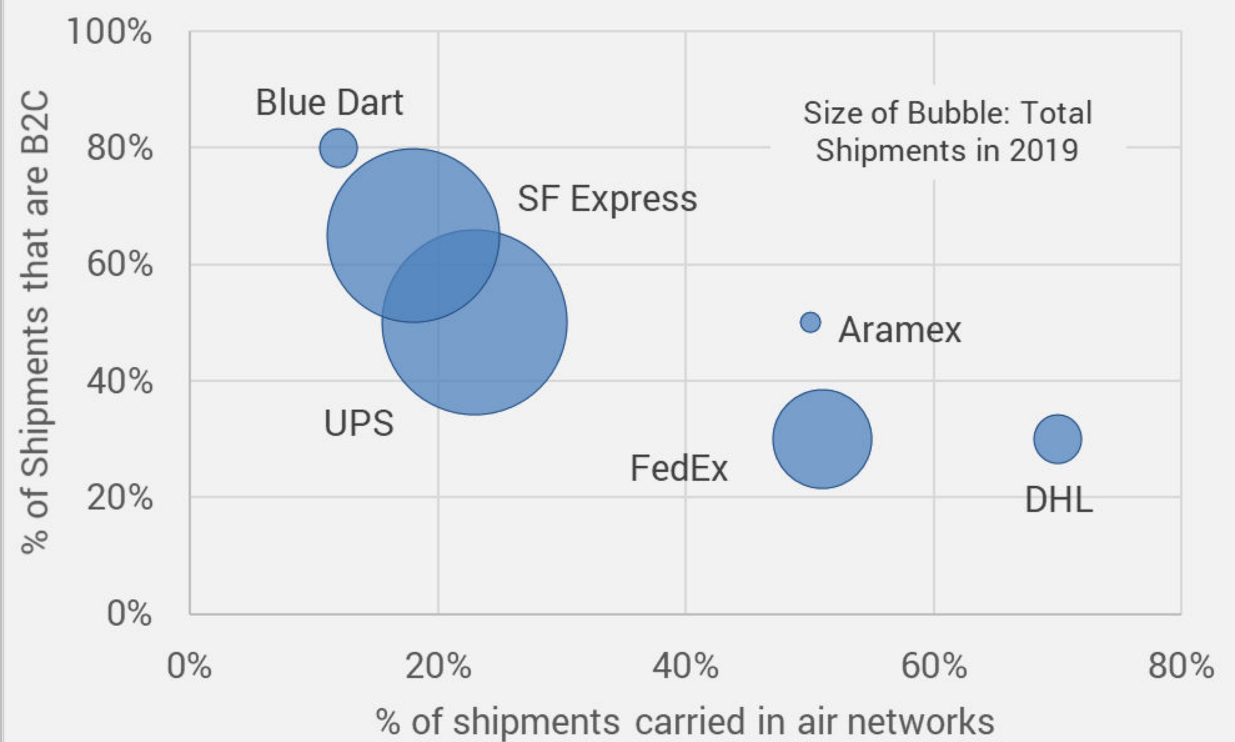
- **As a service provider for cross-border fulfillment**: Many of the customers in this segment are smaller to mid-sized retailers and major brands who operate their own-e-commerce platform independent offerings. FedEx became the first integrator to apply the new Chinese cross-border e-commerce sales policy in which export sales can be handled by a foreign warehouse delivery model or via a direct B2B mode. FedEx assisted two customers last month to export the first lot of cross-border e-commerce B2B products.

6.2 In or Out: Express Carrier Exposure to the E-commerce business

While all express carriers agree that the e-commerce is the key driver of future growth, they are less specific about the current level exposure of their businesses to this type of (primarily business-to-consumer) traffic. Our research has found that the biggest dependence on e-commerce traffic is in ground rather than air networks and that intercontinental and regional air networks carry a more diverse mix of traffic with business-to-business volumes outweighing business-to-consumer volumes.

Across the express business, the share of business-to-consumer shipments that is increasing faster than business-to-business shipments currently stand at approximately 48% of shipment volumes. Figure 17 illustrates our analysis of the share of business-to-consumer vs shipments carried by air for key global and regional express carriers. While FedEx, and DHL are primarily business-to-business focused air express providers, UPS, SF Express and Blue Dart operate extensive ground and last mile networks with maximum coverage.

Figure 17 - Express Carrier Share of B2C vs Share of Shipments Carried by Air 2019



Source: Cargo Facts Consulting analysis of financial reports and estimates

We find that increasing e-commerce package traffic has been positive for utilization of sort facilities and both air and ground linehaul networks but is increasing last-mile delivery costs due to the requirement to deliver to lower-yield shipments to lower-density locations. Moreover, the increase of business-to-consumer traffic in express networks has seen a decline of revenues per package particularly in domestic networks. Table 4 shows a summary of the volumes and yields reported by the main express operators and we observe a clear trend: with B2C traffic increasing around the world, express carriers are experiencing increasing volumes and declining yields.

DHL increased its daily Time Definite International (TDI) shipment volumes by 6% in 2019, but yields dropped. SF Express is shifting to more economy products as its time-definite revenue is up 6% while its economy product revenue increased by 32%. UPS's volumes also rose while its yields were down in 2019. It is important to note that UPS generated 11.6% of its total revenue from Amazon in 2019. Table 4 and Table 5 show the summary of yield and volume developments in 2019 and 2020 (year-to-date where data is available). US and China domestic have both seen a surge in volumes but yields have dropped.

Table 4 - Express Operators: Summary of Volume and Yields Development (2019)

Company	International Export Volume	International Export Yield	Domestic Volume	Domestic Yield
DHL (Jan-Dec 2019)	+ 6%	-1.2% (-6.2% in U$)	n.a.	n.a.
FedEx (Dec 2018-Nov 2019)	+ 2.3%	- 5%	+ 2.9%	- 1.2%
UPS (Jan-Dec 2019)	- 0.7%	- 0.6%	+ 18%	- 6.5%
SF Express (Jan-Dec 2019)	n.a.	n.a.	+ 26%	-9%

Source: Cargo Facts Consulting analysis of company financials, UPS domestic volumes exclude Ground

Table 5 - Express Operators: Summary of Volume and Yields Development (2020)

Company	International Export Volume	International Export Yield	Domestic Volume	Domestic Yield
DHL (Jan-Jun 2020)	+ 0.9%	+ 3.9% + 1.7% (US$)	- -	- -
FedEx (Dec 2019-May 2020)	- 0.1%	- 5.0%	-5.3%	- 2.2%
UPS (Jan-Jun 2020)	+ 4.4%	- 2.7%	+ 13%	- 7.7%
SF Express (Jan-Jun 2020)	- -	- -	+ 81%	-22%

Source: Cargo Facts Consulting analysis of company financials, UPS domestic volumes exclude Ground

6.3 Threat or Opportunity: How Express is Responding to E-Commerce

The growth of the big e-commerce platforms with own-controlled fulfillment networks are creating potential competitors for the big integrators. With its own parcel network open to the general public, JD.com and Otto are the furthest in terms of creating their own integrated platforms.

In their financial filings, all the integrators acknowledge the threat of emerging competition from their customers. Some have chosen to draw a line under a selection of their platform relationships while others remain firmly aligned. In 2019, FedEx cancelled both its Ground and Express contracts with Amazon to focus on a future without the e-tailer and platform. UPS, meanwhile remains firmly aligned with Amazon and as the US giant expands its own network, UPS has the most to lose. In Europe, companies like Deutsche Post DHL have also seen volume growth slow as Amazon has insourced more volumes. However, in Europe the e-commerce market is more diversified than in the U.S., where Amazon is by far the most dominant player, so a loss of volume may not hurt as much there.

While the geographical scope of these companies is very different, they share a lot of similarities – specifically a focus on own controlled logistics, increased reliance on third party sellers and a shift to faster shipping. This is having fundamental implications for companies providing logistics services. Platforms are becoming integrated commerce, logistics and financial providers, and have made moves to insource volumes where possible to drive costs down. This has hurt some transportation providers, but in general fulfillment and shipping costs have been growing faster than revenues.

However, all integrators have been making changes to their businesses to profit from e-commerce growth possibilities, without having to take the pain of higher last-mile delivery costs. Some companies are successfully implementing programs that involve concurrent investments and measures to reduce costs Our analysis has identified a series of actions that can help express carriers achieve this, including:

- **Service Expansion**: 7-day deliveries and pick-ups, same day capabilities, later cut offs. For example, both FedEx and UPS moved to offer 7-day delivery starting in early 2020.

- **Infrastructure investments**: new sorting and fulfillment facilities to reduce unit costs as well as cater for increased volumes.

- **IT Investments**: for example, to allow residential customers to choose delivery times, saving the costs associated with missed deliveries.

- **Alternative Last-Mile Channels**: through retail outlets or other pick up points. For example, FedEx is working on adding 8,000 additional points to its retail network through its recently announced Dollar General alliance. All of the integrators use retail locations as part of their worldwide network to reduce the cost of last-mile delivery.

- **Cost Reductions:** shift from air to road (e.g. FedEx Express making greater use of TNT road network), realignment of their own networks (e.g. FedEx bringing Smartpost back inhouse).

- **Offerings for Small and Medium-Sized Business and cross border e-commerce:** this goes back to the root of the express business, which has traditionally focused on providing time-definite services including customs clearance to small and medium-sized businesses. However, the need for economies of scale mean that express carriers cannot afford to ignore e-commerce platform business opportunities.

7. Air Cargo Networks and Contract Flying

Key findings:

- Amazon is the only e-commerce platform that has committed to dedicated air capacity on a large scale, but other platforms make use of air capacity though commercial arrangements with express companies and airlines.
- E-commerce is a growth segment and both airlines and airports can position themselves to take advantage of this growth by moving beyond being mere capacity providers and landlords.
- Participating in higher value-added activities requires both investments and partnerships.

7.1 All about Amazon: Dedicated E-Commerce Networks and Contract Flying

Following Amazon's recent announcement in early June to lease twelve additional 767-300 freighters from CAM, ATSG's leasing arm, we have taken a closer look at how the e-commerce giant's dedicated air network has grown in the U.S. and Europe during the last twelve months. Additional fleet growth and insourcing have the potential to yank volumes out of express networks, with UPS most at risk. In 2019, UPS generated 11.6% of its total revenue with Amazon and about 23% of Amazon's total shipping expenditure was with UPS. This represents approximately $8.7 billion.

As at September 2020, Amazon controls a fleet of 62 dedicated aircraft, consisting of a mix of 737-800, 767-200 and 767-300 freighters. By the end of 2021, current capacity commitments foresee a total of 81-86 aircraft. While we expect some of these to be deployed within its European network, most will be in the United States. Amazon's dedicated flying essentially consists of a two-part structure: aircraft leases and separate operating agreements. Additionally, the company pursues arrangements that give it the option to acquire at least a significant portion of its contractors. Specifically, this includes up to 40% of Atlas Air, 40% of ATSG, 15% of Cargojet in Canada and an undisclosed amount in Sun Country Airlines. Last year's E-commerce outlook conducted a detailed analysis of the contractual arrangements between Amazon and ATSG and Atlas, respectively. This can be provided on request.

Aircraft leases are primarily with ATSG owned CAM, Atlas Group and GECAS. Operating agreements are with a mix of carriers, including ATSG airlines ABX and ATI, Atlas Air and Southern Air, and since 2020 also low-cost carrier Sun Country. Measured in number of departures, ABX/ATI account for 46%, Atlas/Southern 36% and Sun Country 18% of total flying. In terms of leases, ATSG has the largest exposure to Amazon. In a departure from the model of leasing as opposed to ownership, Amazon recently entered an arrangement with Westjet to purchase one or more 767-300 aircraft for conversion. Table 6 provides an overview of Amazon's current leases and recent aircraft purchases as of September 2020.

Table 6 - Amazon Current and Forward Fleet 2020-2021

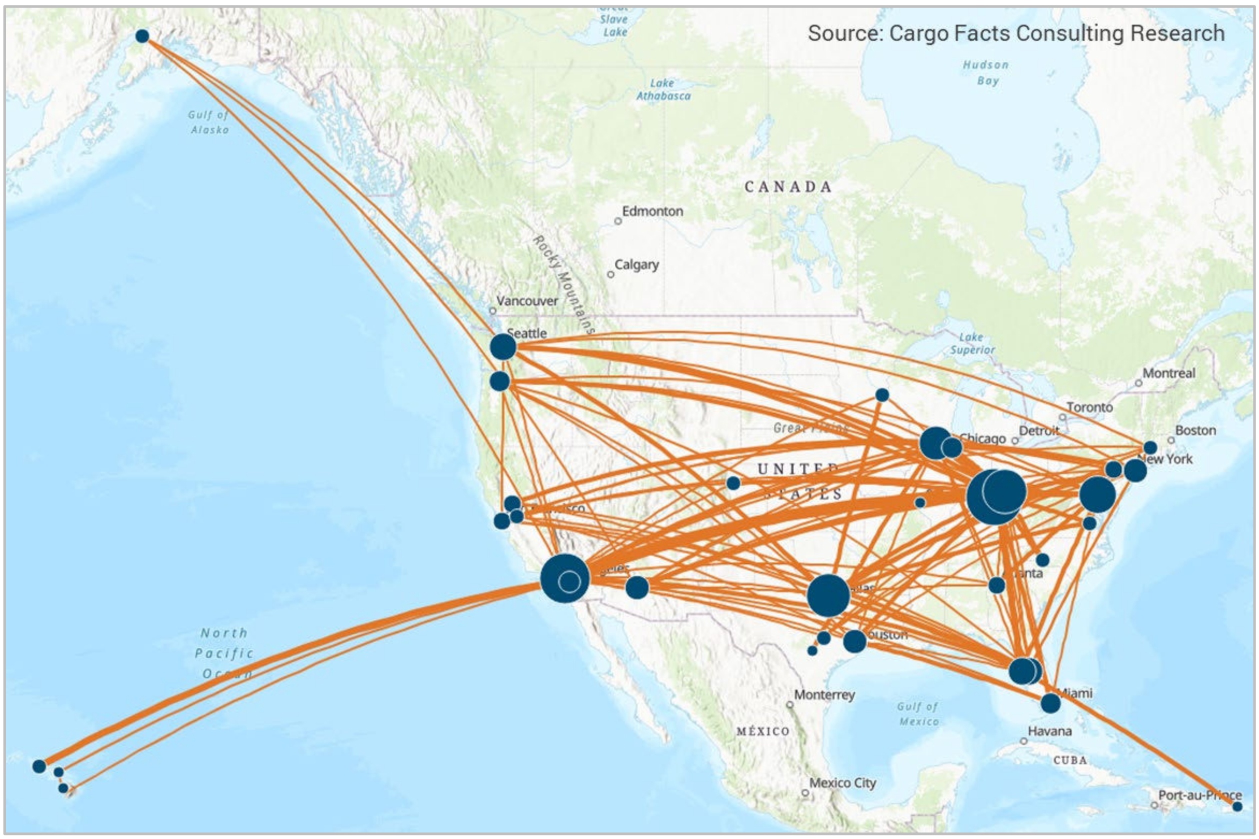
Company	Aircraft Type and Number	Status (Sep 2020)
ATSG (CAM)	*Previous arrangements* - 12 767-200 - 8 767-300 *Dec 2018 Deal* - 6 767-300 - 4 767-300 *May 2020 Deal* - 1 767-300 - 11 767-300 **Total: 27 767-200/300 (Sep 2020)** - 31 (end of 2020) - 36 (by April 2021), 42 (end of 2021)	 Active Active Active Delivery 2H 2020 Active Delivery in 2021
Atlas (Titan)	- 1 767-300 - 10 767-300 (11 – 1 hull loss) - 8 767-300 **Total: 19 767-300**	Active Active Active
Gecas	- 5 737-800BCF - 13 737-800BCF - 2 737-800BCF **Total: 16 (Sep 2020)** - 18 (end of 2020) - 20 (by May 2021)	Active 11 Active, 2 3Q 2020 By May 2021
Total (All Lessors)	- **Sep 2020: 62 (12 767-200, 34 767-300, 16 737-800)** - End 2020: 68 (12 767-200, 38 767-300 and 18 767-300) - End 2021: 81 (12 767-200, 49 767-300 and 20 737-300)	
WestJet Purchase	- 1 Confirmed, up to **5** Aircraft	Inactive, expect conversion by mid 2021

Source: Cargo Facts Consulting analysis of company reports and fleet data, * 3 year extension option

Since mid-2019, the e-tailer's dedicated air network in the US has grown from twenty-three to thirty-four active cities, with more to come online this year. The number of operated sectors has grown by almost

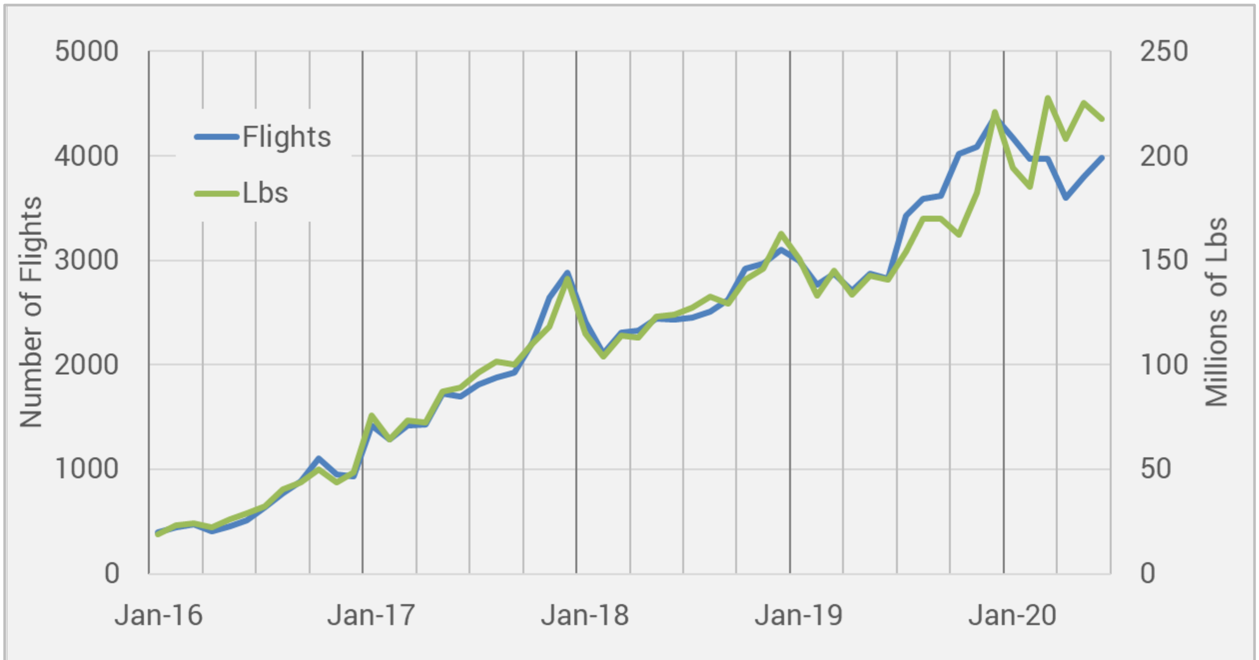
40% to over 150 flights per day. Network changes within the last six months have been evolutionary rather than large scale as the network becomes more mature. Cincinnati, Wilmington Airpark, Ontario and Alliance Fort Worth are the locations within Amazon's network that account for the most departures. Figure 18 provides an overview of the company's current US network. Further information regarding carrier mix and network evolution can be displayed in the interactive map application that accompanies this report.

Figure 18 - Amazon US Air Network, September 2020



Since its beginning in the last half of 2015 Amazon's air network has grown substantially in scale. Its air network moves about one third of the volumes moved by UPS and about one fifth of what FedEx moves. Figure 19 provides an overview of the evolution of the e-tailers dedicated air network since January 2016. Until mid-2019, the number of flights operated tracked tonnage flown, with a peak before Christmas. When the smaller 737-800 was introduced flights naturally grew faster than tonnage. During the second quarter of 2020, volume utilisation on aircraft increased due to the increased e-commerce volumes and improved network management.

Figure 19 - Amazon Air Weight Uplifted and Flights Jan 2016 – Jun 2020

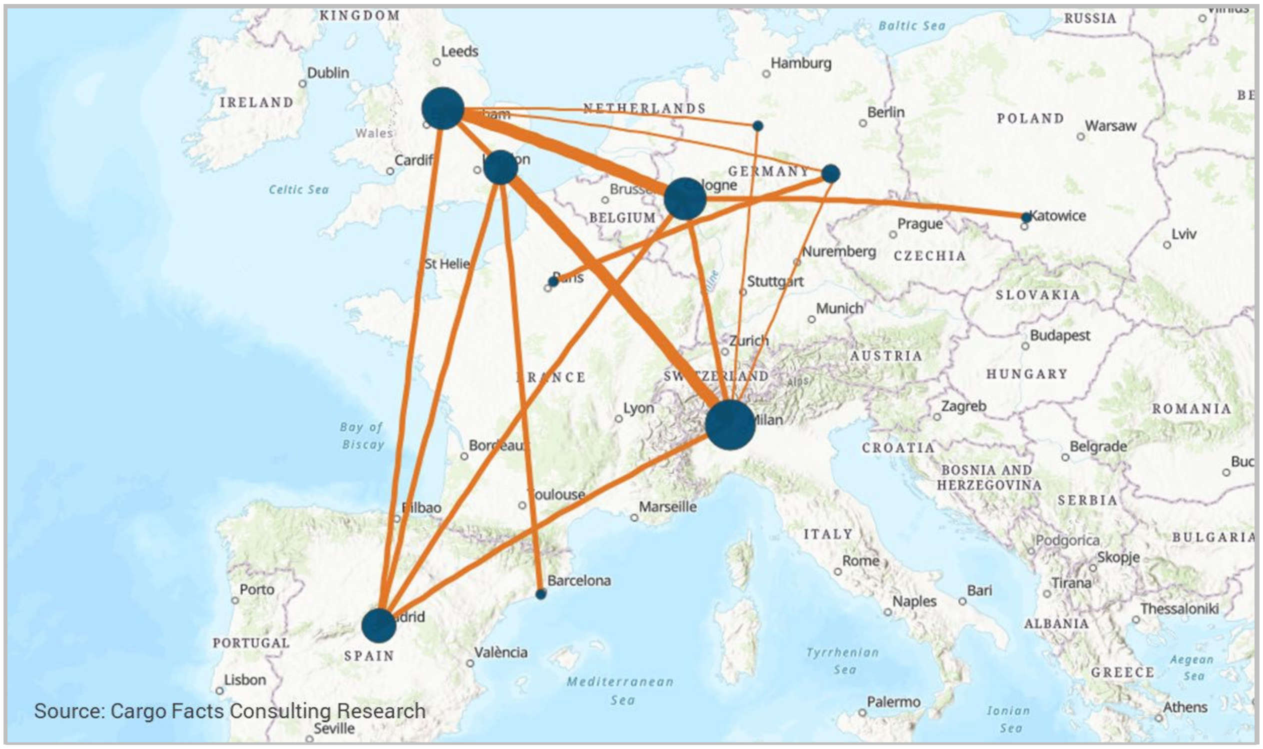


Source: Cargo Facts Consulting analysis of ATSG, Atlas and Sun Country flying for Amazon, Form 41 t100 segment data

Meanwhile, Amazon's European network has also seen significant growth. Within the space of a year, the Amazon dedicated European network has grown from seven to ten cities and seventeen to thirty sectors per day. Most flights are operated by ASL Group airlines on 737-400s. Europe represents the company's main international market, with Germany and the U.K. alone accounting for 8% and 6% of company revenue, respectively. In 2019, Amazon's European revenue increased by 15% to approximately 32.2 billion euros. Going forward, we expect a transition from 737-400 to 737-800 and larger aircraft but given geographical proximity of main markets it is unlikely that the European network will reach anything close to the scale of the US network.

Currently the network is focused around connecting key markets UK, Germany, Italy and Spain. As Amazon looks to increase its investment in Leipzig, we expect further growth for both intercontinental as well as intra-European traffic. Figure 20 provides an overview of Amazon's current network. Our interactive map application also provides additional detail on network evolution and flights by station.

Figure 20 - Amazon EU Air Network, September 2020



7.2 Dedicated Flying for Other Platforms

Amazon is unique in its large-scale push into dedicated and branded air capacity, but other platforms also make use of air capacity – either indirectly through use of express or postal distribution channels or though dedicated charters. Not all platforms have sufficient scale in the markets they operate to be able to justify large scale dedicated air operations. Alibaba and Jd.com do but have so far, they have not followed the same path as Amazon.

However, Alibaba's logistics arm Cainiao has increased cross border charter activity in 2020. While the company operated 260 charters in 2019, the expectation was that in the last nine months of 2020, it would procure a total of 1,260 flights. Jd.com has also been buying more dedicated capacity within China and is in the process of setting up an airline. It is worth noting that JD logistics also provides door to door services on a retail basis, so setting up its own airline would support its development in becoming an express carrier to rival SF Express.

JD.com has a partnership with HNA subsidiary Tianjin Air Cargo, but this only accounts for limited capacity. Alibaba has stakes in YTO Express (23%), ZTO Express (10%), STO (14.60%) and Best Express (29%). YTO, SF, STO, Yunda, and ZTO each have a 1% stake in Cainiao. Alibaba recently doubled its stake in YTO express from 11% to 23% for $996 million with the goal of expanding its international activities.

Outside of dedicated capacity or charter arrangements, we find that e-commerce traffic is taking a larger share across a multitude of networks; in express networks business-to-consumer (B2C) traffic last year accounted for almost 50% of all shipment volumes. FedEx noted that the B2C share of domestic shipments in the quarter ending May 2020 had jumped from 56% to 76%. As normal economic activity resumes, this number will of course come down, but all the large integrators — as well as regional players such as Aramex and Blue Dart — admit that B2C is the primary source of growth. Most postal traffic these days consists of B2C and even the share of e-commerce consolidations moving as general cargo is increasing in intercontinental cargo networks. We estimate that the e-commerce share of air cargo stands at about 16%, excluding inbound traffic destined for distribution centres.

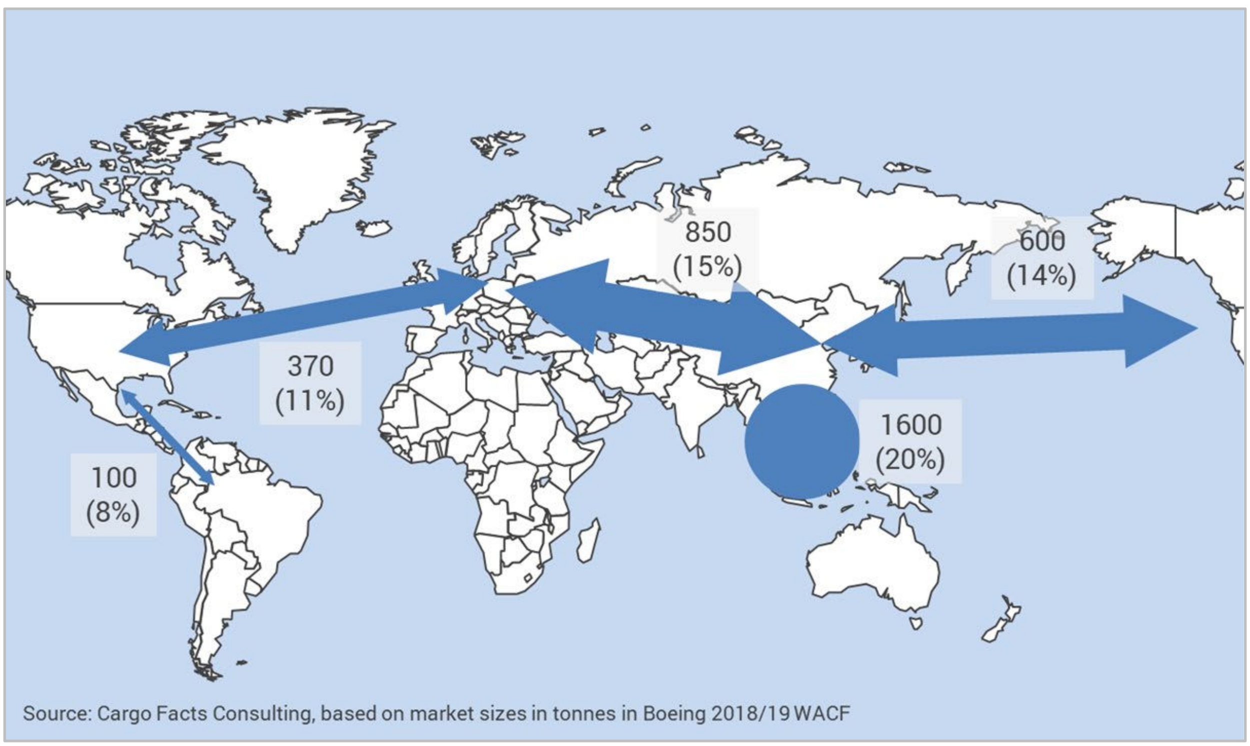
The Achilles heel of e-commerce logistics is the sustainability of the free shipping in the face of increasing logistics costs resulting from faster delivery. In its 2019 cross-border shopper survey published in January, Brussels-based International Postal Corporation, a joint venture company between postal authorities, pointed out that 63% of customers received free shipping on their orders. As online retailers have improved their delivery service options, shipping costs have grown faster than revenues, with very few exceptions. For faster shipping supported by air to be sustainable, customers must be willing to pay more for shipping or else product prices will have to increase.

But what are the express companies' commitments when it comes to sustainability? Amazon, DHL, UPS and FedEx all have long-term ambitious goals to use renewable energy, aviation biofuel, implement reusable packaging and increase their electric vehicles fleet. Amazon plans to reach 50% of all shipments with net zero carbon by 2030 while DHL is committing to reduce all logistics-related emissions to zero by 2050. FedEx and UPS have made significant investments to increase fuel efficiency by expanding the number of electric vehicles in their fleets. Sustainability reports have become more comprehensive. This year Amazon has started reporting carbon emissions for the first time, although we note the company provides little reference that would give insight into the carbon efficiency of its operation. Without reference metrics absolute numbers are meaningless.

7.3 The Invisible Traveler: E-Commerce in Scheduled Air Cargo Networks

Air freight is primarily a wholesale business supporting the movement of supply chain cargo and perishables. Approximately 65-75% of international airfreight consists of primary inputs, intermediate goods, parts and supplies, and capital equipment. By our estimates, some 16% of global air cargo is e-commerce traffic, moving through express, general airfreight and postal networks. This excludes shipments into e-commerce distribution centers, which we do not view as e-commerce as its characteristics and service requirements are similar to cargo being transported to restock the inventories of large fixed location retailers and wholesalers. By our estimates, some 70% of postal and one third of international express traffic are e-commerce – this is a combined 8% of total cargo traffic. The remainder consists of e-commerce consolidations travelling under an air waybill as normal freight traffic for onward distribution in domestic or regional package delivery markets. Figure 21 provides an overview of the main regional cross border e-commerce flows.

Figure 21 - Primary Cross Border E-Commerce Air Freight Traffic Flows



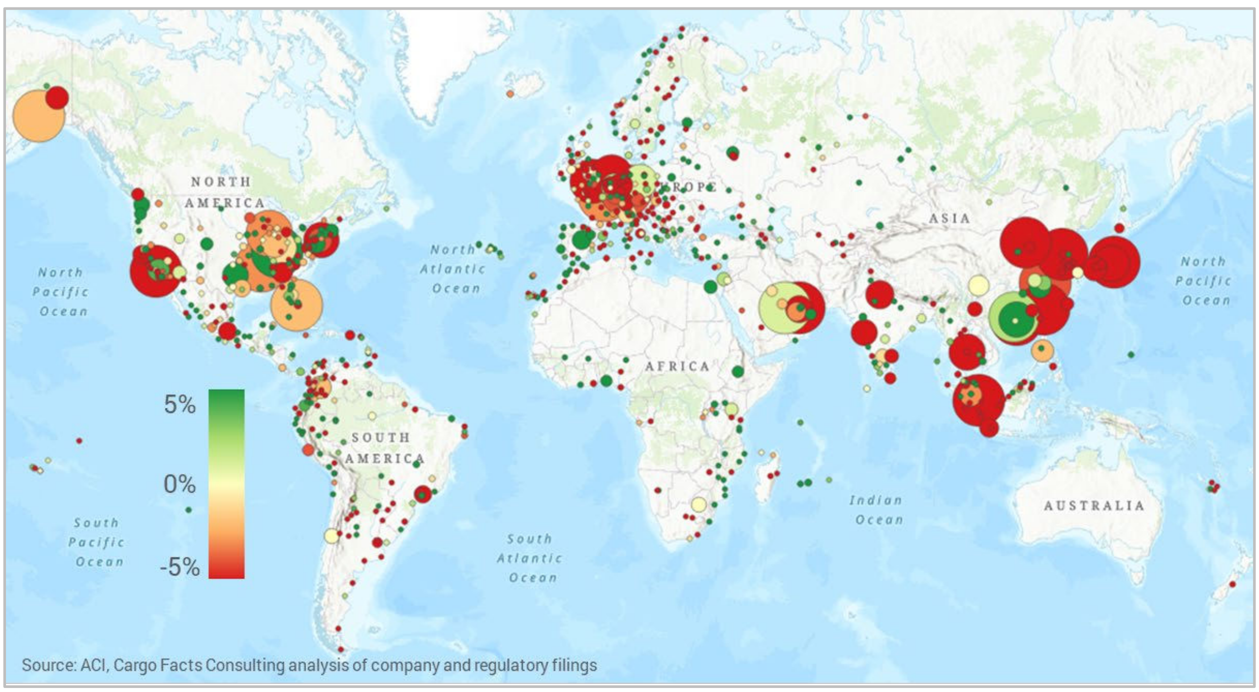
China is the largest source country for cross border e-commerce, and as such most flows are of Chinese origin, although Europe, the US, Japan and Korea are also important source countries for intra-regional purchases or traffic to Africa and Latin America.

Airlines have been looking for ways to position themselves to achieve value from strong growth in cross border e-commerce. This requires companies to look beyond merely providing capacity to value added services including customs clearance and last mile delivery. Some examples include Heyworld, which was setup up by Lufthansa Cargo, and We World Express, a joint venture between Turkish Cargo, ZTO Express and PAL Air Limited.

7.4 Airports and Ground Handling

Given the overall weak trade environment, most airports around the world saw a drop in cargo tonnage – this includes major hubs such as Hong Kong, Singapore, Dubai, Frankfurt and Los Angeles, to name a few. Figure 22 provides an indicative view of growth around the world. For information on individual airports, please login to the interactive map on www.cfcinsights.com that accompanies this report.

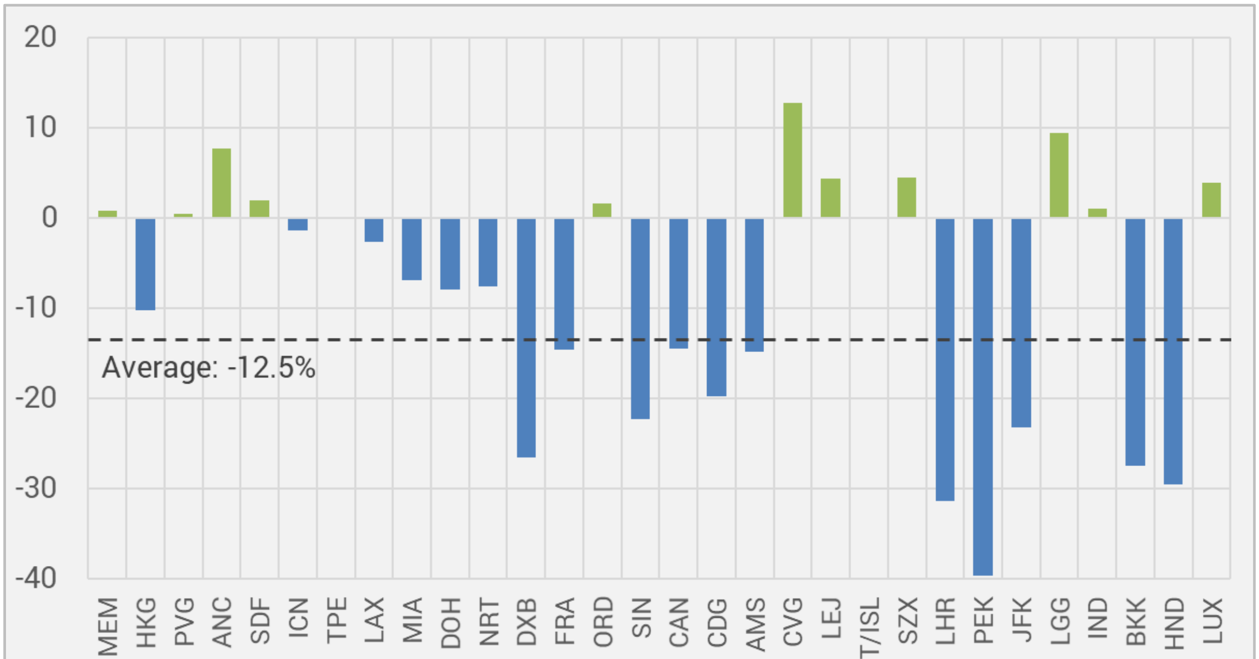
Figure 22 - Cargo Tonnage Growth by Airport 2019



However, not all airport registered a decline in 2019. For example, Ontario, CA (ONT), Louisville (SDF), Liege (LGG), Madrid (MAD), Leipzig (LEJ), Shenzhen (SZX), Guangzhou (CAN) and Hangzhou (HGH) all registered growth in cargo tonnage, while others such as Cologne (CGN) or Cincinnati (CVG) saw an increase in cargo movements. In some cases, growth was driven by continued home carrier expansion (e.g. Ethiopian in Addis Ababa, ADD or EgyptAir in Cairo, CAI), but in many cases the common theme is a combination of express and e-commerce traffic that was driving growth.

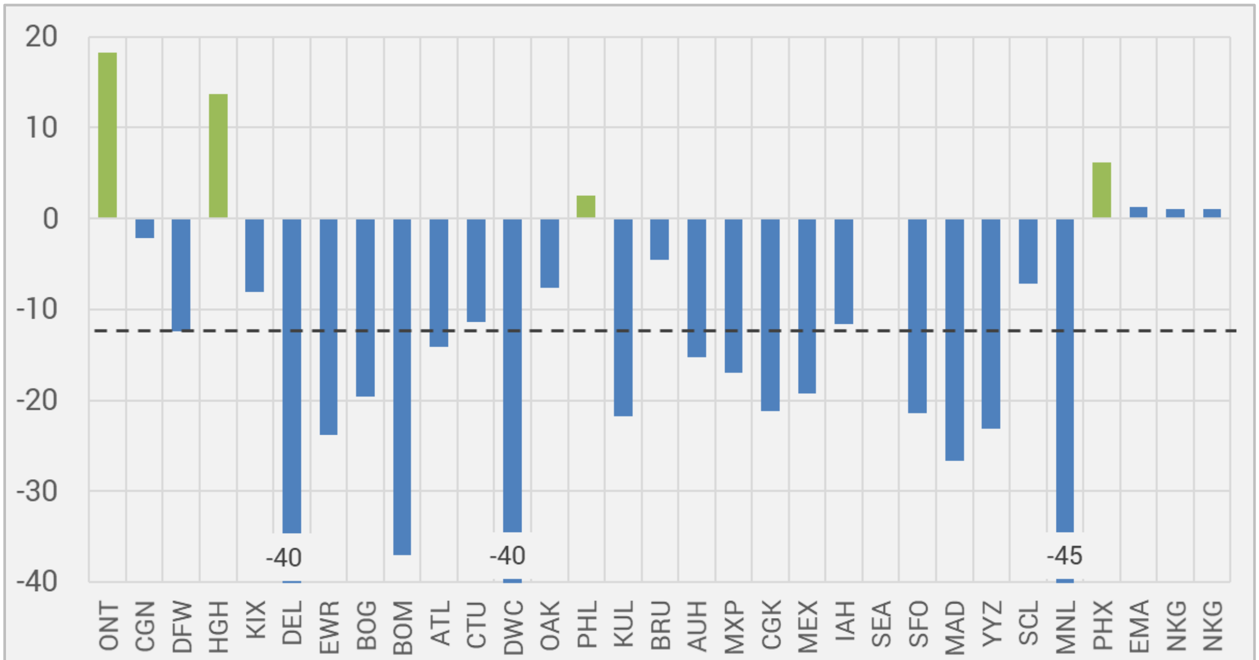
We have seen a continuation of this trend throughout the pandemic – cargo, express and e-commerce airports have done well. Meanwhile the big passenger hubs saw large scale declines as belly capacity was reduced substantially or shut down completely. Figure 23 and Figure 24 provide a comparative overview of the performance of the top 60 cargo airports worldwide in the first six months of 2020. The average decline across all airports was 12.5% for the first half of the year.

Figure 23 - Top 30 Cargo Airports Growth and Decline Jan – June 2020



Source: CFC analysis of ACI and individual airport data

Figure 24 - Top 31-60 Cargo Airports Growth and Decline Jan – Jun 2020



Source: CFC analysis of ACI and individual airport data

Airports play an important role in the distribution of cross border e-commerce as well as domestic or intra-regional shipments. General freight traffic tends to gravitate around the big combination carrier hubs such as Chicago, New York, Miami and Los Angeles in the United States, Frankfurt, Amsterdam, Paris, and London in Europe and airports such as Shanghai or Hong Kong. In contrast, express and increasingly e-commerce traffic are concentrated around cargo focused airports. E-commerce platforms gravitate naturally towards airports that already have established themselves as express hubs – such as Liege (LGG), Cologne (CGN), Leipzig (LEJ), East Midlands (EMA), Cincinnati (CVG), Shenzhen (SZX) or Hangzhou (HGH). However, developments in the US have also shown that secondary airports can use e-commerce traffic as a further springboard for growth – only about 13 of the 34 airports served by Amazon were large established passenger or cargo gateways and hubs.

8. E-Commerce in Emerging Markets: Africa & Latin America

8.1 E-commerce development in Africa

There is a disproportion in the expansion and level of information technology and communications infrastructure in developed and developing countries. This digital divide does not only exist between Africa and the developed world but also within different regions of the continent and this has led to two different competing stories in Africa's e-commerce: a vibrant domestic digital business and a weak international e-commerce market. Africa currently has around 400 million internet users and e-commerce has the potential to play a bigger role in the economic activity of African countries but there are several barriers that imped the e-commerce expansion:

- Poor domestic and regional infrastructure such as airports, roads or seaport
- Lack of experience with import duties and sales taxes
- Restrictions and difficulties with international payment transactions
- Digital and cultural divide depriving many businesses from economic opportunities

Moving products from the merchants to the consumers remains the biggest challenge since most African towns and urban areas do not have an addressing system. E-commerce platforms are forced to partner with logistics companies that have the local knowledge, resulting in having a fragmented logistics network and not having control over the last-mile process.

The 2019 UNCTAD E-commerce Index Report shows that Nigeria, Kenya and South Africa account for about 50% of all online shoppers in Africa. Nigeria is Africa's largest B2C e-commerce market in terms of revenue and consumers. Table 7 summarizes the major e-commerce platforms in the continent along with key developments in the recent months.

Table 7 - Major African E-commerce Platforms

Platform	Background	Recent Developments
Jumia	Jumia is the largest e-commerce platform in Africa. Founded in 2012 in Nigeria, the site is now present in 21 African countries with a network of over 80,000 sellers. Its products spans across the technology, retail, food and services industries.	Jumia became the first major African-tech company to be listed on the NYSE in April 2019. Since then, the stock has crashed below its IPO price. It keeps reporting million-dollar losses in 2020 and shut down operations in Rwanda, Tanzania and Cameroon in late 2019.
Takealot	Established In South Africa, its e-commerce success strategy relies on provide its customers with the very latest products in the market, coupled with up-to-date product specification.	Takealot has seen revenues drop by $20 million due to COVID-19 and saw sales drop by 75% over Q2 2020.
Konga	The Lagos-based site started selling beauty care in 2012 and it has grown to become a major online reailer. Konga's site allows traditional retailers to sell their products online. Sellers deliver their products to a Konga drop-off centre, and Konga manages the logistics.	Since the acquisition of Konga by the Zinox Group in December 2018, the e-commerce platform has invested over $150 million in its Nigerian operations. However, the operations of the company are still incurring huge losses quarterly.
Kilimall	Kenya's largest online shopping mall is relatively new in the e-commerce space but has managed to create an international brand since its launch in 2014. The site has expanded to Uganda, Nigeria and Ethiopia and has plans for further expansion across East Africa.	During the pandemic, Kilimall has partnered with local merchants and express companies (Aramex) to shorten the delivery time and extend its network, reaching ore rural and remote areas.

In addition to the companies listed above, Alibaba and eBay have delivery capabilities in the region, but none have established as a major platform yet. Smaller companies include Sokowatch (a B2B enterprise), and Afrikrea (fashion online platform) while the African payment giant Flutterwave has recently created an e-commerce portal for merchants to set up their own online sites while using Flutterwave's payment.

Moreover, there are some where either the seller or buyer are actually not located in Africa. An example is MallforAfrica, a company that enables the creation of platforms with the goal of connecting consumers in Africa to retailers located in the UK or US. MallforAfrica has also partners with eBay, allowing African consumers to buy products globally. The company DHL Africa eShop also combines DHL's logistics network with MallforAfrica' s retailer and e-commerce capabilities.

8.2 E-commerce development in Latin America

E-commerce sales in Latin America are estimated to grow 23% to reach $78 billion in 2020, positioning this region as the second-fastest growing e-commerce market after Asia Pacific and closely followed by the Middle East and Africa. Brazil, Mexico and Argentina account for around 70% of all e-commerce sales in the region. The increase in the number of smartphone users and internet expansion has allowed Latin America to see a robust adoption of e-commerce but the region lacks a range of online shopping platforms available. Political instability coupled with the region's economic volatility over the last years has drawn away potential investors but there are a few platforms that have emerged such as TiendaNube and Contextus in Argentina or Canasta Rosa in Mexico. They both support small businesses and entrepreneurships allowing them to sell products on their websites but are far from competing with the region's dominant MercadoLibre.

MercadoLibre's financial position is far from a success story. Even though the company posted profits of $56 million in the second quarter of 2020, its losses reached $172 million in 2019. The Financial Times included MercadoLibre on its list of 100 companies that have prospered during the pandemic, highlighting the implementation of new electronic payment methods during strict lockdowns in the region. MercadoLibre launched training platforms for SMEs and entrepreneurs in the region, facilitating the onboarding of merchants and creating strategic partnerships with the main e-commerce platforms that operate in the sector. During the pandemic, MercadoLibre saw an increase of 42% in the new active users versus the same period in 2019. Will the pandemic provide an opportunity for MercadoLibre to expand its operations in Latin America and position itself as a leader in this market?

9. About Cargo Facts Consulting

Cargo Facts Consulting is a specialized air logistics advisory and research firm. Formerly also known as Air Cargo Management Group, we have been in business since 1978. Since 2019, we are based in Luxembourg, with offices in New York and Seattle.

Our clients turn to us for deep advice, data and insights on key aspects that effect product development, marketing, fleet planning and strategy in air logistics. These clients come from across the whole air cargo and express business and include financial institutions and investment firms, leasing companies, government, aircraft manufacturers and conversion companies, airlines, express companies, airports and other service providers.

Our consulting experience spans projects that encompass airline network planning, fleet planning, due diligence, route development, investment assessment, air cargo and express market analysis, and aircraft technology. Our data and forecasts populate financial models related to many facets of the business, and our analysis is used in product development by a wide range of company. We also provide deep analytics for the type of data- and mission-related marketing in the aviation sector.

We strive to be the most knowledgeable and highly valued provider of strategic advice to the global air freight transportation and logistics industry. We provide actionable solutions, not just data and research based on critical needs and business objectives. We facilitate business evolution that yields greater profits and efficiency. And we do so often through long-term relationships that create a deep and more-meaningful dialogue with our customers.

Through Cargo Facts and Air Cargo World, our sister media organizations, we have a unique and high-visibility insight into industry trends and market developments as they happen.

Appendix - E-Commerce Platform Profiles

This section contains logistics profiles of the top global and regional e-commerce platforms. In general, data refers to the most recent full financial year, but where specified has been updated to reflect most recent available quarterly filings.

The profiles include a description of the company, information on scale (in terms of GMV), profitability and growth, geographical scope of operations, main competitors, number of active buyers and sellers, percentage of business from third party sellers, number of items and shipments, as well as key information on the logistics setup. This includes information on the type of fulfillment network, whether it is open to third parties, the cost of the fulfillment network and information on the type of dedicated air network the platform operates, if at all.

Platforms have been grouped in alphabetical order for ease of reference. The platforms included in this Appendix are:

- Alibaba
- Amazon, including separate profiles for the company's European and US operations
- Ebay
- JD.com
- Jumia
- Flipkart
- Mercado Libre
- Otto
- Rakuten
- Shopify
- Walmart
- Wish

Data included in the profiles has been compiled from a range of public and semi-public sources as well as being based on our own assessment and analysis. While we have taken great care in preparing these profiles, we take no responsibility for their accuracy. We welcome your feedback and suggestions, including broadening the scope to include additional profiles

Subscribers of the report will have access to periodic updates to these profiles through the Cargo Facts Consulting Insights platform (www.cfcinsights.com) for the first six months following publication of the report.

Table 8 - Alibaba Profile

Company	Alibaba (Year Ended March 2020)
Description	Founded in 1999, World's largest e-commerce platform. Includes Taobao Marketplace and Tmall. Aliexpress is a global marketplace for international consumers buying from Chinese manufacturers and distributors. Tmall Global allows foreign brands to access Chinese consumers. Tmall world is a platform for overseas Chinese to purchase products from China. 1688.com is a platform for wholesale commerce in China. Alibaba.com provides global and cross border wholesale services. Lazada is Alibaba's e-commerce platform across Southeast Asia (particularly Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam). In September 2019, Alibaba acquired Kaola, another Chinese cross border e-commerce platform.
Headquarters, Employees	Holding Company incorporated in the Cayman Islands, individual subsidiaries incorporated in China. Cainiao is located in Hangzhou.
Gross Merchandise Value (GMV)	Total Net Revenue in 2019 was $56.2b (RMB 377m), an increase of 51% y-o-y. Taobao accounts for 54% of GMV. GMV generated from Taobao Live and the number of monthly active users who watched Taobao Live both grew over 100% y-o-y. During Q4 2019, GMV from less developed areas grew about 40% year-over-year. 2019 GMV surpassed $1 trillion
Profitability and growth	Net income of $13.1m. Cumulative profits last 5 years RMB 290.9t ($42.3b). Average annual GMV growth last 2 years 28%. In the quarter ended December 31, 2019, revenue was RMB161,456 million (US$23,192 million), an increase of 38% year-over-year. Q1 2020: Revenues of $16.4b and net income of $462 million Q2 2020: Revenues of $21.7b and net income of $6.7b
Main markets	Revenue Share: China Retail (Taoboao, Tmall/ Tmall World) 64%; International Retail 7%, includes Aliexpress (mainly Russia, USA, Brazil, Spain and France), Lazada (Southeast Asia) and Tmall Global; Chinese wholesale 3% (1688.com); International wholesale 2% (Alibaba.com). IN FY19 Acquired Trendyol (Turkey) and Daraz (Pakistan, Bangladesh).
Main competitors	JD.com

Company	Alibaba (Year Ended March 2020)
No of active buyers/ users (m)	699 million (12 Months ended December 2019). Most platforms cater to consumers but 1688 and Alibaba.com cater for wholesalers and traders. Alibaba.com has 165,000 paying members who tend to be trade agents, wholesalers, retailers, manufacturers and SMEs active in the import/export business.
No of active sellers (m)	Merchants on Taobao are primarily individuals and small business. Tmall hosts 200,000 Chinese and international brands and retailers.
% of Business from 3rd Party Sellers	Taobao, Tmall, Aliexpress and Alibaba.com are marketplaces for 3rd party sellers. However, Lazada does sell its own products.
No of items and shipments	27.4b packages originating from China retail marketplaces
Own controlled fulfillment?	Cainiao Network, owned 63% by Alibaba, founded in 2013. Vision is to be able to fulfil everything within 24 hours in China and 72 hours across the world. Uses logistics partners to run this network. Uses 15 “strategic express courier partners” with 1.6m delivery personnel and 190,000 hubs and sorting locations in more than 700 cities and 31 provinces in China. Lazada also has an inhouse logistics network. Internationally, Cainao and the logistics Arm of Lazada support Lazada, Aliexpress and Tmall World. YTO, SF, STO, Yunda, and ZTO each have a 1% stake in Cainiao. Additionnaly, Alibaba holds a minority stake in three of the country’s top logistics companies; ZTO Express (10%), YTO Express (11%), STO (14.60%) and Best Express (29%). These investments strengthen ties with Chinese courier service giants through cross-shareholding.
% of volumes through own controlled logistics?	33% (estimated)
Logistics network open to 3rd parties?	Yes, supply chain and logistics services are geared to fulfillment. Also offers trade financing and customs clearance. Services are billed to merchants.
Logistics Spend	Cainiao Network Revenues: $2.218b (+120% reflecting full consolidation of company as of mid-Oct 2017 after obtaining control). Prior to this Alibaba had commercial arrangements with Cainaio, although it held 47% equity. 1Q 2019 (June 30) +50% to $729m and in 2Q 2019 (Sep 30) +48% to $666m.
Dedicated Airfreight or Aircraft Capacity	No, but Cainiao partner and shareholder YTO operates an air network.

Reflects financial data up to quarter ended in June 2020

Table 9 - Amazon Worldwide profile

Company	Amazon Worldwide (2019)
Description	2nd largest global e-commerce platform. Also offers cloud computing services thought Amazon Web Services (AWS)
Headquarters, Employees	Seattle, 798,000 (+23% compared to 2018) full and part time employees worldwide. Does not include independent contractors.
Gross Merchandise Value (GMV)	\$335 billion, +21% from 2018 Amazon Retail: \$135 billion + Amazon Marketplace: \$200 billion
Profitability and growth	\$11.6b net profit in 2019 (+15%), profit levels have only really picked up in 2018 and 2019. Cumulative profits 2015-19 \$26.7b and 2014-18 \$13.1 b. Average Net Sales growth 15-19: 27%. Fulfillment and shipping costs have grown faster than net sales. Largest share of profits come from AWS. International operation loses money, domestic operation is moderately profitable, but profitability has decreased. Net sales \$280.5m (+20.4% in 2019 and +27% in 2018). North America net sales +21%, international +13%. Q1 2020 - Revenue increased 26% to \$75.5 billion compared with \$59.7 billion in Q1 2019; profit of \$2.53b. Q2 2020 – Revenues increase to \$88.9 billion and profit of \$5.2 b.
Main markets	All segments (including Amazon Web Services, which accounts for 12.5% of total net revenues. United States (69%), Germany (8%), UK (6%), Japan (6%), all other markets (11%)
Main competitors	Domestic US: Target, Wal Mart; International: Alibaba, regional platforms such as Flipkart, Jumia, Mercado Libre.
No of active buyers/ users (m)	Not available
No of active sellers (m)	Not available
% of Business from 3rd Party Sellers	63% (est), compared to 58% in 2019 and 49% in 2014.
No of items and shipments	Not available
Own controlled fulfillment?	Yes
% of volumes through own controlled logistics?	100%. However, Amazon uses third party carriers for delivery. Approx 50% of packages.
Logistics network open to 3rd parties?	To third party sellers.
Logistics Spend	Fulfillment costs: \$49.5 billion (compared to \$34b in 2018). Shipping costs accounted for a further \$36.9b (compared to \$32.1b in 2017).
Dedicated Airfreight or Aircraft Capacity	Yes, dedicated air network capacity in North America and Europe, as well as use of integrator capacity.

Reflects financial data through to Q2 2020

Table 10 - Amazon North America profile

Company	Amazon North America (2019)
Description	Largest market for based online retail and marketplace platform
Headquarters, Employees	Seattle, WA.
Gross Merchandise Value (GMV)	$235 billion (2019)
Profitability and growth	North America net revenue $170.8b (+21%). Operating margin dropped in 2019 from 5% to 4%.
Main markets	United States
Main competitors	Ebay, Wal Mart, Target
No of active buyers/ users (m)	Not available
No of active sellers (m)	Not available
% of Business from 3rd Party Sellers	Not available for USA. Overall Amazon Group figure is 63% (est), compared to 58% in 2018 and 49% in 2014.
No of items and shipments	Not available
Own controlled fulfillment?	100%. However, Amazon uses third party carriers for delivery. Approx 50% of packages. UPS and USPS are the primary third-party contractors.
% of volumes through own controlled logistics?	100% Sellers can choose to fulfil or use fulfillment by Amazon
Logistics network open to 3rd parties?	To 3rd party sellers.
Logistics Spend	IN 2019 UPS generated 11.6% of its revenue with Amazon, or about $8.6b. Estimated 2018 spend with FedEx $900 million in, UPS $6.5 billion, USPS $5.8 billion.
Dedicated Airfreight or Aircraft Capacity	Yes, mainly through Atlas Air and ATSG. Amazon has been growing this air network throughout 2019.

Table 11 - Amazon in Europe profile

Company	Amazon in Europe (2019)
Description	Largest international market for US based online retail and marketplace platform. Lux company was incorporated in 2004
Headquarters, Employees	Luxembourg. Transport and logistics employment across main markets in Europe was approximately 48,000 in 2018. Overall employment across main markets was approximately 57,000
Gross Merchandise Value (GMV)	Not available. Net revenues EUR 32.2 b (+15%) which accounts for approximately half of international revenue
Profitability and growth	Loss of EUR 704m (compared to losses of EUR 259m and EUR 876m in 2018 and 2017)
Main markets	Germany and UK account for an estimated 80% of European revenue, followed by France (10%) and Italy (5%) and Spain (3%)
Main competitors	Otto, Zalando, Rakuten, Aliexpress
No of active buyers/ users (m)	Not available
No of active sellers (m)	Not available
% of Business from 3rd Party Sellers	Not available for Europe.
No of items and shipments	Not available
Own controlled fulfillment?	Yes, through network of 50 fulfillment centers across Europe, primarily in the UK (20), Germany (10), Italy (7), France (5), Poland (4), Spain (4), as well as Slovakia (2) and the Czech Republic (1)
% of volumes through own controlled logistics?	100% Sellers can choose to fulfil or use fulfillment by Amazon
Logistics network open to 3rd parties?	To 3rd party sellers
Logistics Spend	EUR 5.1 billion ($6.04b) in Germany, UK, Italy, France and Spain. EUR 970 million includes road linehaul between sites
Dedicated Airfreight or Aircraft Capacity	Yes

Table 12 - eBay profile

Company	eBay (2019)
Description	Global commerce leader, specialized in facilitating C2C and B2C sales through its website
Headquarters	San Jose, USA
Gross Merchandise Value – GMV	$90.2 billion (-5%)
Profitability and growth.	$10.8 billion in 2019 (a 0.5% increase y-o-y), with net income of $2,421, a 5% increase from previous year Q1 2020 - eBay reported revenues of $2.374 billion, down 2% on a year ago and net income of $3.4b (+558%) Q2 2020 – eBay reported revenues of $2.865 billion, and net income of $746 million (+85.5%) FY2020 outlook between $9.56b and 9.76b.
Main markets	United States (40%), Germany (15%), United Kingdom (13%), South Korea (11%), Rest of the world (21%)
Main competitors	Shopify, Alibaba, JD.com, Amazon
No of active buyers/ users	Q1 2020 saw a decrease of 9 million users, down to 174 m. Q2 2020 saw a total of 184 million (+6%)
No of active sellers	25 million sellers
% of Business from 3rd Party Sellers	100%
No of items and shipments	Not available
Own controlled fulfillment?	Previously, no. Recently eBay has made moves into own controlled fulfillment.
% of volumes through own controlled logistics?	Not available
Logistics network open to 3rd parties?	Yes, eBay plans to use third-party providers to offer fast delivery and logistics savings to help the site's seller compete for online consumers
Logistics Spend	Not available
Dedicated Airfreight or Aircraft Capacity	No

Reflects financial data up to latest quarter, ended in June 2020

Table 13 - Flipkart profile

Company	Flipkart
Description	Founded in 2007. Largest Indian E-commerce Platform. Walmart acquired 77% of Flipkart in August 2018 for $16b.
Headquarters	Bengaluru, India. Company is incorporated in Singapore.
Gross Merchandise Value	Marketplace: Flipkart's revenue grew 42% to over $6 billion in fiscal year 2019. Flipkart's financials have been fully consolidated under Walmart. Flipkart spent $47m on acquisitions in FY19, including $21.4m on acquiring Israel's Upstream Commerce.
Profitability and growth.	Not available
Main markets	India
Main competitors	Amazon and TATA. TATA is building an all-in-one e-commerce app to compete with Flipkart and Amazon.
No of active buyers/ users	100 million
No of active sellers	Over 100,000
% of Business from 3rd Party Sellers	Not available
No of items and shipments	500,000 deliveries per day. 180m / year.
Own controlled fulfillment?	1900 e-commerce sort centers. Supply Chain arm eKart has approximately 850 delivery hubs.
% of volumes through own controlled logistics?	Not available
Logistics network open to 3rd parties?	To third party sellers on platform.
Logistics Spend	Not available
Dedicated Airfreight or Aircraft Capacity	No

Table 14 - JD.com profile

Company	JD.com (2019)
Description	3rd largest E-commerce and retail infrastructure company, established 2004. The company has built its own nationwide fulfilment infrastructure and last-mile delivery network, staffed by its own employees, which supports both its online direct sales and its online marketplace businesses. JD.com launched its online marketplace business in 2010. NASDAQ IPO in 2014. Walmart has a 9.9% stake in the company and a non-compete agreement in China. JD.com has a controlling interest in JD Logistics, which is 19% owner by outside shareholders. In 2018 Google invested $550m in JD.
Headquarters	Incorporated in Cayman Islands, 124,277 warehouse and delivery personnel in China.
Gross Merchandise Value – GMV	$294b (RMB 2,085.4 billion)
Profitability and growth.	Net revenues for the full year of 2019 were RMB576.9 billion ($82.9 billion), an increase of 24.9% from the full year of 2018. Income from operations for the full year of 2019 was RMB9.0 billion ($1.3 billion), compared to loss from operations of RMB2.6 billion for the same period last year. Q1 2020: Revenue of $20.94b and profit of $153 million Q2 2020: Revenue of $28.35b and profit of $2.4b
Main markets	Domestic China. Immediate expansion plans are in Southeast Asia (Thailand, Indonesia, Malaysia) and will research entry into US, Europe and Middle East. Since early 2019 offers a selection of products via Google Shopping. JD worldwide sources products from 70 countries (particularly the US, Japan and Germany) for Chinese consumers.
Main competitors	Tmall (Alibaba)
No of active buyers/ users	Increased by 18.6% to 362.0 million in 2019 from 305.3 million in 2018
No of active sellers	19,000 suppliers. 220,000 3rd party sellers.
% of Business from 3rd Party Sellers	Not available
No of items and shipments	Not available

Company	JD.com (2019)
Own controlled fulfillment?	Yes, set up in 2007. Now operates through JD Logistics. Views logistics as a core capability. Warehousing facilities in 11 cities and 16 more under construction. Fulfillment centres in 7 cities, front distribution centres in 28 cities and warehouses in a further 46. Jd Logistics has accompanied JD expansion abroad as well. Use 3rd party couriers for some deliveries. Same day and next day delivery in 2146 counties and districts in China. Launched "Flash" delivery in 2Q 18 for delivery in minutes to about an hour for select items.
% of volumes through own controlled logistics?	Most orders are delivered through JD logistics network.
Logistics network open to 3rd parties?	Since April 2017 to businesses and in October 2018 also to consumers for intra China. Clients include Nestle, NetEase and Gree
Logistics Spend	$5.3 billion (fulfillment expenses). Fulfillment expenses as a percentage of net revenues was 6.4% for the full year of 2019, compared to 6.9% for the full year of 2018. These primarily include procurement, warehousing, delivery, customer service and payment processing expenses. Cost of revenues increased by 24% to RMB492.5 billion ($70.7 billion) for the full year of 2019 from RMB396.1 billion for the full year of 2018. This increase was primarily due to the growth of the company's online direct sales business and the logistics services provided to third parties.
Dedicated Airfreight or Aircraft Capacity	Partnership with Tianjin Cargo since November 2018. JD notes that road and High-Speed Rail in China could reduce the need for air freight in the medium term.

Reflects financial data up to quarter ended in June 2020

Table 15 - Jumia profile

Company	Jumia (2019)
Description	Largest e-commerce platform in Africa. Founded in 2012. NYSE listing in April 2019. Integrated including payment platform and logistics. IPO proceeds $252.8m, including EUR 75 million investment by Mastercard. Pernod Ricard invested EUR 75m prior to IPO. Its logistics service enables the shipment and delivery of packages from sellers to consumers, and the company's payment service facilitates transactions among participants active on its platform in selected markets.
Headquarters	Headquarters in Berlin, management center in Dubai, operations center in Porto
Gross Merchandise Value – GMV	EUR 1,098m ($1.2b, +33%, compared to EUR 828.2m ($963m) compared to EUR 507.1m in 2017)
Profitability and growth.	Cumulative losses of $1 billion (EUR 862m) prior to listing. Claims strong growth prospects due to low African e-tail penetration of only 1% and middle class totaling 355 million (in 2016). Increased expenses due to higher fulfillment expenses and share based compensation increase. Jumia posted revenues of $85 million in 2019 and a net loss of $254 million. Q1 2020: Revenue of $32.3 million (-9.5%) and profit of $20.3 million (+17%). Q2 2020: Revenue of $38.5 million (-11.7%). Gross profit reached $25.6 million (+38% y-o-y).
Main markets	Operates across six regions and 12 countries in Africa. Local sites: Algeria, Egypt, Ghana, Ivory Coast, Kenya, Morocco, Nigeria, Senegal, South Africa, Tunisia, Uganda and Rwanda. Its geographical segments are West Africa, North Africa, South Africa, East Africa, Portugal, France, and Germany. The firm generates most of its revenue from the West Africa segment
Main competitors	Varies by market. Souq.com (Egypt), Konga (Nigeria), Takealot, Superbalist (South Africa), Global E-commerce companies such as Alibaba and Ebay.
No of active buyers/ users, millions	Active consumers: 6.1m (+53%).
No of active sellers	110,000 (3Q 2019 compared to 81,000 in 2018). Majority of sellers are local but allows Chinese sellers access to platform. 1-4% of sellers are key accounts (major distributors), most are local professional traders, shop owners, manufacturers and individuals. A small percentage of sellers are Chinese cross border sellers experienced in customs formalities.
% of Business from 3rd Party Sellers	93% (compared to 90% in 2018).

Company	Jumia (2019)
No of items and shipments	26.5m orders (+84%). Jumiapay represents 29% of total orders (compared to 14% in 2018) and 11% of GMV (compared to 7% in 2018). 24m shipments (compared to 13.4m in 2018) 50% of packages to primary cities, 25% to secondary cities and 25% to rural areas. Jumia Express product accounts for 30% of all items. Jumia Express involves storage in own warehouses and faster dispatch.
Own controlled fulfillment?	Yes, through Jumia Logistics. Uses over 100 logistics partners across Africa. 380 pick-up stations for consumers. Proprietary delivery fleet for express in select areas. Also operates fulfillment centres.
% of volumes through own controlled logistics?	92%
Logistics network open to 3rd parties?	In the future, yes.
Logistics Spend	Fulfillment expense: EUR 77.4 (+ 53% in 2019 and + 47% in 2018). Fulfillment expense per order dropped from EUR 3.50 to EUR 2.92. 4Q 2019 increase was 38%. *Fulfillment revenue* was 35% of fulfillment expenses in 2019 (compared to 30% in 2018). No guidance was provided regarding the shipping share of fulfillment expenses. Fulfillment expense increase was due to a higher proportion of cross-border packages from overseas sellers and a higher proportion of packages delivered outside primary cities.
Dedicated Airfreight or Aircraft Capacity	For cross border inbound freight, but Jumia does not provide commentary.

Reflects financial data up to quarter ended in December 2019

Table 16 - Mercado Libre profile

Company	MercadoLibre (2019)
Description	Largest e-commerce platform in Latin America. Founded in 1999. Integrated including marketplace, payment, logistics, classified, advertising and webshop solution. NASDAQ IPO in 2007. Latest round of capital raising ($1.856b) in 2019. MercadoLibre's commerce segment (52% of revenue in 2019) includes online marketplaces in more than a dozen Latin American countries, display and paid search advertising capabilities (MercadoClics), online store management services (MercadoShops), and third-party logistics solutions (MercadoEnvios).
Headquarters, Employees	Buenos Aires, data centers in Virginia. 9703 (+34%) employees mainly in Argentina and Brazil.
Gross Merchandise Value (GMV), millions	$13,997 (+12%)
Profitability and growth	Company has turned a profit 2014-2017, but operating loss was $153m in 2019 and $70 million in 2018, primarily due to its shipping subsidies and increased marketing expenses. Average annual growth 2015-2019: GMV (14%), Items shipped (61%). Large growth in revenue from Mexico. Frequency of items purchased has increased to 6.13 purchases per buyer. MercadoLibre posted revenues of $2.3b in 2019 and a net loss of $172 million. Q1 2020: $652 million in revenues, net loss of $21.1 million Q2 2020: $878 million in revenues, net profit of $56 million
Main markets	Brazil (65%), Argentina (20%), Mexico (12%). The company derives more than 95% of its revenue from Brazil, Argentina, and Mexico.
Main competitors	B2W, Magazine Luiza, Amazon (in Mexico since 2015 and more recently, in Brazil)
No of active buyers/ users (m)	Buyers: 44.2 (+18%)/ Users: 320.6 (+20%).
No of active sellers (m)	11.2 (+4%)
% of Business from 3rd Party Sellers	100%
No of items and shipments	Items sold: 378.9m (+13%)
Own controlled fulfillment?	MercadoEnvios warehousing and fulfillment. Shipping service through integration with local carriers. Service available in six countries (Argentina, Brazil, Mexico, Colombia, Chile and Uruguay). Not available in Peru, Venezuela, Ecuador, Costa Rica, Dominican Republic, Panama, Bolivia, Guatemala, Paraguay, Nicaragua, Honduras and El Salvador. Fulfillment centres in Axotlan and Tepozotlan, Mexico State, Mexico; Louveira and Cajamar, Sao Paulo State, Brazil; Buenos Aires,

	Argentina; Cross docking facilities in Cambinas and Villa Guilherme, Sao Paulo State; Sarandi and Mercado Central, Buenos Aires. Share of m2: Brazil (53%), Argentina (26%), Mexico (18%). Opened 9 new service centers in Brazil and Mexico and additional drop off points for merchants.
% of volumes through own controlled logistics?	80% in 2019. It used to be 66.1% in 2018; 56% in 2017 and 48% in 2016
Logistics network open to 3rd parties?	No, but intends to maximize the utilization of MercadoEnvios
Logistics Spend	Unclear, but noted that shipping costs had increased by $155.5m in 2019 without providing reference value. Pay local carriers for shipping costs and then decide how much to pass onto their customers. Since 2017, the company has been subsidizing shipping in order to provide free shipping to its customers. In 2019 free shipping applied to 62% of volume purchased and 50% of units delivered. Shipping subsidy: $262.1m in 2019 (compared to $424.8m in 2018 and $181.6 in 2017). As of end of 2019, free shipping is offered to buyers in Brazil, Argentina, Mexico, Chile and Colombia. Shipping subsidies decreased by 38.5% and the company implemented a flat fee charged to customers for transactions below a certain merchandise value by $90.8m. Most of the flat free is generated in Brazil. Company does not state whether this actually covers shipping costs so effective subsidy may actually be higher.
Dedicated Airfreight or Aircraft Capacity	No

Reflects financial data up to quarter ended June 30, 2020

Table 17 - Otto Group profile

Company	Otto Group (12 Months Ended February 2019)
Description	Privately owned multichannel consumer goods retailer, with e-commerce, mail order and physical retail founded in 1949. Other segments include Finance and Logistics. Main companies include Otto.de, Bonprix, Crate & Barrel, Freemans Grattans, Heinrich Heine, My Toys, Sportscheck (sold in Feb 2020), Unito, Quelle, Witt. About You was deconsolidated in 2018/19 following an investment by Heartland A/S, a Danish multi-brand fashion company but is still viewed as a focus company.
Headquarters	Hamburg. Approximately 52,000 employees across 30 main subsidiary companies worldwide. 21,087 are in the service segment, which consists mainly of its logistics business Hermes.
Gross Merchandise Value – GMV	EUR 14.1b (revenue 12 months ended Feb 2020), of which EUR 10.6b were from sales of goods. EUR 8.1b revenue comes from online sales. Online share varies across business segments from 95% at Otto, 87% at Bonprix, 49% at Crate and Barrel).
Profitability and growth.	Revenue growth of 4.7% in 2019 (3.1% for the retail business). This compares to 3.5% revenue growth in 18/19 and 9.1% in 17/18. Otto Group generated and EBITDA of EUR 1b (compared to EUR 524 in 18/19). Company goal is to increase revenues to EUR 17b by 2022/23. Revenue growth has underperformed the market in the last years: Online sales grew higher than 3.5% forecast at 6.2% overall and 7.5% in Germany. In 2018 Otto Group growth was 4.5% overall and 5.2% in Germany. Market growth in Germany was around 9% last 2 years.
Main markets	Europe, North America and Asia. Revenue share by market: Germany 60%, Europe (excl Germany and Russia) 23%, North America 14%), Russia 1.5%, Asia 1.1%. Europe grew strongly at 10.3% primarily due to Hermes in France and UK, but Russia declined.
Main competitors	Amazon, Zalando, Asos
No of active buyers/ users, millions	Not available. 33% (29.5% in 2018 and 26.6% in 2017) are conducted via mobile devices.
No of active sellers	Not available, but the estimate is that Otto is making investments to move from being an e-tailer to becoming a platform. Invested EUR 130 in 19/20, 413 in 18/19 and EUR 380 in 17/18, mainly in the multichannel retail and service (Hermes) segment. In 2019 states tat it expected to be hosting 3000 partners and brands by end of 2020, but in its most recent report stated that it would bring 1000 partners online on otto.de in the coming months (as of filing in Sep 2020)
% of Business from 3rd Party Sellers	Not available.

Company	Otto Group (12 Months Ended February 2019)
No of items and shipments, in millions	Hermes ships over 817m parcels in Europe (from website – figure unchanged for last years). One third of volumes are generated with Otto Group companies. In 2019 Hermes revenues increased 10.1%
Own controlled fulfillment?	Yes, through inhouse parcel and logistics company Hermes. Hermes has subsidiaries and distribution centres in Germany, UK, Italy, Austria, Romania, Russia, Hong Kong, and the US Hermes Fulfillment handles around 300 million items and 60 million orders per year for Otto Group Companies. fulfillment centres in Germany including Haldesleben, Löhne and Ohrdruf and returns logistics center in Hamburg. Otto is currently looking for a strategic partner to take a stake in Hermes and expects to close a transaction in late 2020 and deconsolidate Hermes. In August 2020 Advent International, a private equity firm, announced an agreement to acquire 75% of Hermes UK and 25% of Hermes Parcel Germany.
% of volumes through own controlled logistics?	100%.
Logistics network open to 3rd parties?	Yes. Parcel services to businesses and consumers. Hermes offers end to end e-commerce solutions to third parties, including pick up, sortation, airfreight, customs clearance. Also provides solution for foreign companies to sell on Chinese marketplaces such as JD.com or TMALL. Hermes claims they deliver one in three B2C parcels in Germany. Hermes key accounts include Amazon, eBay and H&M, among others. 2/3 of Hermes business is with 3rd party clients. 43% of Hermes revenues are in Germany and 52% in other parts of Europe excluding Germany and Russia (2018/19, no data for 19/20). Based on Hermes Parcelnet filings approximately 25% of total Hermes logistics business in the UK.
Logistics Spend	EUR 1.26b (+5%, +8.3% and +6.6% growth in 19/20, 18/19 and 17/18, respectively), The Services division, which includes Hermes generated EUR 2.6b with 3rd party customers. Third party revenues grew 11.6% in 19/20 compared to growth of around 1% in the preceeding years.
Dedicated Airfreight or Aircraft Capacity	As a freight consolidator between North America, Europe and China.

Updated 30 Sep 2020.

Table 18 - Rakuten profile

Company	Rakuten (2019)
Description	E-commerce and Internet company established in 1997. It's a B2B2C e-commerce platform with base in Japan which offers e-commerce solutions internationally. The internet services segment comprises businesses running various e-commerce sites, including Rakuten Ichiba, an internet shopping mall; travel booking sites; portal sites; and e-book businesses as well as businesses for advertising.
Headquarters	Tokyo, Japan
Gross Merchandise Value – GMV	$36 billion (2019)
Profitability and growth.	Rakuten reported $326 million in loss and revenues of $11.6 billion in 2019. Domestic e-commerce declined by 11% in 2019 YoY. About 80% of revenue is generated from the Japanese market and the firm has been scaling back its unprofitable overseas business in the past years. Q1 2020: $3.23b (15.8%) and net loss of $324 m Q2 2020: $2.04b (19.6%) and profit of $72.8 m
Main markets	Japan, Korea. Also active in Europe and the US (through Webgistix)
Main competitors	Amazon, Walmart, JD.com
No of active buyers/ users	115 million
No of active sellers	44,000 active sellers
% of Business from 3rd Party Sellers	Not available
No of items and shipments, in millions	Not available
Own controlled fulfillment?	Yes, Rakuten Super Logistics (RSL) is a leading ecommerce order fulfillment company that provides the scalability, flexibility, and cost savings retailers demand
% of volumes through own controlled logistics?	Not available
Logistics network open to 3rd parties?	Yes
Logistics Spend	Not available
Dedicated Airfreight or Aircraft Capacity	No

Reflects financial data up to latest quarter ended in June 30, 2020

Table 19 - Shopify profile

Company	Shopify (2019)
Description	Leading cloud-based, multi-channel e-commerce platform. Shopify builds web and mobile based software and lets merchants set up online storefronts, enabling them to manage product inventory, process orders and payments, ship orders, build customer relationships, source products, leverage analytics and reporting.
Headquarters	Ottawa, Canada
Gross Merchandise Value – GMV	CAD $61 billion ($44 billion). GMV up 49% from 2018 Second-Quarter GMV Growth of 119% Year on Year
Profitability and growth.	Shopify reported revenues of $1.58 billion along with losses of $111 million in 2019 and they have accumulated a deficit of $304 million up until June 30, 2020. 2H 2020 revenues reached $1.18 billion and Shopify posted positive net profit of $4.5 million in the first six months of 2020.
Main markets	Canada, United States, United Kingdom
Main competitors	eBay, Amazon
No of active buyers/ users	300 million in 2019, a 37% increase vs. 2018
No of active sellers	Over 1 million merchants from 175 countries use Shopify, geographically dispersed: United States (52%), UK (7%), Canada (6%), Australia (6%), rest of the world (29%)
% of Business from 3rd Party Sellers	100%
No of items and shipments, in millions	Not available
Own controlled fulfillment?	Shopify was not responsible for the fulfilment. However, in June 2019, they announced the launch of Shopify's Fulfillment Network and acquired a warehouse automation company (6 River Systems) in late 2019.
% of volumes through own controlled logistics?	Not applicable
Logistics network open to 3rd parties?	Not applicable
Logistics Spend	Not applicable
Dedicated Airfreight or Aircraft Capacity	No

Reflects financial data up to latest fiscal quarter ended June 30, 2020

Table 20 - Walmart profile

Company	Walmart (Year ended Jan 31, 2020)
Description	US based omnichannel retailer, 11,500 physical stores. E-commerce websites under 56 banners in 27 countries. Incorporated in 1969. First foray into e-commerce in 2000 with Walmart.com. Acquired Flipkart (India) in 2018 and entered into minority shareholding of JD.com in 2016. Walmart International segment conducts business in 26 countries as of September 2020.
Headquarters	Bentonville, AK. 2.2m employees, of which 0.7m outside the US
Gross Merchandise Value – GMV	Total GMV of $528.1b (+2.7%) E-commerce sales (+37%) E-commerce GMV estimated to be around $39b (+40%) In FY 2020, Walmart generated total revenues of $524.0 billion, which primarily comprised net sales of $519.9 billion. Q1 2020: revenue was $134.6 billion, an increase of $10.7 billion (8.6%) Q2 2020: revenue of $137.7 billion, an increase of $7.4 billion (5.6%) Walmart U.S. eCommerce sales grew 97% in Q2 2020
Profitability and growth.	Operating profit $20.6b (-6.3%). Consistently profitable with operating margins above 4%. US operating income higher than from its international business.
Main markets (2019)	US (65% of net sales) and International (24% of net sales) with operations in U.S., Africa, Argentina, Canada, Central America, Chile, China, India, Japan, Mexico and the United Kingdom, as well as Brazil (divested in August 2018). Main e-commerce markets in US, Mexico, UK, Canada and India. 40 dedicated eCommerce fulfillment centres in the US and 88 internationally.
Main competitors	Target, Amazon
No of active buyers/ users	265 million customers (2019)
No of active sellers	Exclusively own retail
% of Business from 3rd Party Sellers	No third-party sales
No of items and shipments, in millions	Not available
Own controlled fulfillment?	88 dedicated e-commerce fulfillment centers and 2,500 e-commerce sort centers in India
% of volumes through own controlled logistics?	US: 79% of store merchandise shipped through 162 distribution facilities, the remainder directly from suppliers International: 85% of Walmart International volumes through own distribution facilities. There is a total of 221 distribution facilities outside the US

Logistics network open to 3rd parties?	No
Logistics Spend	Free two-day shipping on over 2 million items launched 2017. In Jan.2020, Walmart launched NextDay Delivery to more than 75 percent of the U.S. population, launched Delivery Unlimited from 1,600 locations in the U.S. and expanded Same Day Pickup to nearly 3,200 locations
Dedicated Airfreight or Aircraft Capacity	No

Reflects financial data up to latest fiscal quarter ended in July 31, 2020

Table 21 - Wish profile

Company	Wish (2019)
Description	Privately owned e-commerce platform founded in 2010. One of the most popular platforms for cross border e-commerce, accounting for about 10% of all cross border transactions. In 2015, both Amazon and Alibaba offered to purchase Wish for $10 billion. Wish was valued at $11.2 billion in late 2019.
Headquarters	San Francisco, USA
Gross Merchandise Value – GMV	$2 billion in 2019
Profitability and growth.	Not available
Main markets	Globally but with a focus in China, Europe and North America.
Main competitors	Alibaba/ AliExpress, Lazada, Amazon, Ebay
No of active buyers/ users	100 million monthly active users.
No of active sellers	Over 500,000 merchants but almost the majority (95%) are in China.
% of Business from 3rd Party Sellers	100%
No of items and shipments, in millions	Over 150 million of items available for sale and over 2 million products sold per day. Shipment number not available.
Own controlled fulfillment?	No
% of volumes through own controlled logistics?	None
Logistics network open to 3rd parties?	Not applicable
Logistics Spend	Not applicable
Dedicated Airfreight or Aircraft Capacity	No