



Late Latin America's
Digital Ecosystem

Accelerating Digital Trade in Latin America and the Caribbean

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The Internet roared to the scene in Latin America and it is transforming the way Latin Americans interact, shop, bank, and spend their time. The Internet is changing regional consumption patterns, the landscape of regional companies, and the region's economic prospects. Disruptive digital technologies riding on the web — cloud-based services, e-commerce, 3D printing, Internet of Things, and so on — are empowering LAC companies of all sizes to dramatically cut costs, improve customer service, and create brand new products and services. The region is also home to innovative digital companies run by intrepid entrepreneurs, some of whom have accessed significant investments from Silicon Valley and grown into some of the leading digital companies. The Internet, in short, has opened tremendous new opportunities for LAC economies to become more productive, expand opportunities for entrepreneurship, and drive inclusive economic growth.

Abbreviations and Acronyms

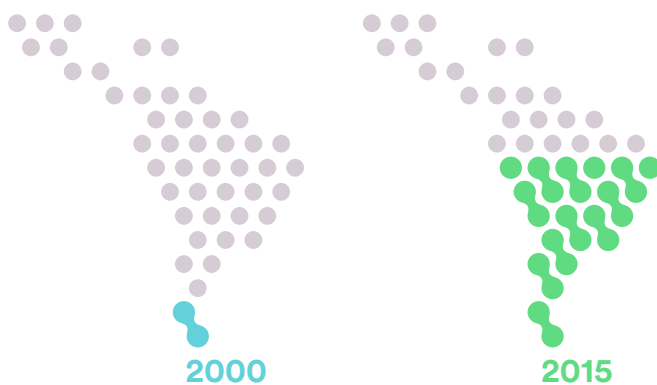
ANII	Uruguay National Agency of Investigation and Innovation
APEC	Asia-Pacific Economic Cooperation
API	Application Program Interface
B2B	Business to Business
B2C	Business to Consumer
BCG	Boston Consulting Group
C2C	Consumer to Consumer
EU	European Union
GDP	Gross Domestic Product
ICT	Information and Communications Technology
IDB	Inter-American Development Bank
IP	Intellectual Property
IT	Information Technology
KYC	Know Your Customer
LAC	Latin America and the Caribbean
MELI	Mercado Libre
OECD	Organization for Economic Cooperation and Development
PPP	Purchasing Power Parity
RFID	Radio Frequency Identification
ROI	Return of Investment
SME	Small and Medium-Sized Enterprise
TPP	The Trans-Pacific Partnership
UK	United Kingdom
UNCTAD	United Nations Conference on Trade and Development
UNESCO	United Nations Educational, Scientific and Cultural Organization
UTU	United Transportation Union

Introduction

The Internet roared to the scene in Latin America and it is transforming the way Latin Americans interact, shop, bank, and spend their time. The Internet is changing regional consumption patterns, the landscape of regional companies, and the region’s economic prospects. Disruptive digital technologies riding on the web — cloud-based services, e-commerce, 3D printing, Internet of Things, and so on — are empowering LAC companies of all sizes to dramatically cut costs, improve customer service, and create brand new products and services. The region is also home to innovative digital companies run by intrepid entrepreneurs, some of whom have accessed significant investments from Silicon Valley and grown into some of the leading digital companies.

The Internet, in short, has opened tremendous new opportunities for LAC economies to become more productive, expand opportunities for entrepreneurship, and drive inclusive economic growth.

Latin America’s trade patterns are unlikely immune to the ongoing digital revolution. Indeed, one key benefit of the Internet is visibility: enabling buyers to find and evaluate sellers anywhere in the world, the Internet reduces the geographic distance which for centuries has limited visibility and thus trust between buyers and sellers located far apart. Another benefit is scalability: entrepreneurs and businesses in the region are building digital platforms on payments, logistics, and finance that in turn enable new volumes of trade in goods and services.

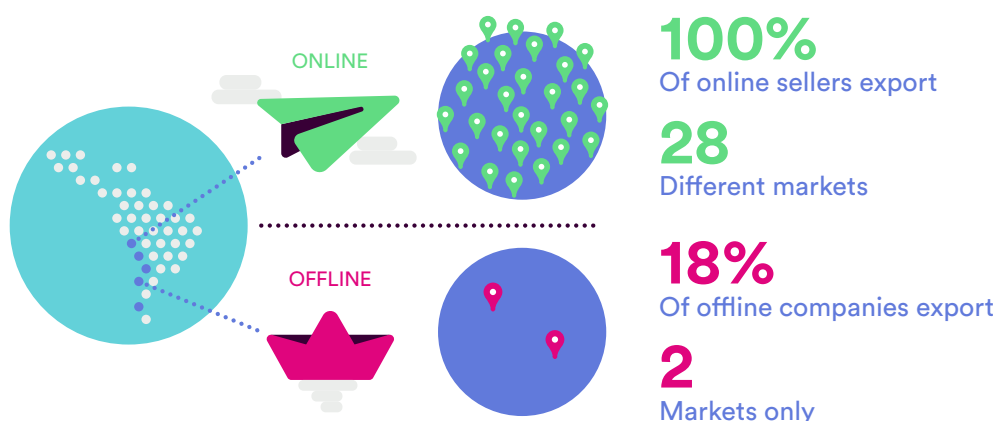


While in 2000 fewer than 5% of Latin Americans used the Internet, by 2015, half of the region was online

There are at least five ways in which the Internet can be hypothesized to shape LAC trade patterns:

1 Expansion of trade in services

Traditionally known as an exporter of manufactured products and commodities, Latin America nearly doubled trade in services in 2000-13. The Internet is playing a growing role in the service revolution, fueling the region’s cross-border trade in services, such as financial, logistics, and educational services. App development platforms enable local startups to create their own global technology companies and export apps and digital services to customers around the world. Online microwork platforms are expanding opportunities for Latin American freelancers and small businesses to engage in “trade in tasks.” Services trade could in some economies expand further on the back of the Trans-Pacific Partnership (TPP) agreement that has significant provisions on services trade.



2 Increased exports and export diversification

The Internet is increasing LAC companies' trade in goods. For example, eBay's data shows that in Chile, 100 percent of online sellers export, on average selling to 28 different markets – as opposed to the mere 18 percent of Chilean offline companies that export, and export typically only to two markets. These patterns are echoed in other LAC markets. As more LAC companies become able to set up online stores and start selling and buying on e-commerce platforms such as MercadoLibre and Alibaba, the region's prospects to expand small business trade multiply.

3 Streamlined trade and supply chains

The Internet not only enables companies to do more trade, but to optimize their trade – streamline logistics, gain foreign market intelligence, carry out payments and access financing, gain information about trade compliance, and overall improve the various aspects that go into doing cross-border trade and transactions. Using the web and various platforms, they can uncover best-in-class suppliers and shop around for the best deal worldwide. This is beneficial: businesses that are able to access a wide variety of goods and services inputs at world prices are widely shown to grow more productive and competitive.

4 Wider variety at lower cost

LAC companies often depend on imported inputs for their competitiveness, especially in small LAC markets with limited local supply. The Internet improves their sourcing: by using the web and various platforms, even the smallest companies can identify and vet suppliers and shop around for the best deal worldwide. Similarly, regional consumers are scoring welfare gains by accessing online a wide variety of goods and services from domestic and foreign sellers.

5 Genuinely regional small businesses and startups

The Internet enables “born-digital” companies to launch in several markets in rapid sequence. The full suite of turnkey Internet tools and apps are enabling companies to instantly translate their websites and social media presence, target their services to new markets, understand where consumers are searching for their products, and build a local following for their brand. By leveraging cloud-based tools, entrepreneurs in Latin America can instantly build a global footprint, run anything from an ecommerce site to a bank to a genomics company, and handle millions of requests per second without building their own IT infrastructure. As a result, capital expenditure is less and barriers to enter new markets are far lower than they are in the traditional industries – and even traditional industries are increasingly leveraging the Internet to manage global communications, engage with supply chains, and collaborate across borders.

Taken together, trade flows powered by the Internet can usefully be grouped under term “digital trade” – international trade in which the Internet and Internet-based technologies play a major role in building, finding, ordering, producing, marketing, or delivering products and services. Indeed, digitization and the Internet are redefining goods and services and markets for them.

There is some data and anecdotal evidence show that most LAC SMEs have yet to fully leverage the gains that digital trade offers. However, it is still not clear how LAC companies use the Internet to engage in trade or what barriers they may face. This curtails regional policymakers' ability to make informed policy choices to unlock this enormously promising new stream of commerce.

The purpose of this report is to start filling these knowledge gaps and unlock the next generation of digital trade in Latin America. We pioneer in mapping out the state and future of digital trade in the LAC region, analyze the impediments to the expansion of the region's digital trade, and put forth policy recommendations for undoing the barriers to this new, exciting area of international trade. We also analyze the patterns in the geographic expansion of digital businesses and platforms across Latin America. The report uses both survey data from small LAC companies on the IADB's ConnectAmericas platform, and case studies of LAC companies that sell goods and services online, and companies such as ecommerce platforms that provide the infrastructure for the regional digital trade to flow.

The report provides answers to the following specific questions:

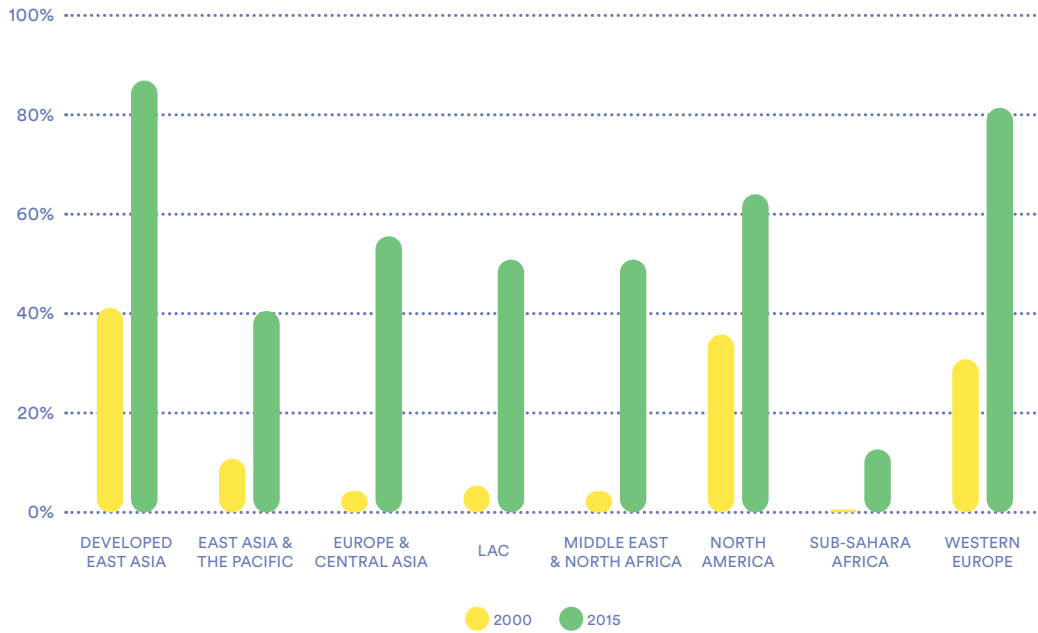
- How do LAC companies and consumers use the Internet today? Which sectors and business operations are most intense in Internet use, and which are farther behind?
- How significant is cross-border online trade for LAC goods and services companies, in terms of their overall online sales and purchases? How have regional companies expanded their cross-border online trade in the Internet era, what are their key export markets and sources of imports, and how do they perceive their prospects in the coming years? How does cross-border data influence business operations in the region?
- What are the obstacles faced by LAC companies in selling and buying online across borders? What are the policy and other external barriers that limit LAC companies' ability to leverage the Internet for growing their sales? Are there internal challenges within companies to effectively compete in the digital era?
- What priority policy strategies should pursue to enable companies to engage in online trade in goods and services within the regional market and with extra-regional partners?
- What are the barriers that LAC entrepreneurs face when creating new online platforms? What are the challenges LAC online platforms face when they seek to scale their services regionally or globally?
- Traditionally only a fraction, some 13 percent, of LAC companies have exported, and often derived only a minor share of their revenues from exports. However, over 50 percent of the surveyed companies – ones with some online presence and typically some online sales – sell and buy online across borders, and often derive nearly 50 percent of their revenue from export sales. Online presence also has earned LAC companies new foreign customers they did not have before selling online.

The first chapter of the report reviews expansion of Internet use by LAC consumers and companies. Chapter two discusses the findings from the survey of ConnectAmericas companies' use of the Internet for buying and selling goods and services at home and abroad. Chapter three elaborates on the challenges experienced by LAC companies and consumers to engaging in cross-border digital trade. Chapter four provides priority policy solutions. The case studies illustrate the solutions developed by LAC entrepreneurs, leveraging the Internet and creating platforms, to problems in online payments, logistics, and online learning.

The Internet Revolution in Latin America in a Comparative Perspective

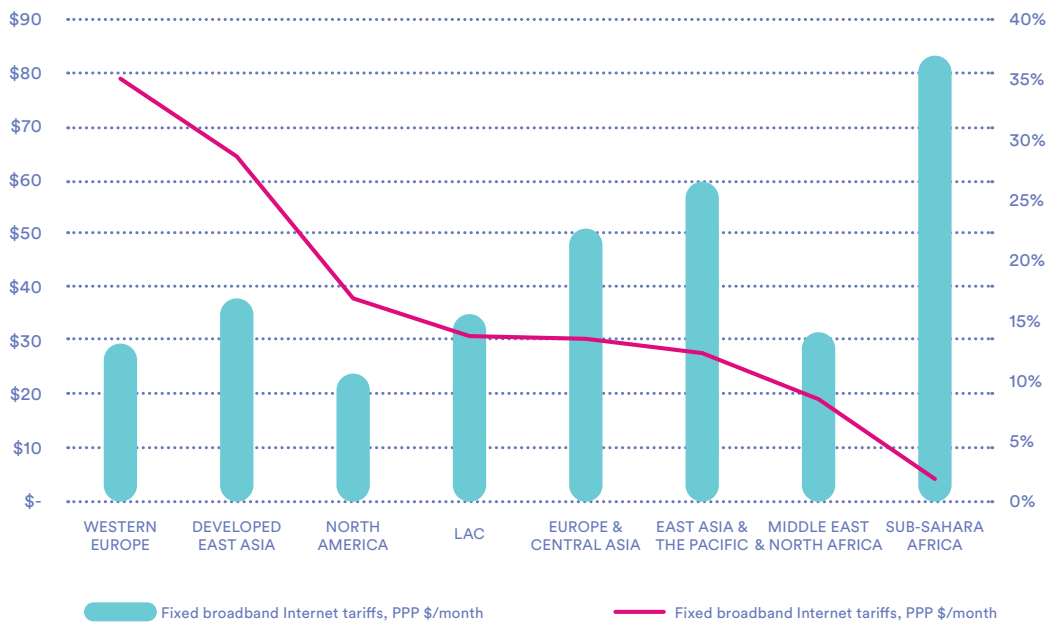
Starting as a specialized network for scientists, the Internet has over the past two decades become a central feature of economic life around the world. Latin American and the Caribbean countries too have been swept in the web’s tide. While in 2000 fewer than 5 percent of Latin Americans used the Internet, by 2015, one-half the region was online (figure 1). While still with relatively low broadband penetration rates – only some 15 percent of Latin Americans have access to fixed broadband – broadband subscription rates are at a par with those of Western Europe and developed East Asia (figure 2).

Figure 1 – Internet Usage in 2000 and 2015, by Region



Source: World Bank’s World Development Indicators.

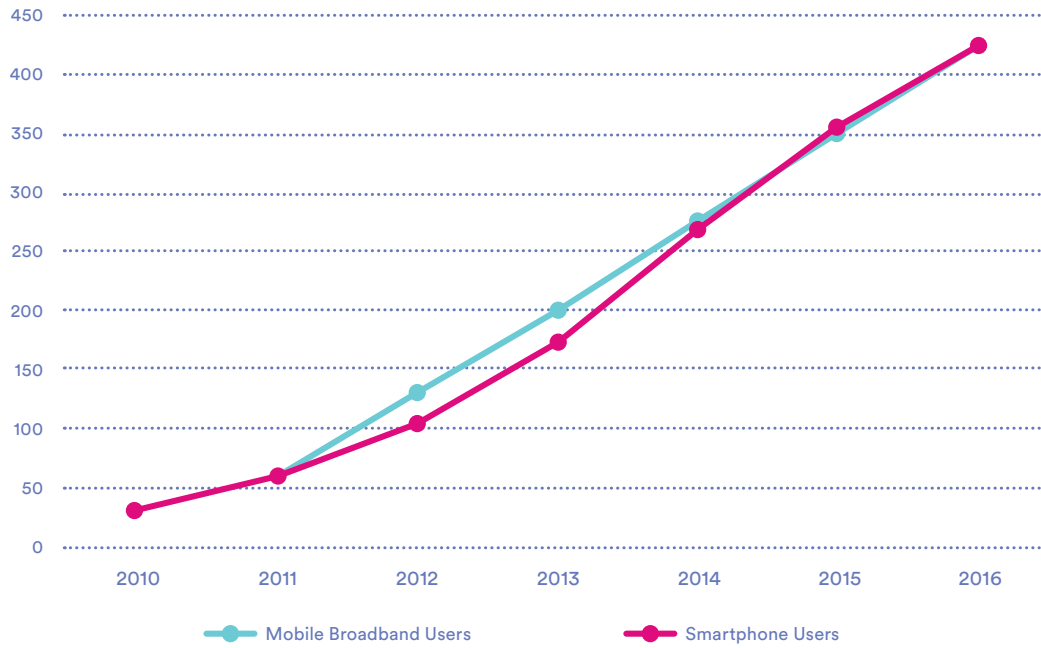
Figure 2 – Fixed Broadband Subscriptions and Fixed Broadband Internet Tariffs, PPP \$/month in 2015, by Region



Source: World Bank’s World Development Indicators.

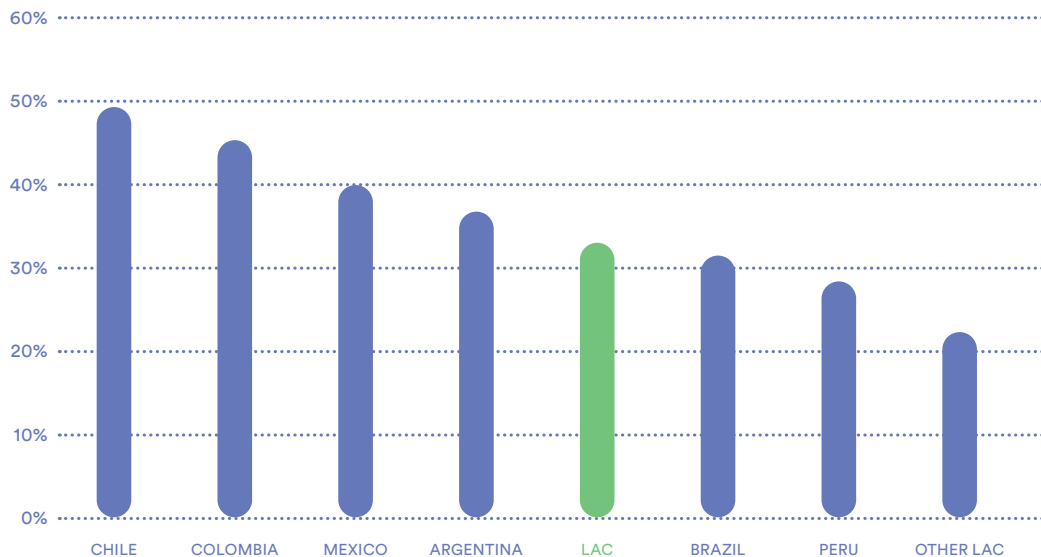
Moreover, smartphone usage rates are growing, implying that many Latin Americans connect to the Internet via mobile broadband (figure 3). More than 40 percent of Chileans, Colombians, and Mexicans now carry a smartphone (figure 4). In 2014, some 38 percent of Latin Americans used their phones to search for products and services online, and 27 percent purchased. The number of digital buyers – people who spend money online – is growing rapidly, particularly driven by the smartphone revolution, from 97 million in 2014 to 131 million in 2017 and over 150 million in 2019 (figure 5). This represents some 45 percent of all Internet users.

Figure 3 – Mobile Broadband Users and Smartphone Users in Latin America in 2010-2016, in millions



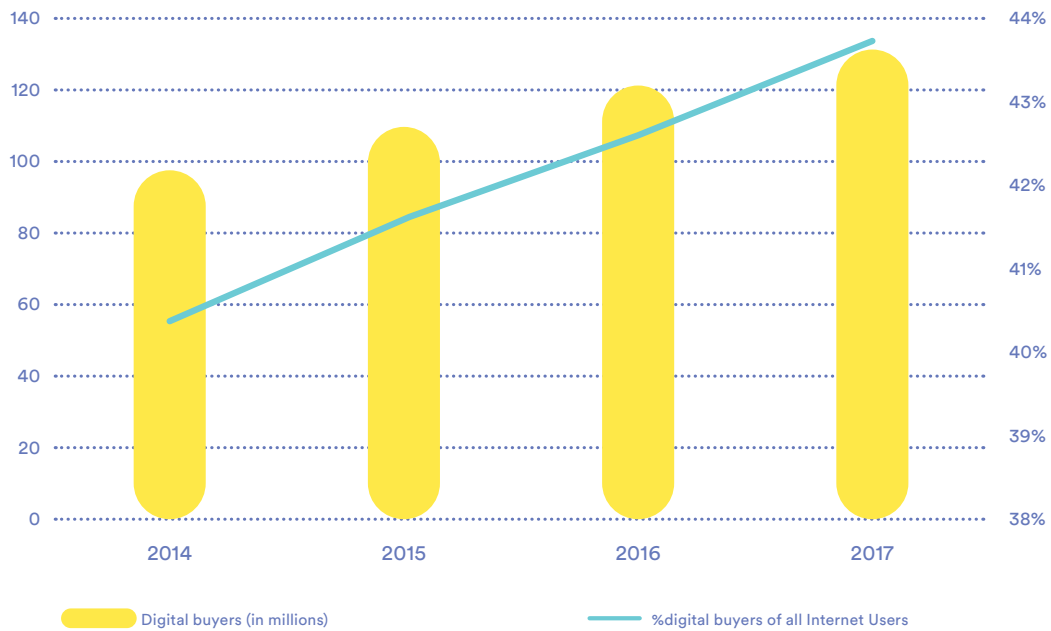
Source: eMarketer.

Figure 4 – Smartphone Usage Rates in 2014, Selected LAC Economies



Source: eMarketer.

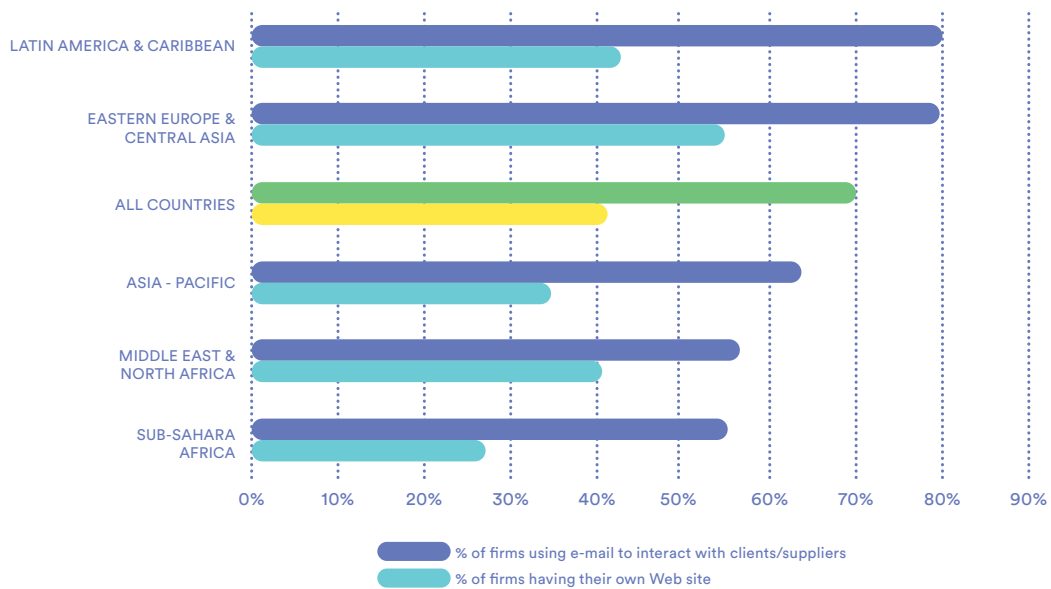
Figure 5 – Digital B2C Buyers in Latin America, 2014-2017, in Millions and as % of Internet Users



Source: Statista.

Latin American businesses have also grown more connected. Over 40 percent of LAC companies – some 32 percent of small businesses and 77 percent of large businesses – have their own websites, and most use email to interact with client and suppliers (figure 6).

Figure 6 – Firms’ Use of Email and Web Sites for Doing Business in 2015, by Region



Source: Enterprise Surveys.

The Virtual Future of Latin American Retail

The Internet is changing the way Latin Americans shop. Virtual dressing rooms are an innovative retail solution that allow online users to choose their favorite clothes and accessories, combine them as they want and try them on a virtual model. This enables shoppers to visualize how they would look like without actually trying clothes on. Different brands and shops may be associated with this virtual dressing room, the first stage of the shopping experience. For consumers, the approach is flexible and fun, enabling customers to “play” and personalize clothes through just a couple of clicks.

Latin America is amid a boom in showrooming and webrooming. Showrooming refers to experiencing the products in the offline shop and looking the cheaper options online afterwards, while webrooming refers to the consumer investigating products online and shopping offline. The main category under the “showrooming” trend is fashion.

Webrooming started in 2011, when a UK wedding dress company Brides.com enabled future brides to upload a picture of themselves and look at how the dresses would fit them. This type of business has been developing in the last years, with increasing customization. There are platforms that create consumer avatars and generate a 360-degree image of the person dressed with different models, sizes, and styles of outfit.

In Latin America, MeloPruebo.com is a leading player in the segment. It is a Uruguayan startup created by Gabriela Poblavski and Abi Mendlewicz, who had the idea when vacationing in Playa Verde. Gabriela did not want to visit stores without first having a sense of what items she would look for in any given store, so she started to search solutions in the web. She found the virtual dressing rooms in other countries, and resolved to create a platform for Uruguayan women and stores. Abi was responsible for creating the virtual platform, teaching himself to program. The project was supported by the National Agency of Investigation and Innovation (ANII), which selected the idea and partially financed it. In the beginning, most of the expenses were footed by the couple.

The site launched on December of 2013 with the functionality of allowing users to choose their favorite clothes and combine them with the objective of centralizing the fashion on demand in Montevideo and in the future, Punta del Este. By August of 2014, the company already had 35,000 unique visitors with a high percentage of returning users. Today, the site counts with 55,000 active users and around 50 associated offline stores. This is a notable share of Uruguayans. According to eMarketer, Uruguay had nearly 2 million internet users (58 percent of the population) in 2014. Among women who read magazines (a profile that fits potential users of Melopruebo.com), 74 percent use the Internet.

The company charges stores for the quantity of items stored. Each product has the same probability of being viewed each time a user enters the site. The shopper can select from different body types and upload her own picture for the model. Some other details involve choosing if the pants would go outside or inside the boots, or if the shirt should be unbuttoned, among others. After the design is ready, the user can share it through social networks like Facebook, Twitter, Instagram, YouTube and briefly in WhatsApp.

In June 2015, the company associated with Rosario Sanjuan, a fashion expert who curates products in the site. The selection of the products requires a certain level of quality and quantity of items (at least five per brand). Melopruebo.com doesn't sell the products, since their business is to work as a showroom for shops to show their products. After visiting the site, women can have a more carefully planned schedule for shopping, knowing where they will find what they are looking for. The company is adding new services such as hair designs and accessories, and is expanding into Colombia and Peru.

Impact of the Internet on Economic Growth, Trade, and Entrepreneurship

Much like railroads, roads, and electricity have driven development over the past several decades, the Internet has grown into a critical pillar of national economic infrastructures. It has been a boom to productivity. For example, McKinsey (2011) shows that the Internet accounts for 3.4 percent of GDP in the largest economies that make up 70 percent of the world's GDP, larger than the contribution of the energy or agriculture sectors on the global economy.¹ Manyika et al. (2013) find that in 2004-09, the Internet contributed 10 percent or more to total GDP growth in Brazil, China, and India, and this effect has accelerated.² A World Bank study across 86 countries in 1980-2011 shows that a 10 percent increase in fixed broadband penetration results in a 1.4 percent increase in GDP growth in developing countries and a 1.2 percent increase in developed economies.³ Deloitte (2012) shows that doubling mobile broadband data use leads to a 0.5 percent increase in GDP per capita growth rates.⁴ Many analysts would agree that the Internet likely has multifaceted impacts and consumer surpluses not captured by these conventional GDP calculations.

That only one-half of Latin Americans are online and that even fewer have broadband connections implies major growth opportunity. For example, one study estimates that in 2012, the annual economic value generated by the Internet was \$1,488 per capita in developed countries that were already highly connected at the time, but still only \$119 per capita in developing economies that were online but only starting to become connected.⁵ Deloitte (2014) estimates that if Latin America were to attain the same level of Internet usage as advanced economies, the region's productivity would surge by 13 percent.⁶

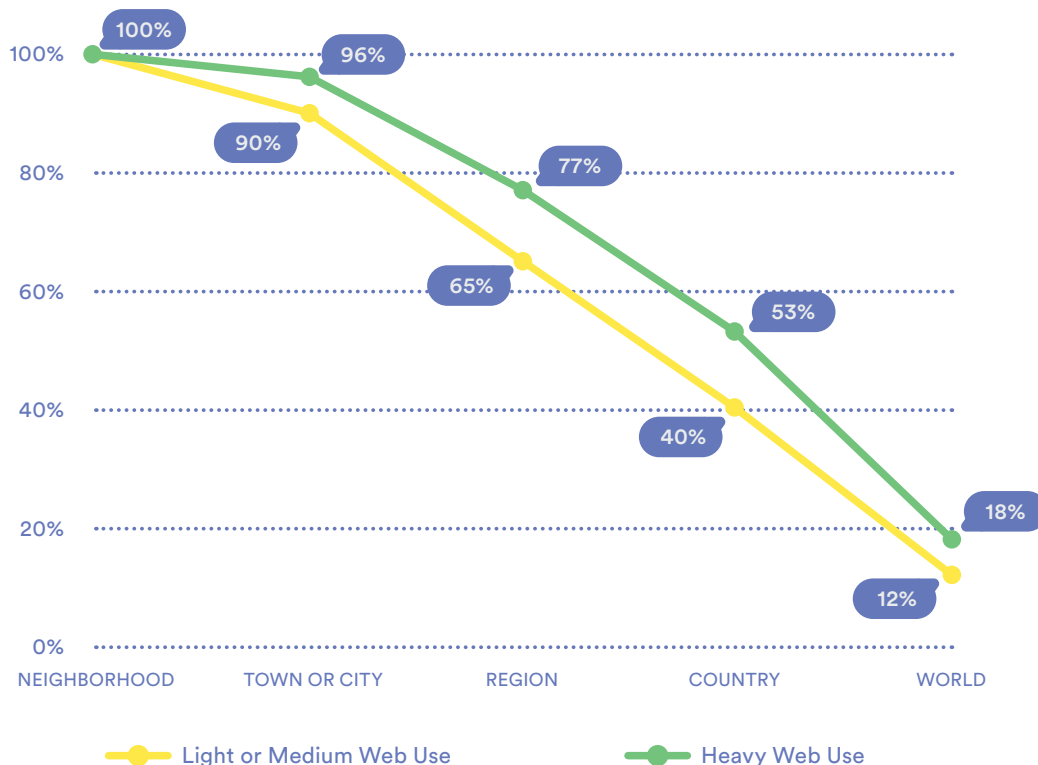
As technologies riding on the Internet such as 3D printing, machine learning, radio frequency identification (RFID) systems, robotics, and the Internet of Things applications grow more ubiquitous, the gains from the Internet can be expected to grow further. These technologies open significant opportunities for LAC entrepreneurs and companies to create new business models and export services. In an example that every traveler can identify with, Argentine company Bluesmart has created a carry-on suitcase that the traveler can control from his/her phone, lock and unlock it, weigh it, track its location, and be notified if he/she is leaving it behind, and charge her phone six times with a built-in battery. Growing in use across industries and B2C and B2B markets, these types of Internet of Things applications are expected to generate additional efficiency gains of up to \$15 trillion globally between 2015 and 2035 – savings that can be invested in R&D and new technologies.⁷

The Internet also boosts productivity in economies in part because it boosts international trade, a major productivity driver. Numerous studies attest to the impact of the Internet on trade. For example, Riker (2014) finds that growth in broadband use in 2000-11 increased trade-to-GDP ratio by 4.2 percentage points on average in a broad sample of countries.⁸ A U.S. International Trade Commission study finds that the Internet reduces trade costs for U.S. imports and exports of digitally intensive goods and services by 26 percent on average.⁹ There are at least four channels by which these trade gains come about:

- Expansion in the Exports and the Number of Long-Term Exporters. Using the Internet, companies of all sizes are more visible to prospective customers and around the world and, research shows, thus more poised to export and import and scale their sales. For example, surveying 3,250 SMEs in 11 countries (Brazil, China, India, Kenya, Mexico, South Africa, South Korea, Turkey, Ukraine, and two advanced economies, France and Sweden), Boston Consulting Group (BCG) finds that small and mid-size enterprises that are heavy web users are almost 50 percent likelier to sell products and services outside of their countries. This significant increase in global visibility for SMEs depends upon ready access to search engines, Internet-enhanced marketing campaigns, and cross-border cloud services.

Also, eBay data attest to the differences of on- and offline sellers. For example, in Chile, 100 percent of companies that sell on eBay also export, as opposed to only 18 percent of brick-and-mortar companies, and sell on average to 28 different markets, as opposed to 1-2 markets that the median exporters sell to. Remarkably, some 80 percent of the first-time exporters, or “entrants”, survive in the export game after the first year, well above the one-third for offline exporters. These patterns are echoed in eBay surveys in Brazil, Mexico, Colombia, and Peru. Several analysts have found that companies that sell online raise their productivity: for example, World Bank (2015) finds that the total factor productivity growth of online sellers to be 3 percent higher when compared to offline sellers.

Figure 7 – SMEs’ Sales Reach by Market, by Level of Web Use



Source: Boston Consulting Group (2014), “Greasing the Wheels of the Internet Economy.”

Starting with 100 Pesos, Selling Online across Latin America

The expansion of Internet usage in Latin America has enabled local companies to reach new customers across the region. One example is Urmex, a small business with 10 employees in Toluca, Mexico. Urmex produces and distributes customized USB drives, iPhone holders, and other accessories carrying the client’s logo or favorite picture or feature. The products are used as gifts and promotional items by businesses and individuals.

Established in 2005, Urmex initially promoted its products with physical flyers and cold calls. To test traction in the online marketplace, Urmex decided to invest 100 pesos (less than \$10 dollars) in online advertising to reach customers in Mexico City. Realizing an immediate return on investment, the company invested in further online campaigns across Mexico.¹⁰ Succeeding again, Urmex invested in advertisements across Latin America and was set to sell online. Among other tools, the company uses Google AdWords that enables it to display ads in specific parts of the world, advertises with YouTube videos and Twitter, and sells products on e-commerce platforms such as MercadoLibre and Alibaba. The company also has some country-specific sites and Twitter feeds and a dedicated site for Colombian customers.

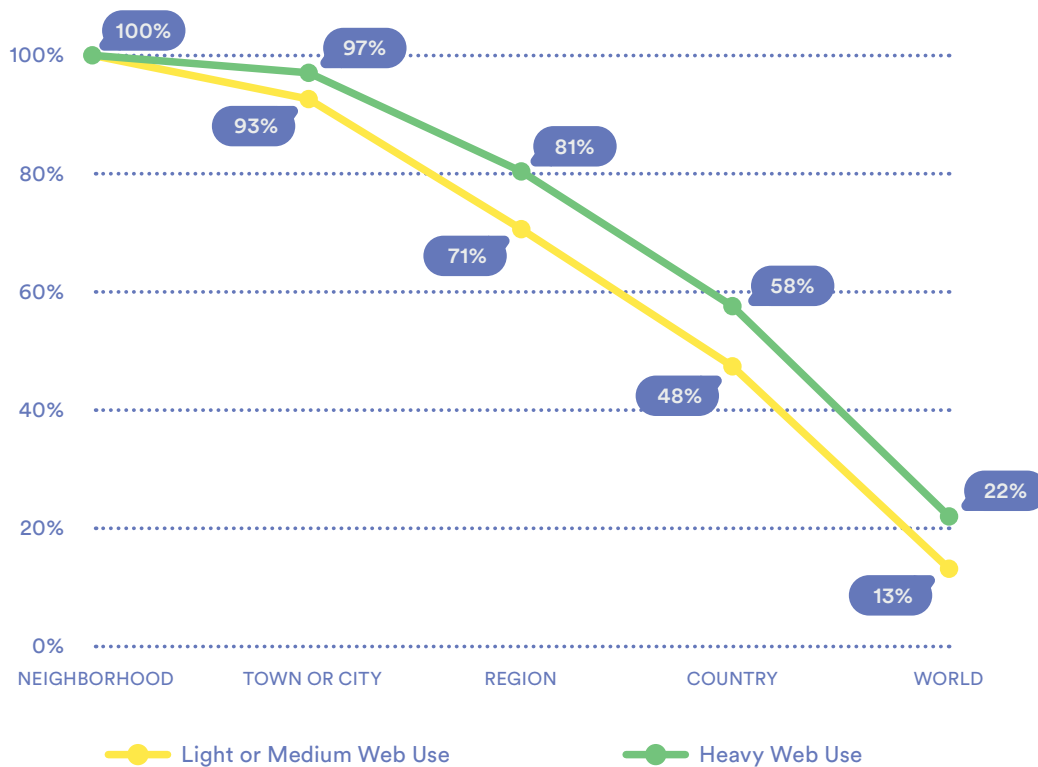
In 2011, the company tripled its profits, after its ad campaign gained traction in the Latin American export markets. By 2012, 60 percent of Urmex’s profits were generated by regional exports to Argentina, Chile, Colombia, Costa Rica, Panama, Peru, Uruguay, and Venezuela, and the company was slated to expand in Brazil. The company also has four offices in different Mexican cities. According to the company founder, the opportunities of online advertisement and sales have reduced the company’s costs and dramatically expanded its reach from a small store catering to local customers.

Urmex is among several Mexican companies that have been taking advantage of the online opportunity. According to a 2013 survey, 68 percent of Mexican exporters leverage social networks (especially Facebook) and 35 percent use Twitter to expand their sales.¹¹ Some 81 percent use online platforms, such as MercadoLibre and/or eBay (54 and 46 percent, respectively). The majority of

companies see the security of online transactions as critical to their sales, and typically use PayPal as a method of transmitting the payment. The main items sold online include shoes, health and beauty products, electronics, and jewelry. Some 36 percent of the exports go to Latin American markets, 34 percent to the United States, 16 percent to Asia, and 14 percent to Africa and the Middle East.

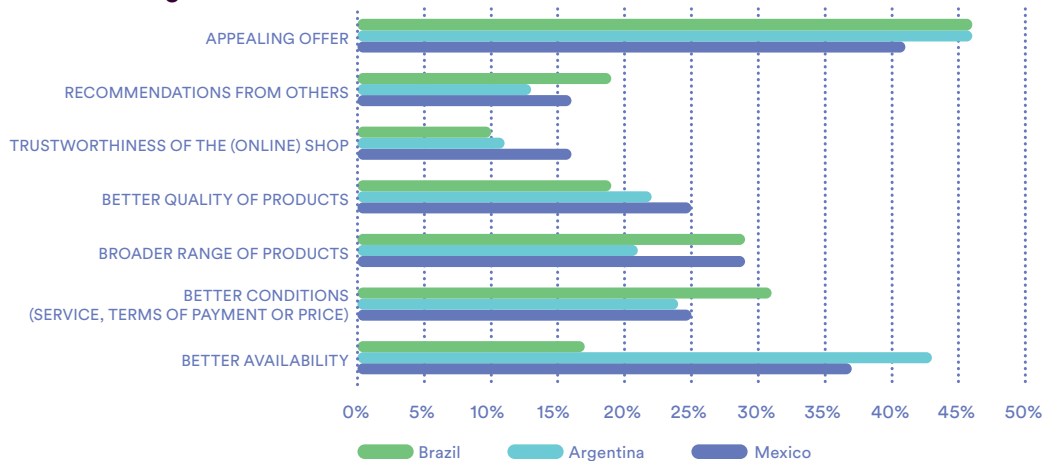
- Wider availability of quality products and inputs at lower cost.** In the BCG study, SMEs were 63 percent likelier to source products and services from farther afield than were light or medium web users – in other words, the web enables them to shop around for the best deal, which increases their productivity and competitiveness (figures 7-8).¹² The same holds for consumers: trade economists have for several years shown that by accessing a wider variety of products, consumers score a significant welfare gain. Google’s survey data on LAC online shoppers in Brazil, Mexico, and Argentina suggest that shoppers prize the wider availability of products above all (figure 9).

Figure 8 – SMEs’ Purchasing Reach by Market, by Level of Web Use



Source: Statista.

Figure 9 – Answers to Question, “Why do you purchase products online from foreign countries?”, Mexico, Brazil and Argentina



Source: Google Consumer Barometer.

- **Improvements for trading across borders.** The web also enables companies of all sizes to make, market, and move products and services worldwide with greater ease than ever before. Using online services for logistics, payments, market research, trade compliance, data for market intelligence, advertising, and so on, companies can streamline logistics, speed up transactions, and overall improve the various aspects that go into doing cross-border trade and transactions.
- The Internet also fuels the rise of genuinely **regional small businesses and startups**, by helping particularly digital companies to launch in several markets in rapid sequence. “Born-digital” companies tend to need fewer upfront resources than, say, heavy manufacturing or commodities businesses to expand to third markets or sell to leading global customers. For example, Chilean company MediaStream enables multinationals such as BBVA and Claro to manage the creation, publication and classification of their video content to more than 70 million users worldwide.¹³ In Peru, Cinepapaya provides mobile-based ticket sales and movie advertising platform, and valuable market intelligence to independent movie theaters and Latin American movie companies.

A full suite of turnkey Internet tools and apps has arisen in the past decade, allowing these companies to instantly translate their websites and social media presence, target their services to new markets, understand where consumers are searching for their products, and build a local following for their brand. As a result, capital expenditure is less and barriers to enter new markets are far lower than they are in the traditional industries – and even traditional industries are increasingly leveraging the Internet to manage global communications, engage with supply chains, and collaborate across borders. This report highlights several cases of digital LAC companies that have scaled rapidly in the region, offering services that enable consumers and companies to do things better and more efficiently, whether managing logistics, learning English, paying online, finding work, distributing videos, and so on.

Countless digital companies are making life better, easier and safer for citizens and companies in Latin America and worldwide. For example, in Brazil, Samba Tech enables small businesses to create and distribute world-class videos, Bloglo helps bloggers worldwide to create and optimize blogs, and Easy Taxi enables fast and easy booking of taxis from a single app – in 30 countries and 420 cities. Rappi and PedidosYa have transformed delivery in the region.

Samba Tech: From a Startup in Belo Horizonte to Microsoft’s Neighbor

Samba Tech was ideated as a Youtube-like video platform that originally targeted the main TV broadcasters in Brazil. Today, the company enables major media groups, corporations, universities and sports teams to manage, distribute and monetize online videos. Working along the entire value chain of internet space, Samba Tech solutions takes care of digital logistics, improving the digital strategy of companies that produce videos and want to use them for customer engagement and communications. Headquartered in Belo Horizonte, Brazil, Samba Tech also has offices in Seattle and Colombia. Its Colombia operations handle business issues with other countries like Peru, Costa Rica, Ecuador, Argentina and Uruguay.

As it grew, Samba Tech started approaching large companies to use their platform as micro-learning and training platforms for its employees. More recently, the company has built a “corporate SnapChat”, where CEOs and Directors can record videos and share these internally with individuals possessing corporate email accounts within the same company. This feature is being used by major companies such as LATAM, Microsoft, and IBM. Education sector clients are central to Samba Tech. Four out of the five largest universities in Brazil are using Samba Tech for e-learning through the use of interactive videos. Partnerships with MIT and Harvard have cemented the company’s success, as have its culture of innovation and ability to be the first-mover in each of its markets. Samba Tech has been recognized by Fast Company as one of the 10 most innovative companies in Latin America.

Samba Tech has also contributed to an innovative environment in a rather traditional city, Belo Horizonte. Today, the city has around 300 startups in the area in a community that is known as San Pedro Valley, an initiative that has contributed to greater dynamism within the local economy. However, Brazil’s complex labor laws, regulations and tax system are, according to the company, hindering the startup boom.

Growing Latin America's Sharing Economy, Many Markets at a Time

Uruguayan online company PedidosYa! offers on-demand food delivery services for millions of consumers and more than 15,000 restaurants in more than 400 cities in 10 Latin American countries.¹⁴ The company expanded to four countries – Argentina, Chile, Uruguay and Puerto Rico – in 2010, and, leveraging its digital platform and investors, including Kaszek Ventures, Atómico and Delivery Hero, its main investor, entered the Brazilian market in 2011, and Colombian and Peruvian markets in 2012. By 2013, the company had a catalog of over 6,000 restaurants in 100 cities in seven countries.

Colombian company Rappi has also transformed delivery in the region. Rappi is a sharing economy mobile app that delivers anything a consumer wants to his or her doorstep at any time. It enables users to buy all their groceries at prices that are 10 percent more competitive than in most local supermarkets, and will even organize groceries in the shopper's refrigerator. Since its launch more than 14 months ago, Rappi has tallied over 1,000,000 orders, and expanded from four to 650 employees and 2,000 registered couriers. Today, Rappi is operating in Bogotá, Barranquilla, Cartagena, Cali, Pereira, and Mexico City, and it plans to expand into a larger number of Colombian and Mexican cities. Rappi's mission is to become Latin America's "everything store" leveraging its partnerships with supermarkets and restaurants.

Rappi was born out of the notion that congestion made buying groceries in cities like Bogota and Mexico City very time-consuming and expensive. Rappi's main challenge is to deliver goods in a timely fashion; it does that by obtaining priority lanes in partner grocery stores.

Rappi's technology was incubated at Imaginamos, initially as a web page development project. *Imaginamos* birthed Rappi's technology Grability that emulates the experience of being in an actual grocery store – a technology that has also been used by clients like *El Corte Inglés* and Walmart Mexico, among others.

In 2016, Rappi was selected to *Y Combinator*, one of the world's most prestigious business incubators.

This incubator has funded over 1,000 startups since 2005, including companies like Dropbox, Airbnb, and Reddit, among others. During Demo Day, Rappi had the opportunity to deliver its business pitch to more than 150 of the world's most prestigious investors, with more than 110 of them expressing interest.

Conclusions

Latin American consumers and companies have become much more connected to the Internet – and by virtue of that, to each other, socializing and transacting much more with each other online than only a decade ago. The Internet has also benefited the region's economies and bolstered trade, even if still to a limited degree. However, much remains to be known about digital trade in Latin America:

- There is a lack of understanding of the intensity and ways in which LAC companies use the Internet in their operations in general, and in marketing, selling, and buying from abroad. Particularly little is known about online trade in services.
- There is also very little data as of yet on LAC companies' digital trade patterns, such as on their foremost export destinations and import sources, and the gains LAC companies score from selling and buying goods and services online, and the obstacles they face.
- Latin America has spawned several regional and global digital companies in such sectors as online work, education, delivery, transportation, and financial services that both ride on the web and, as in payments, advertising, retail, or logistics, undergird digital trade. Yet little is still known about their growth and internationalization patterns, or their impact on the regional economies, both directly and indirectly.

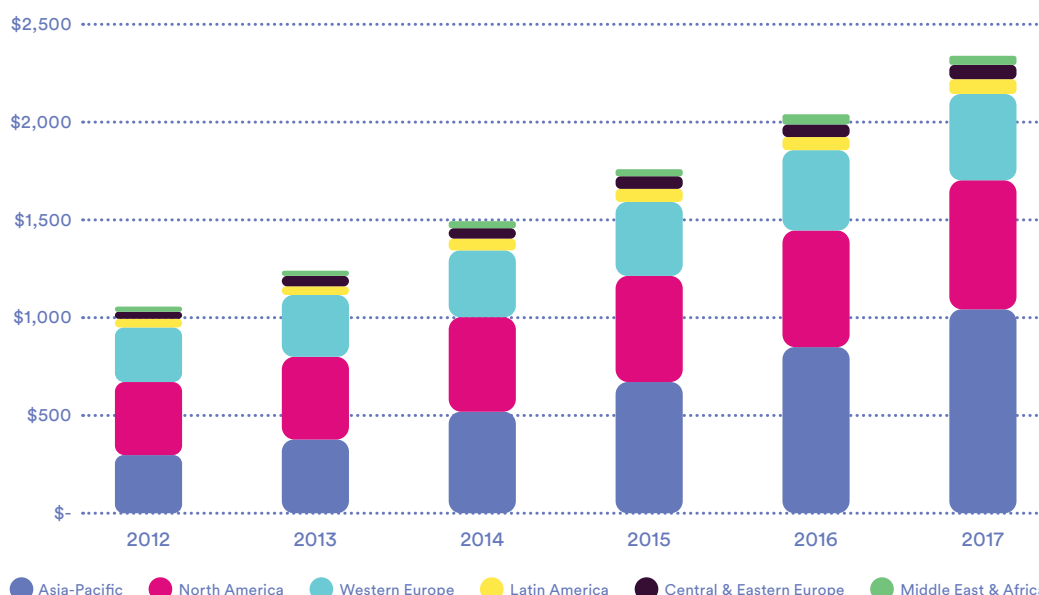
The next chapters aim to bridge some of these gaps.

How Do LAC Companies Use the Internet at Home and in Trading Across Borders?

Conventional trade statistics fail to capture the magnitude of cross-border digital trade and data flows. Governments and economists tend to rely on pre-Internet accounting of trade, productivity and growth, without being able to account for the many direct or indirect effects of digital trade, and its positive externalities. In fact, some official figures tend to make digital flows seem rather small: there is a much larger proportion of digital trade taking place online that has not yet been captured in official statistics.

There are several reasons to believe that the advance of the Internet has transformed LAC companies' prospects to enter and source from foreign markets. However, there is still only a limited amount of data on digital trade in the region. The best proxy is B2C e-commerce. While still very small compared to East Asia or Europe, online B2C e-commerce (of goods purchased online) has grown in the LAC region over five times faster than overall trade, at about 20 percent per annum, in 2012-17 (figure 10).

Figure 10 – B2C E-Commerce in 2012-17 (in Billions of \$), by Region



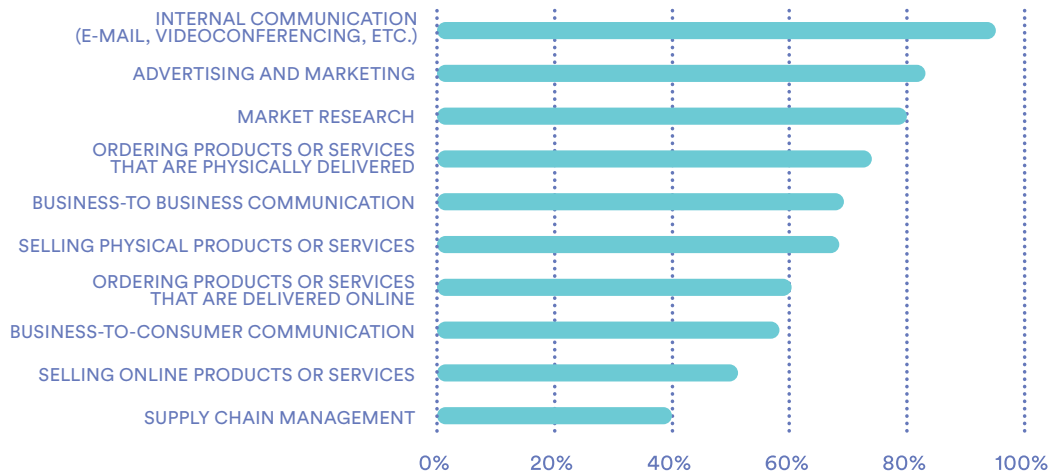
Source: eMarketer.

However, still little is known about Latin American companies' use of the Internet in their operations and trade. The purpose of this chapter is to start filling that gap by using survey data from a sample of the users of the IADB's Connect Americas platform. The sample consists of nearly 300 companies, of which a majority has less than 5 million in revenue, across sectors, from manufacturing to business services and IT and telecom services and trading both goods and services (please see Appendix I). While by no means conclusive, the data here are hoped to offer new insights into the importance of the Internet for LAC companies' operations and online trade.

LAC Companies Use the Internet to Communicate and Transact

LAC companies use the internet for various purposes. As many as 94 percent of those surveyed used the internet for internal communications, 83 percent for advertising, 80 percent for market research, and 74 percent for ordering products delivered physically (figure 11).

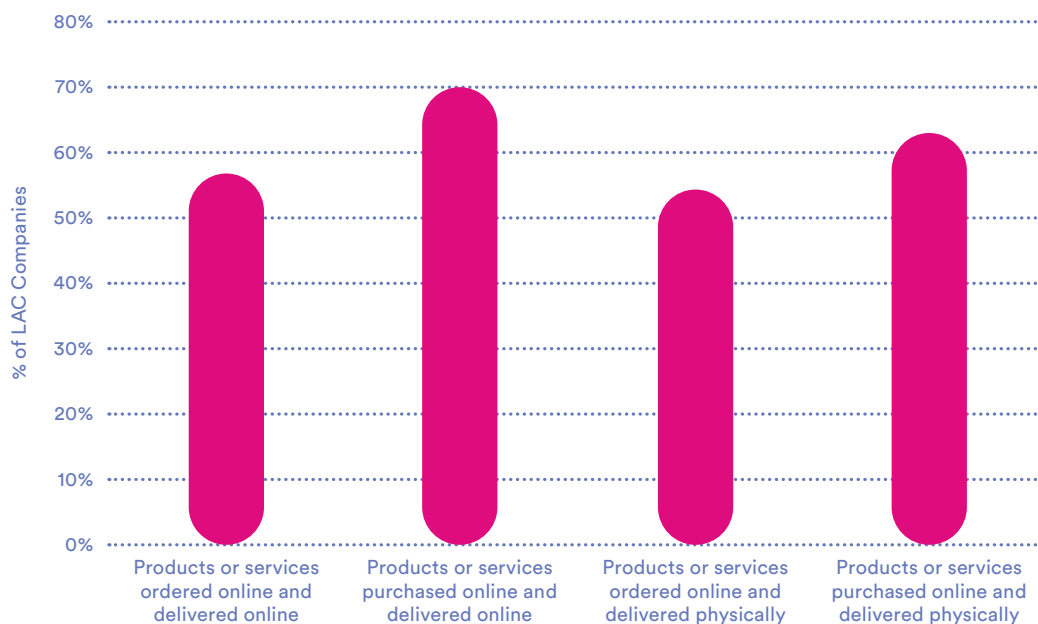
Figure 11 – % of LAC Companies Reporting Uses of the Internet in Various Company Operations, 2016



Source: IADB survey of Connectamericas.com companies.

LAC companies are active in selling and purchasing products and services online. In the sample, 54 percent of companies sold products or services ordered online that were also delivered online (such as MP3s, software to be downloaded, buying online advertising space, online tax preparation, etc.), and 70 percent purchased products or services online that were delivered online (figure 12). Some 56 percent ordered and 63 percent received products or services ordered online that were delivered physically.

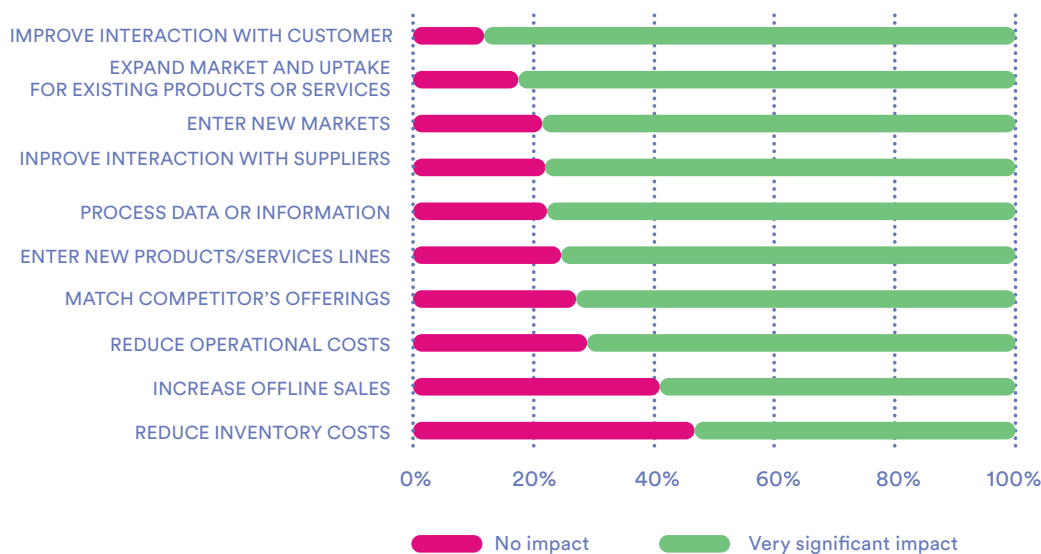
Figure 12 – % of LAC Companies Selling and Purchasing Online and Average Sales/Purchases, 2016



Source: IADB survey of Connectamericas.com companies.

LAC companies report significant impacts due to the Internet in various business processes. For example, 88 percent of respondents feel they have improved interaction with customers, and 83 percent have been able to expand market and uptake for their products and services. Similarly, 78 percent have been able to enter new markets, improve interaction with suppliers, and the processing of data or information because of the Internet.

Figure 13 – % of LAC Companies Reporting the Impact of the Internet and Other Digital Networks on Their Ability to Carry out Certain Lines of Business



Source: IADB survey of Connectamericas.com companies.

How Internet is Changing Work in LAC – and Promoting Trade in Tasks

Online platforms are opening opportunities for freelancers and small businesses to attract new clients, and for companies to access an increasingly global talent pool within minutes. Research shows that online work pays more than the minimum wage in the workers' country, is easy to set up even in remote areas and refugee camps, and empowering to women in cultures where they are expected to stay at home and do not have the same professional networks and resources men do. About 540 million people are expected to be employed on online platforms by 2025.

The leading global platform is U.S.-based Upwork, which offers global talent, available within minutes for web design, coding, search engine optimization, design, translation, marketing, accounting, and 2,700 other occupations at Upwork.com, which has over 10 million freelancers from Ukraine, China, India, the Philippines, Pakistan, Bangladesh, Kenya, Argentina, United States, Germany, and dozens of other countries vying for 3 million jobs collectively paying \$1 billion every year. For example, Uruguayan company Código Del Sur has worked on more than 150 projects on Upwork for companies such as Skout, a dating app with more than 200 million users, and Kindara, a popular health startup. The company grew from two employees in 2008 to 48 employees in 2016, working over 50,000 hours and earning more than \$1 million over the period.¹⁵

In the growing industry of online work, Latin America has created its own solutions. Workana is an online marketplace for remote work based in Buenos Aires, Argentina. It is the first and largest Latin American freelancing platform, connecting Latin American freelancers with companies looking for temp staff that can execute remote projects. One of the differences between Workana and similar foreign companies is its focus on the Latin American and U.S. Hispanic markets. Presently, its platform is available in English, but also in Spanish and Portuguese, which is not the case for other major players in the segment.

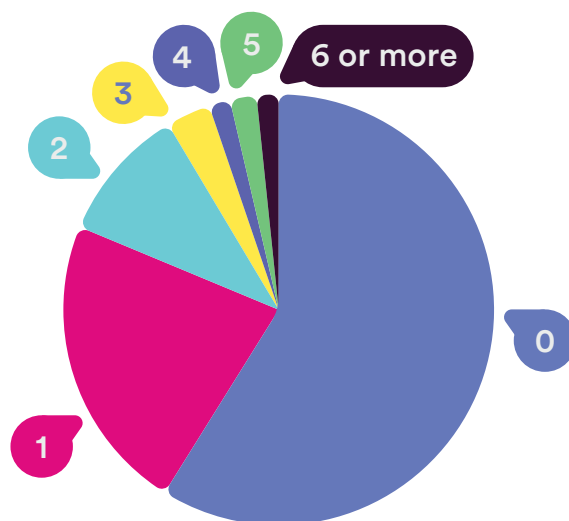
Founded in 2012 by Tomás O'Farrel, Guillermo Bracciaforte, Fernando Fornales and Mariano Iglesias, Workana comprises a network of almost 400,000 users, including professionals and entrepreneurs. Its main clients are small and medium-sized businesses looking for part-time workers. The business model has been adapted to cover local needs in Latin America.

Freelancing is not new in the LAC region, but it is still based on word of mouth and offline recommendations. This is both an opportunity and a challenge for Workana. On one hand, the platform creates efficiencies in a market that already exists; on the other, it needs to gain adopters

and disrupt the offline market. The main success driver for the company is its multilingual platform and understanding of the Latin American market, such as local payment methods. Workana's focus on Latin America is a plus for clients who are looking for specific skills in the region. Most LAC companies want to hire remote workers that are based in the same country, speak the same language, and who can receive payments in the same, local currency.

Based on this initial traction, the company is now planning to continue its expansion across Latin America, especially in Brazil, which it sees as a very attractive market. To finance its growth, the startup has already raised more than US\$3 million in funding, having secured a second round of investment of US\$2 million through SEEK. Workana does encounter barriers, such as government regulations and red tape. The company feels that government-sponsored technology support programs, while seemingly useful on paper, have been too slow to respond.

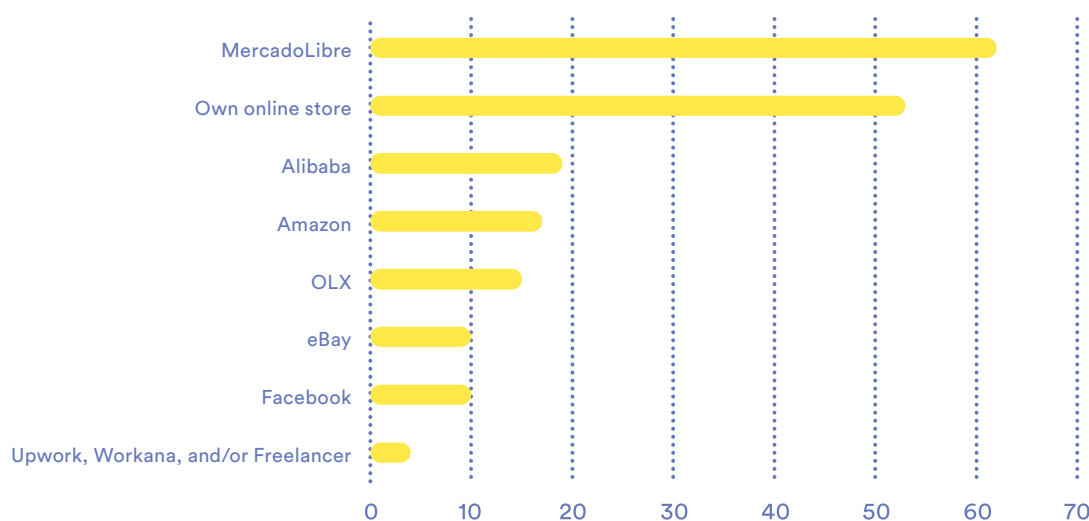
Figure 14 – Number of Platforms on Which LAC Companies Sell or Purchase, by Share of Surveyed Companies



Source: IADB survey of Connectamericas.com companies.

Although over a third of companies in the sample do not have online stores or sell or market on any platforms, over one-half sell on at least one platform and 20 percent sell on 2 or more. The most popular platforms in the sample are Mercado Libre, companies' own online shops, Alibaba, and Amazon (figure 15). OLX, a global classifieds platform in growth markets, is also a popular choice.

Figure 15 – Most Popular Platforms Used by Sampled LAC Companies

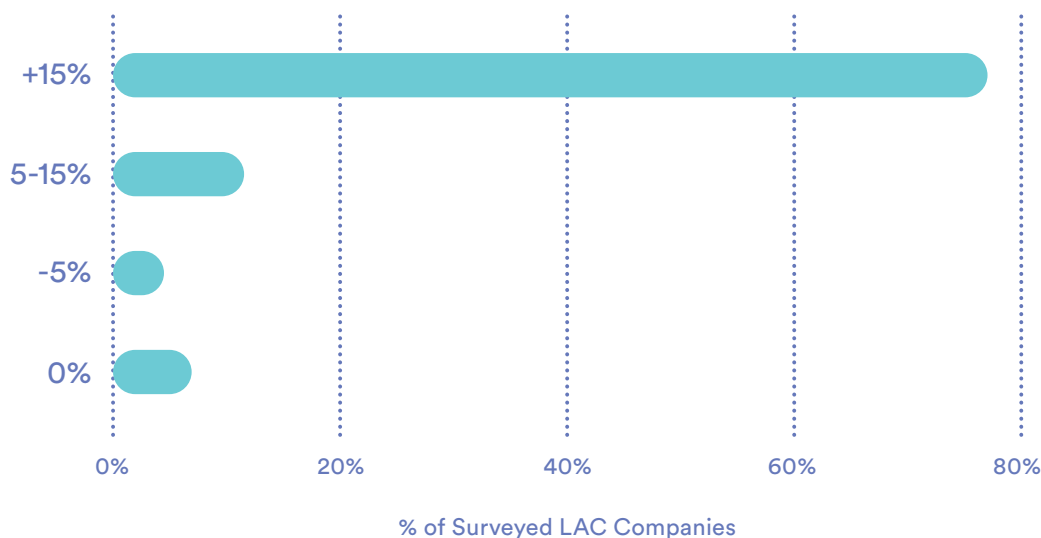


Source: IADB survey of Connectamericas.com companies.

The Internet Critically Improves LAC Companies' Operations

For most LAC companies surveyed here, the Internet is a critical productivity driver. When asked what the impact would be in their productivity (measured as the value of sales per employee) if the company ceased to have access to the Internet or other digital networks, 89 percent reported productivity losses of 5 percent or more, and 77 percent reported losses of 15 percent or more. In other words, LAC companies realize significant productivity gains due to the Internet.

Figure 16 – % of LAC Companies Answering “what would be the loss on your organization’s productivity (measured as the value of sales per employee) if it did not have access to the Internet or other digital networks”, by Estimated Productivity Loss



Source: IADB survey of Connectamericas.com companies.

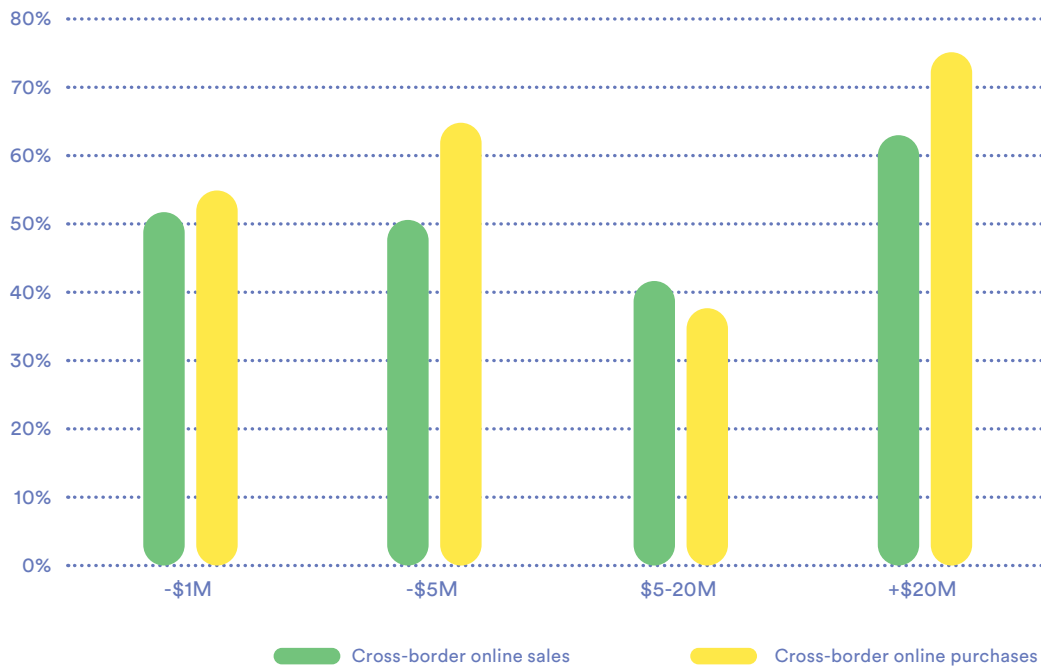
Another way to grasp LAC companies' gains from the Internet is to ask what has been the return on each dollar invested in digitization. On average, for LAC companies surveyed here the gains have been over 100-fold, or a return of \$108 per each \$1 invested. This is driven by a handful of companies reporting per-dollar returns of 410,000 or more. However, even the median return for a dollar invested is high, \$15.

Foreign Markets Are a Significant Growth Lever for LAC Online Sellers

There is by now ample evidence that the Internet provides significant gains for consumers and companies. Companies gain access to a larger market of buyers and a wider variety of goods and services at world prices. Consumers similarly have more to choose from and can shop around for the best deal.

LAC online sellers surveyed here are actively taking advantage of the opportunities the Internet offers for internationalizing their operations. Some 50 percent of the surveyed companies have cross-border online sales, and 60 percent make cross-border online purchases. The largest companies have most international exposure, with 63 percent of the surveyed with \$21 million in revenue or more reporting cross-border online sales and 75 percent reporting cross-border online purchases (figure 17). However, even for small companies cross-border activities are significant, with over 50 percent of making cross-border sales and purchases.

Figure 17 – % of LAC Companies with Cross-Border Online Sales and Purchases in 2016, by Company Revenue Category



Source: IADB survey of Connect Americas.com companies.

Figure 18 – % of LAC Companies with Cross-Border Online Sales and Purchases in 2016, by Sector

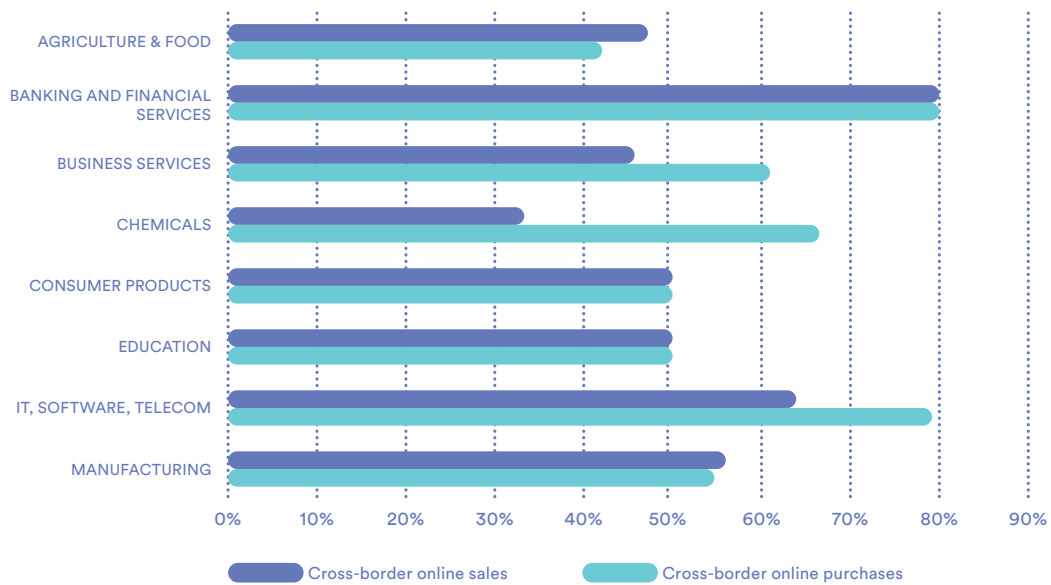


Figure 19 - Number of Export and Import Markets, by % of LAC Companies



Source: IADB survey of Connectamericas.com companies.

Trade economists have long used as their workhorse the gravity model, where trade between countries is a function of their respective GDPs and distance: large countries that are close to each other trade much more than small countries that are distant. Yet when economists analyze online trade, distance has scant explanatory power in the gravity model: the Internet reduces the geographic distance which for centuries has curtailed visibility, trust and trade between buyers and sellers located far apart.¹⁶ In addition, online platforms’ star ratings systems, customer reviews, and payment tools give the buyer a sense of trust, the lubricant of trade that in the offline economy takes several transactions between buyer and seller to build. There is also some tentative, albeit mixed, evidence that common language plays a lesser role in online trade, such that more online than offline trade occurs between buyers and sellers that speak different languages.

Data on ConnectAmericas users partly confirms these hypotheses. However, geographic proximity still matters. For example, Mexican companies that have international transactions in the sample typically sell to the United States or Central America, while South American companies tend to sell to their neighbors and the European Union, a traditionally important export market for Brazil, Argentina, and Chile, for example. Common cultural traits and language are probably helping LAC companies scale first in the regional market, as they likely incur lower costs in localizing user interfaces or customer service. Purchase patterns are somewhat less dictated by geography, even though the United States and China play larger roles as suppliers than as target markets.

Reinventing How English Is Taught in across Latin America, from Venezuela

Education has come online, and education services have globalized. No more is it necessary to sit in a classroom at Stanford; massive open online platforms such as Coursera and edX are bringing lessons at elite universities to students around the planet at a fraction of the cost.

Latin America has also been amid a revolution in online learning. One of the leaders is Open English, which teaches English to students in the region as well as to U.S. Hispanics. It was founded

in 2007 with the goal of reinventing the way in which English is learned and taught. The goal was to cover the need of the 21st century professionals, who often lack time. Open English offers live and personalized classes 24/7 with native speaker teachers to students across Latin America including Brazil, U.S. Hispanics and recently Spain. It has offices in Miami, Bogota, Sao Paulo, Caracas and Buenos Aires.

Currently, Open English has enrolled nearly 500,000 students and raised over USD\$120 million in venture capital to drive the company's expansion throughout the globe.

Open English launched in Venezuela in 2003, when Andres Moreno created Optimal, a company to teach English to executives of companies there. Within three years, the company has secured such clients as Cargill, Sun Microsystems and Procter & Gamble, among others. Moreno's experience at Optimal enabled him to identify the challenges of teaching English using traditional methods. After more than 35,000 hours of classes at this company, he decided to reinvent the way English was taught in Latin America. Working with Wilmer Sarmiento, he began to lay the foundation for what would be Open English: the convenience of learning English online anywhere and at any time, access to native English-speaking teachers, attractive multimedia content, and a system that favored human interaction with teachers and advisors that help students achieve their goals.

In 2010, the company expanded to the rest of Spanish-speaking Latin America, fueled by financing from U.S. venture capital funds; three rounds of capital raises netted US\$50 million. In 2011, Open English entered the Brazilian market, attracting over 10,000 students in its first year; this prompted investors to commit over US\$65 million in the fourth round of fund raising, for a total of about US\$120 million. At that time, the company had a growing client base that reached over 100,000 students.

The executive team and some 2,000 employees, including full-time personnel and contractors, is today reinforcing the company's presence in its principal markets and preparing entry to new markets in Europe and beyond. At the same time, the company is improving its learning platform.

Its online presence enabled Open English to offer prices well below those charged by Latin American schools, who often have to pay large sums for the rare native English teacher in town. Open English could hire qualified teachers in any country to teach online, making it much more affordable. Also, students don't have to physically go to school to learn, but can fit English classes anywhere into their schedules. Thanks to the Internet, students can also be based anywhere in their countries as long as they have broadband access. They do not need to live in a big city to access quality training, and many of them are outside capital cities.

Another key differentiator of Open English is personalization: students are guided by a "personal study advisor" who plays the same role as a personal trainer. The advisor will recommend specific lessons tailored to a student's needs to make sure they remain motivated and engaged, which is not always the case in a regular language school.

Online payments have been a challenge for Open English. Most Latin Americans don't have credit cards; instead, they prefer to pay in several installments and via alternative options such as local bank transfers. The company has set up local financing arms in the region to help students cover the costs and sequence payments.

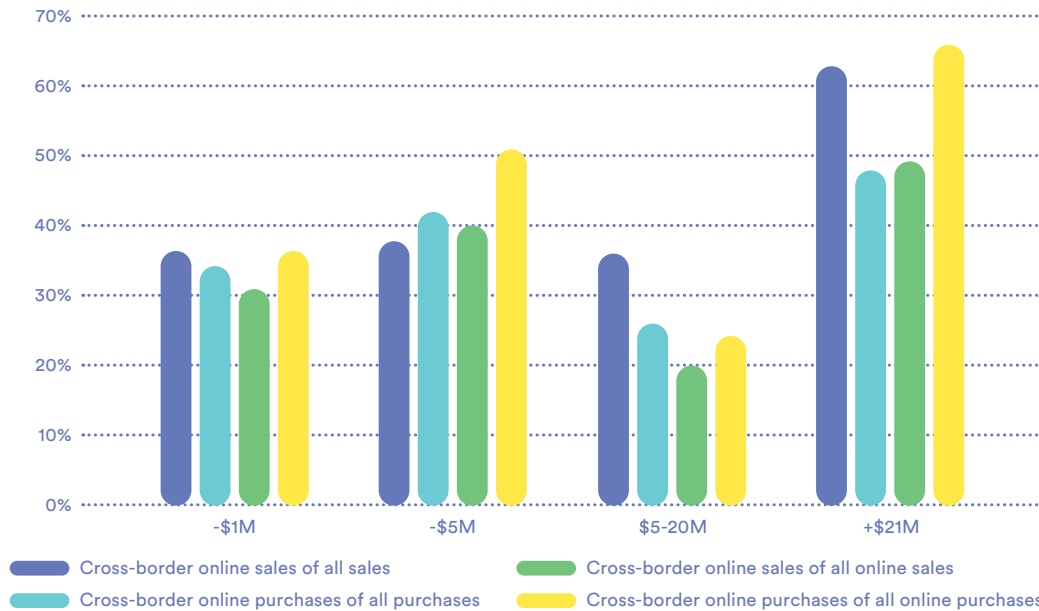
The surveyed companies' revenues from online sales are still higher in domestic markets, but cross-border online sales represent a significant 39 percent of all sales and 41 percent of online sales, and cross-border online purchases represent 38 percent of all purchases and 48 percent of online purchases (figures 20-21). On average, LAC companies' cross-border sales and purchases grew at a par with, albeit somewhat less, than domestic ones in 2013-15, averaging 46 percent and 61 percent, respectively (figure 22). The median is considerably lower, around 20 percent, which suggests a subset of high-growth companies in the sample.

Figure 20 – Importance of Cross-Border Online Sales and Purchases to LAC Companies' Overall and Online Sales and Purchases in 2016



Source: IADB survey of Connect Americas.com companies.

Figure 21 – Importance of Cross-Border Online Sales and Purchases to LAC Companies' Overall and Online Sales and Purchases in 2016, by company size



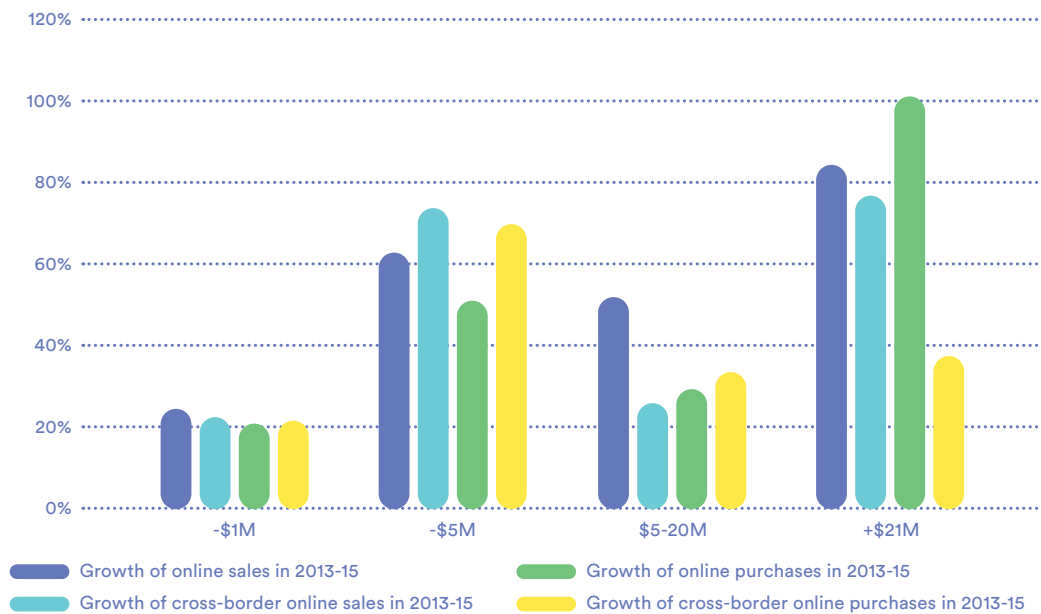
Source: IADB survey of Connect Americas.com companies.

Figure 22 – Growth of Online Sales and Purchases vs. Cross-Border Sales and Purchases, LAC companies



Source: IADB survey of Connect Americas.com companies.

Figure 23 – Growth of Online Sales and Purchases vs. Cross-Border Sales and Purchases by LAC companies, by Size



Source: IADB survey of Connect Americas.com companies.

Building Latin America's Ecommerce Economy, One Parcel at a Time

MercadoLibre hosts the leading ecommerce ecosystem in Latin America, with an entire ecommerce value chain consisting of the MercadoLibre Marketplace, MercadoPago payments solution, MercadoEnvios shipping service, MercadoLibre Classifieds service, MercadoLibre Advertising program, MercadoShops online webstores solution, and MercadoCredito for financial solutions.

MercadoLibre was founded in 1999 and went public in 2007. It is now traded on the New York Stock Exchange under the symbol MELI. The company is headquartered in Argentina and present in 18 countries including Brazil, Mexico, Colombia, Chile, Venezuela and Peru. MELI is a major player by world standards as well, and it is at the center of revolution in ecommerce in Latin America. It is among the top-10 online retail sites in the world and one Latin America's "unicorns" - companies with a valuation of over a billion dollars.

Through the online commerce platform and related services, MercadoLibre provides buyers and sellers a robust online commerce environment that fosters entrepreneurship, social mobility, and the development of a growing ecommerce community. The company's main focus is to deliver compelling technological and commercial solutions that address the distinctive cultural and geographic challenges for online sales in Latin America.

MercadoLibre intermediates shopping, sales, payments and some auctions. The platform has 7,8 million sellers and 23 million buyers, including small and medium-sized companies, producers, manufacturers, importers, entrepreneurs, retailers, wholesalers, and private individuals. There are currently more than 4,000 searches per second and more than 6 purchases per second. Over 370,000 people derive their livelihoods from selling on MercadoLibre.com.¹⁷

Over time, business listings have come to account for the majority of overall sales as more leader companies decide to go online via platform services and early consumer sellers professionalize their operations. MercadoLibre's Tiendas Oficiales, a site for large retailers to tap traffic on MercadoLibre, has 2,600 stores, including Fravega within electronics and appliances, Staples for office supplies, and New Balance in apparel and footwear.

The company invested in mobile marketing and sales before it was popular in the region. During the third quarter of 2016, six out of 10 new users registered through mobile devices, while sales on mobile phones reached slightly over a third of the total gross volume value and 60 percent of the total marketplace traffic originated from mobile phones.

MercadoLibre's success drivers are its customer loyalty and its ecosystem approach. Online payments are often a problem as well to develop the online retail environment, with consumers in the region lacking access to banks and monopolistic schemes for payments processing that impede other players from improving the service. For Mercado Libre, launching its own payment method system was critical. MercadoPago is one of the business unit with more growing potential since it is helping to reshape the financial industry in LAC economies. MercadoPago offers world class payments solutions providing a wide variety of payments options (credit cards, cash, pre-paid cards, bank account money, mPos, among others), thereby addressing one of the main barriers to ecommerce in Latin America. MercadoPago is also growing as a payment solution outside the platform with more than 335,000 companies and individuals that use it as a payment option such as Shopify or Groupon.

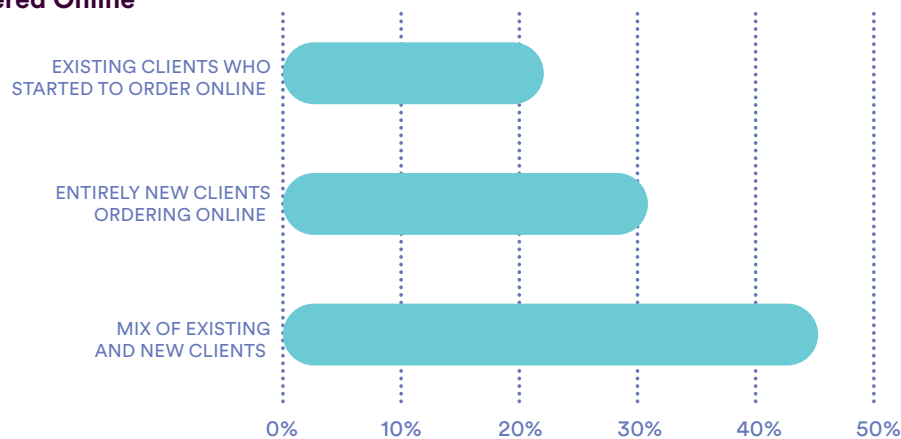
In 2016, MercadoLibre launched MercadoCredito that provides financing for 166 million registered buyers and sellers including cash advance, merchant credits, co-branded cards and consumer loans. MercadoCredito is meant to help small sellers to grow their business and to give buyers the financial tools to buy what they need, especially for the unbanked.

One of the biggest barriers of e-commerce in LAC economies is shipping and logistics. To address this issue, MercadoLibre launched MercadoEnvio, a logistics service, consisting mainly of strategic alliances with logistics companies across Latin America. It offers competitive prices for users and integrates all the technological operative system of the marketplace. MercadoEnvio continues

to scale fulfillment, as shipping and logistics will become key instruments to maximize value to MercadoLibre users. Just in the last quarter, items shipped by MercadoEnvio on the platform grew 86 percent, to 23 million units. Since 2009, MercadoLibre has gone from 2.8 billion in Gross Merchandise Volume to 7.8 billion in 2016, while MercadoPago's total Payment Volume grew from 383 million in 2009 to 6.8 billion in 2016.

For 45 percent of LAC companies that sell cross-border online, foreign purchases come from a mix of old and new clients. However, nearly a third report having entirely new customers when selling online. This suggests that online sales enable LAC companies to access new overseas customers they otherwise may not have reached. Only for about a fifth of LAC companies do cross-border online sales come exclusively from existing customers who are now ordering online.

Figure 24 – % of LAC Companies by Type of Cross-Border Online Customer for Sales of Products or Services Ordered Online



Source: IADB survey of Connect Americas.com companies.

On average, LAC companies with cross-border sales report \$26 gross revenue receipts for each dollar invested in international sales. The median again is \$10: the companies that are largest and invested the most in dollar terms experienced strongest ROI. Consumer products and education sectors experienced the strongest return on investment, more than twice as large as business services and manufacturing (figure 25).

Figure 25 – LAC Companies' Estimated ROI on International Sales (gross revenue per dollar invested), by Sector



Source: IADB survey of Connect Americas.com companies.

LAC companies have high expectations of online sales growth for 2016-18 – average projections are 256 percent and the median projection is 40 percent online sales growth. Most growth is expected to come from the United States, the intra-regional market, and the European Union.

Conclusions

While the results are tentative and based on a limited sample that is already quite heavy in terms of web usage, there are interesting conclusions:

- The Internet has become a very important feature in LAC companies' daily operations. The bulk of companies surveyed here use the Internet for internal communications, advertising, market research, and ordering products and services. Even companies in traditionally analog sectors such as manufacturing and agriculture are leveraging online sales and purchasing capabilities.
- The Internet is a hugely important growth lever for LAC companies surveyed here: it improves companies' interaction with customers, ability to expand markets for their products and services, and to enter new markets, among other benefits. The vast majority of companies would incur a productivity loss of 15 percent or greater if the Internet was taken away.
- Compared to the broader market of "brick-and-mortar" companies, of which only a small fraction exports or imports, a very high share of the online companies surveyed here sell and buy online across borders. Online presence also appears to have earned LAC companies new foreign clients they did not have before selling online.
- It appears that for many South American online sellers, cross-border online sales are geared to the intra-regional market, whereas Mexican companies transact with the United States. The EU is also a significant market for LAC companies, and China features prominently as a supplier.
- LAC companies are upbeat about their future in foreign sales. The average company surveyed here forecasts over 200 percent growth rates in 2016-18, while the median company forecasts growth rates of 40 percent during the period. Several companies engage in trade within the intra-regional market and consider LAC to be an important market in years ahead.

Impediments to Digital Trade in LAC

The rise of a genuinely global digital economy is hampered by policy and regulatory frictions to cross-border flow of digital goods, services and data. Such obstacles impede companies' ability to scale their operations, complicate companies' access to data that are key to improving their customer service, and limit consumers' access to the widest variety of products at the lowest cost.

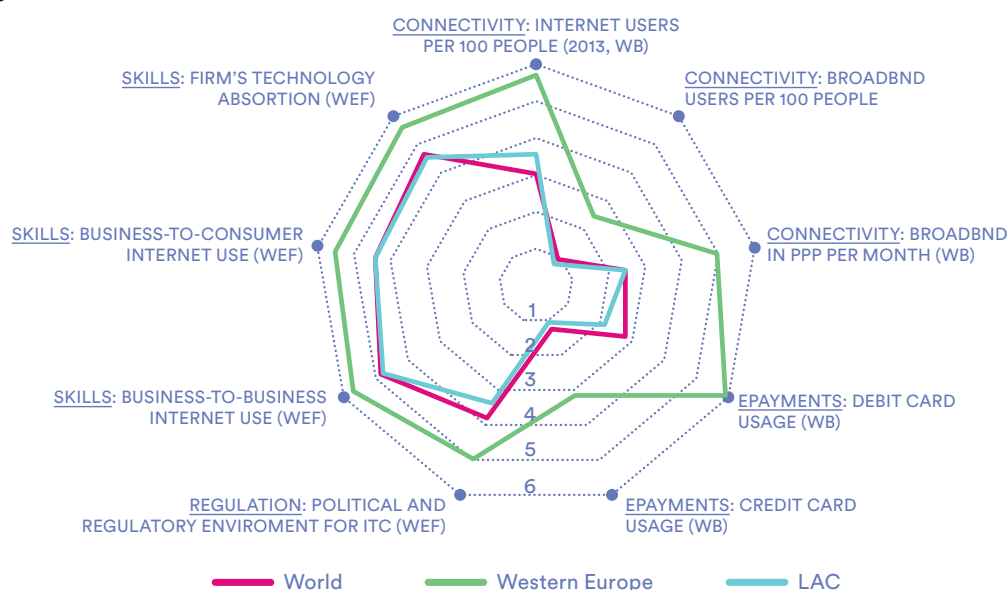
A number of challenges have surfaced in the past few years, such as data privacy rules that limit access to customer data and its transfer; incomplete intellectual property frameworks that lack appropriately balanced protections for creators, users, and service providers; excessive regulation of online platforms; legal liabilities for internet intermediaries like ecommerce sites; and outright censorship of certain websites. When physical goods sold online are shipped across borders, companies still confront the region's traditional hurdles to cross-border trade, such as market access barriers and trade compliance costs. This chapter reviews the extent to which these challenges affect LAC companies.

The Enabling Environment for Digital Trade in LAC

Policymakers, economists and companies have for years highlighted how international trade requires a good enabling environment to function, such as fluid logistics and transport systems. In the digital era where transactions are made online, companies need further elements in the enabling environment to thrive – such as Internet connectivity, well-functioning online payments, work forces with technological skills, regulations conducive to digital trade, digital entrepreneurship, and so on. While much deeper analysis is required to establish which of these factors is most critical in any given economy, economists and entrepreneurs tend to agree that none of these factors are sufficient on its own; rather, all are necessary for the digital economy to function.

Figure 26 is a back-of-the-envelope diagnostic of the enabling environment for digital trade in LAC, compared to the world and to the best-performing region, Western Europe. This analysis (with indicators covering several economies and normalized for the purposes of this analysis to an index of 1-7) suggests that while LAC is at the world average in some categories such as firms' technology absorption, it still has limited broadband usage rates and credit card usage rates.

Figure 26 – Enabling Environment for Digital Trade in LAC in a Comparative Context in 2014, Selected Variables



Source: Author on the basis of World Bank's World Development Indicators and World Economic Forum's Networked Readiness data.

Figures 27-31 assess some of these elements further in LAC economies, compared to economies at similar levels of development. They reveal that most LAC economies trail countries at similar levels of development in mobile subscription rates, firms' technology absorption capacities, business-to-business and business-to-consumer Internet use, while Costa Rica outperforms its peers in mobile subscriptions, ICT skills, and business-to-business Internet use, a category where Chile, Honduras and Guatemala also do well.

LAC countries tend to trail their peers at the same level of development in the political and regulatory environment for information and communications industries. While most economies have laws on e-transactions, consumer protection, privacy, and cybercrime, the adoption of such laws is quite comprehensive in Latin America (table 1). However, implementation of laws can be weak due to lack of domain expertise among law enforcement officials and courts.¹⁸ Moreover, laws pertinent to ICTs more in general are less adopted in Latin America than in advanced economies.

Figure 27 – Mobile Subscription Rates and GDP per Capita in 2015, Selected Economies



Figure 28 – Firms' Technology Absorption Rates and GDP per Capita in 2015, Selected Economies

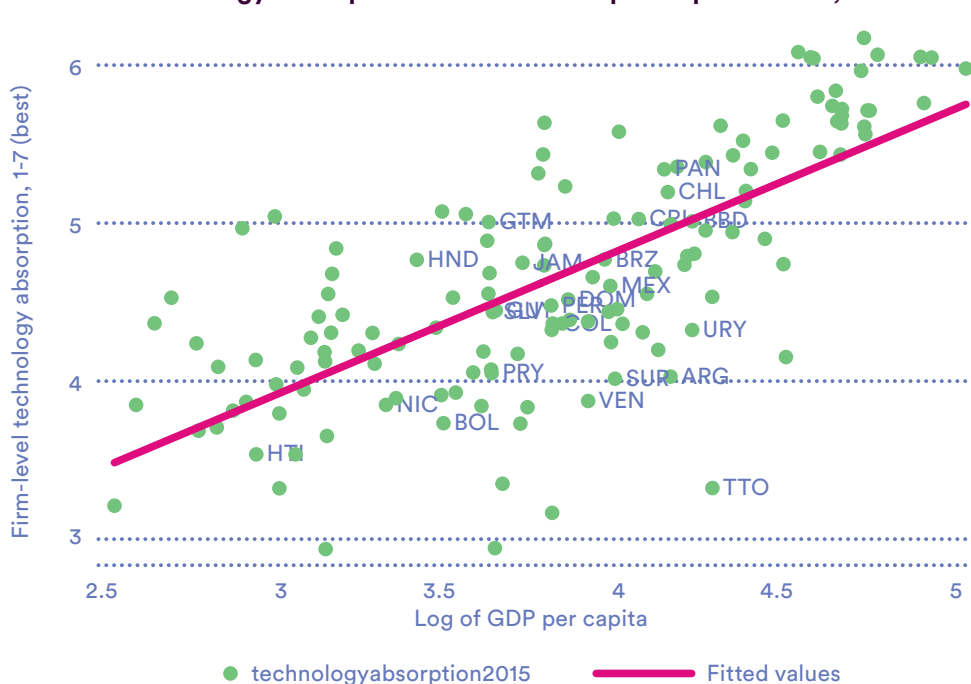


Figure 29 – Business-to-Business Internet Usage Rates and GDP per Capita in 2015, Selected Economies

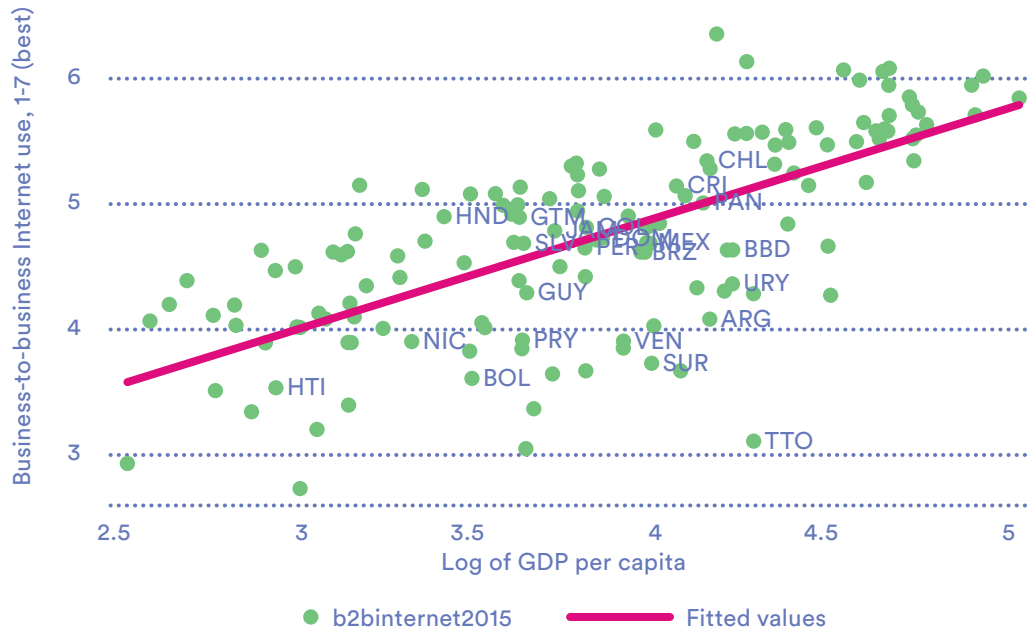


Figure 30 – Business-to-Consumer Internet Usage Rates and GDP per Capita in 2015, Selected Economies

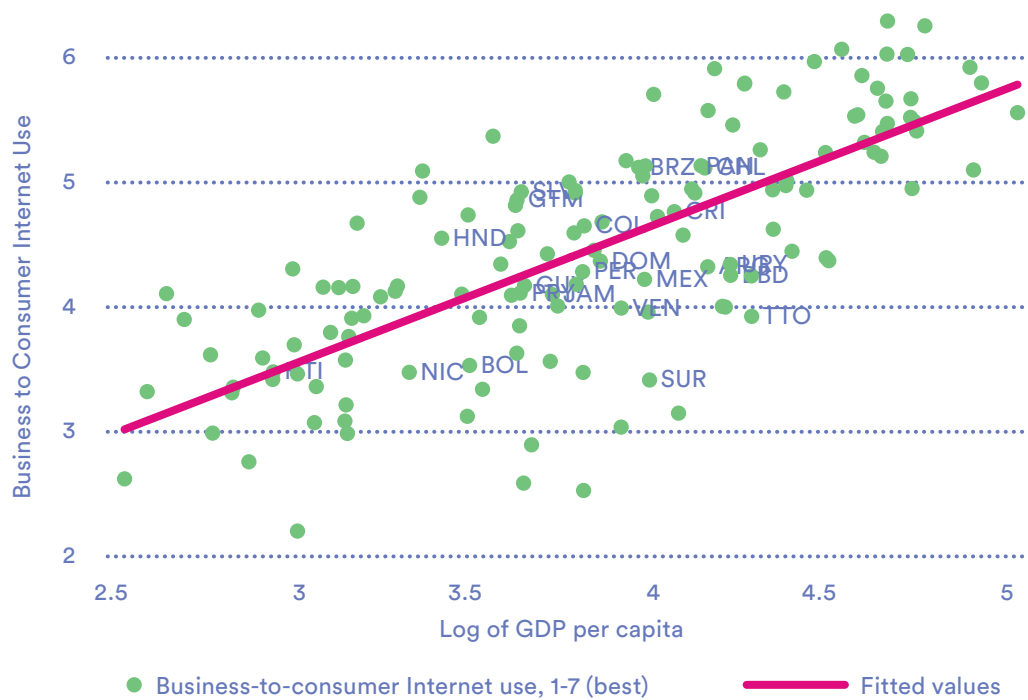
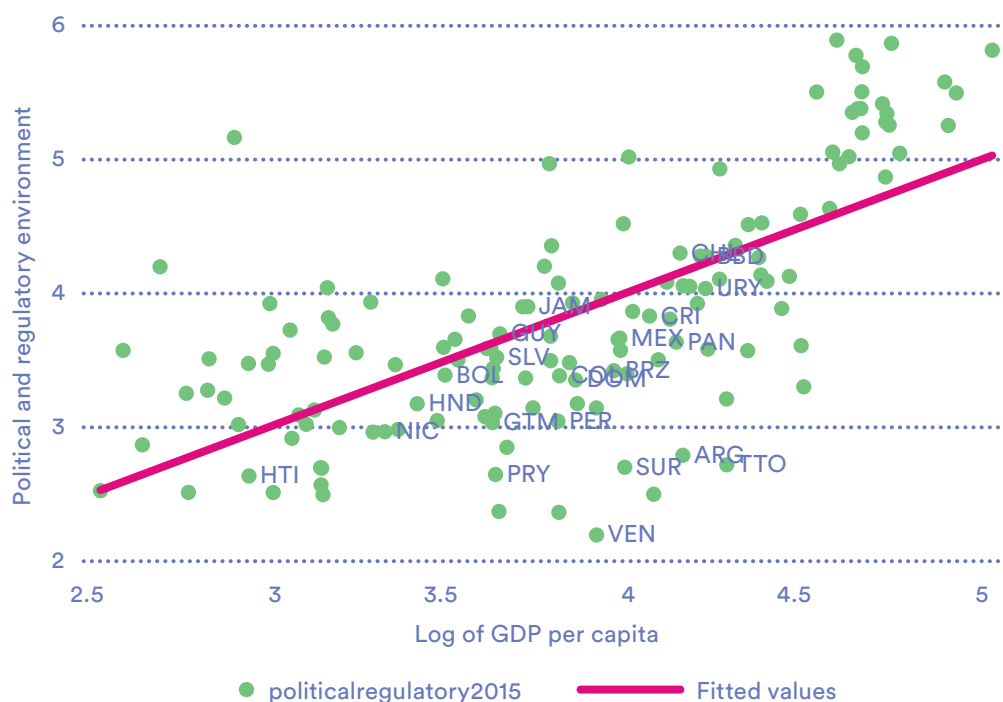


Figure 31 – Political and Regulatory Environment Surrounding Information and Communications Technologies in 2015, Selected Economies



Source: Author on the basis of World Bank’s World Development Indicators and World Economic Forum’s Networked Readiness data.

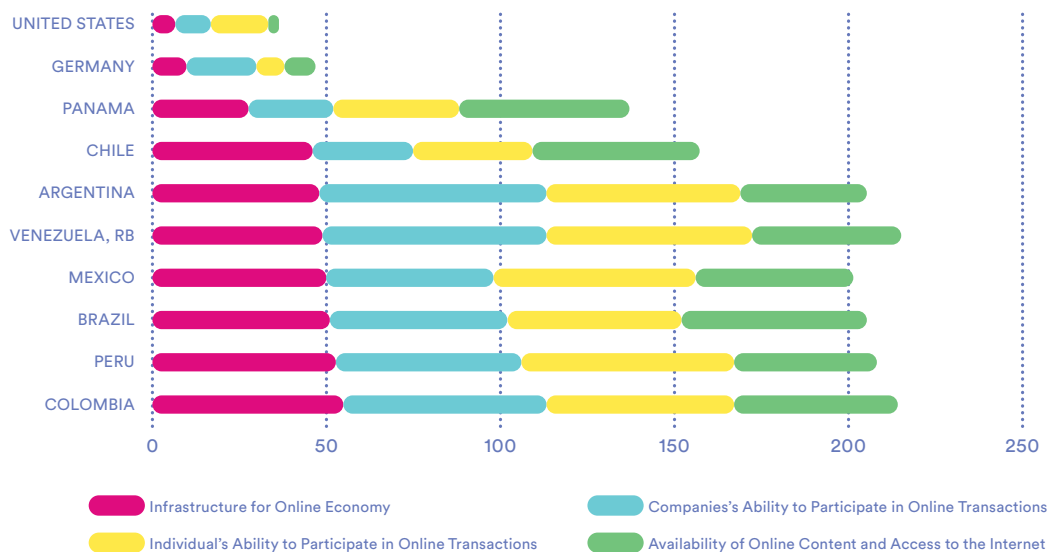
Table 1 – Laws related to Digital Economy and Trade in 2015, by Sub Region

	Countries (number)	E-transaction laws (%)	Consumer protection laws (%)	Privacy and data protection laws (%)	Cybercrime laws (%)
Developed economies	42	97.6	85.7	97.6	83.3
Developing economies					
Africa	54	46.3	33.3	38.9	40.7
Eastern Africa	18	38.9	16.7	27.8	50
Middle Africa	9	22.2	22.2	22.2	11.1
Northern Africa	6	83.3	33.3	50	66.7
Southern Africa	5	60	40	20	40
Western Africa	16	50	56.3	62.5	37.5
Asia and Oceania	48	72.9	37.5	29.2	56.3
Eastern Asia	4	75	50	25	50
South-Eastern Asia	11	81.8	81.8	54.5	72.7
Southern Asia	9	77.8	22.2	44.4	66.7
Western Asia	12	91.7	33.3	25	58.3
Oceania	12	41.7	8.3	0	33.3
Latin America and the Caribbean	33	81.8	54.5	48.5	63.6
Central America	8	75	87.5	37.5	37.5
South America	12	83.3	75	66.7	75
Caribbean	13	84.6	15.4	38.5	69.2
Transition economies	17	100	11.8	88.2	70.6
All economies	194	74.7	47.4	55.2	60.3

Source: Information Economy Report 2015, UNCTAD.

These findings are echoed by a 2014 study by the Boston Consulting Group (BCG) on “e-frictions”, or the leading obstacles for companies and consumers to benefit from the digital economy: problems relating to infrastructure, participation in online transactions, individuals’ access to the Internet, and the availability of online content.

Figure 32 - E-Friction Index: Factors Hampering the Digital Economy, 2014 (1 = best, 10 = worst)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of The Boston Consulting Group, *Greasing the Wheels of the Internet Economy*, 2014.

This analysis is still somewhat too crude to account for the factors that have surfaced in policy discussions as possible impediments to digital trade, such as data localization requirements, intellectual property right infringements, and a range of barriers to the movement of goods, designs, services, investments, and data. Another likely impediment especially to South-South digital trade is the still limited level of Internet connectivity. Another plausible challenge to digital trade in Latin America is intra-regional: LAC economies are not as well-integrated with each other on- or offline as they could, which creates frictions and costs to cross-border operations and data flows.

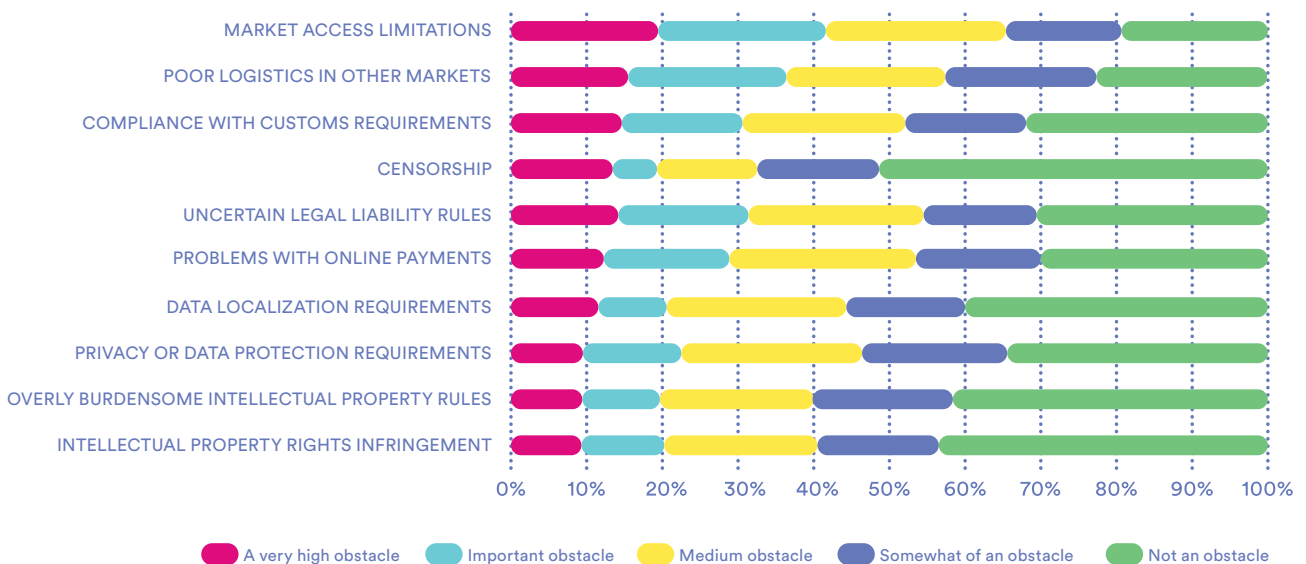
The survey cited in chapter 2 asked the ConnectAmericas platform users about 11 distinct barriers that hypothetically affect their cross-border trade:

- **Data localization requirements:** These can cover requirements that data servers or other infrastructure be located in-country, that firms use a certain amount of local content to qualify for preferential treatment, for example in government procurement. Localization requirements can be interpreted as favoring domestic digital industries, products, or services at the expense of those from abroad.
- **Privacy or data protection requirements:** Policies that limit or regulate foreign companies access to consumer data and limit the movement of personal data or other data across borders.
- **Intellectual property rights infringement:** Infringement of intellectual property rights associated with digital or non-digital products or services, including copyright, patent, trademark, or trade secret infringement.
- **Burdensome intellectual property rules or lack of appropriate limitations and exceptions for the digital environment:** Onerous intellectual property rules may limit market access and inhibit development of services that are critical to digital trade (for example, search engines, cloud services, translation software, machine learning tools, consumer review websites, and other services that depend upon copyright limitations such as fair use).
- **Uncertain legal liability rules:** Non-transparent and unclear laws on legal obligations of firms involved in digital trade (e.g., rules that might hold a platform liable for content generated by a user).
- **Censorship:** Policies or practices that suppress information on the Internet
- **Compliance with customs requirements:** Customs measures that are unclear or overly complicated to meet.

- **Market access limitations:** Policies that limit foreign firms’ access to a country’s market, such as tariffs, non-tariff barriers, restrictions on investment, distribution rights, localization requirements, and so on.
- **Poor online payments:** Poorly functional online systems to facilitate payment from the buyer to the seller. This can owe to lack of internet connectivity, lack of either the buyer or seller’s adoption of online payments, or lack of interoperability between the buyer and seller’s payments systems.
- **Poor logistics:** Poorly functional shipping and logistics systems that impose delays and costs on the transaction.
- **Poor connectivity:** Lack of internet connectivity either or both on the side of the buyer and the seller.

The survey sheds light on the relevance of these barriers for LAC companies. Of the full sample (which includes companies that do not yet sell or buy cross-border), market access, poor logistics, and customs requirements top the list as the most important barriers to online cross-border trade (figure 33).

Figure 33 – Challenges Faced by LAC Companies to Cross-Border Online Sales, by Type (full sample)

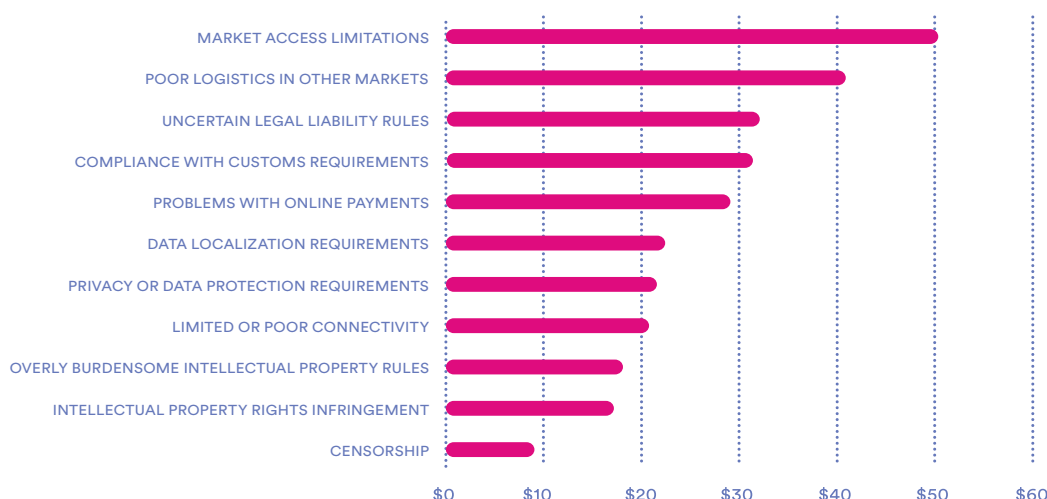


Source: IADB survey of Connectamericas.com companies.

For companies that already sell and buy goods and services to and from foreign markets, manufacturers in particular, these obstacles are more strongly felt. For example, over 50 percent find market access barriers as a “very significant” obstacle, while over 40 percent find the same for poor logistics in other markets and 30 percent for online payments (figure 34).

Intermediary liability rules are another challenge highlighted by a third companies. Online companies often rely on third-party content such as user reviews, but in many countries, they can be liable for it. Holding companies liable for all content on their sites can be counterproductive. For example, an ecommerce platform may avoid providing user reviews and customer feedback tools, which reduces information available to consumers. Only Chile and Brazil have “safe harbors” that limit the responsibility for hosting or transferring third-party content.

Figure 34 - Challenges Experienced as “Very Significant” by LAC Companies to Cross-Border Online Sales, by Type (cross-border sellers)



Source: IADB survey of Connect Americas.com companies.

For manufacturers, market access limitations and logistics challenges top the list; however, IT and software, and business services companies also face market access limitations (figure 35). Companies in business services and education sectors find data localization practices as burdensome, while uncertain legal liability hampers companies in business services and IT. The challenges are experienced in several intra-regional markets, the U.S. and China – no particular “winner” emerges from the sample.

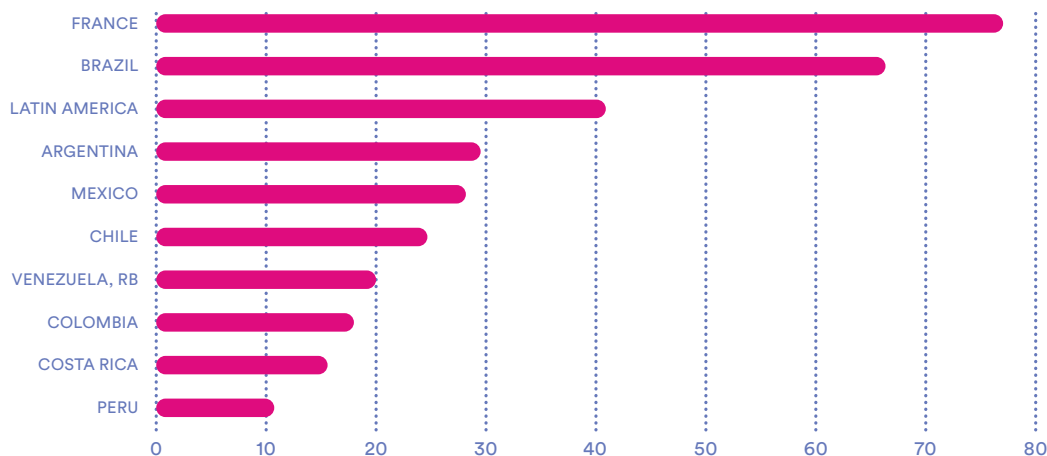
Figure 35 - Challenges Experienced as “Very Significant” by LAC Companies to Cross-Border Online Sales, by Type and Sector (cross-border sellers)

	Agriculture & food	Business services	Consumer products	Education	IT, Software, Telecom	Manufacturing
Data localization requirements	0%	36%	29%	57%	9%	13%
Privacy or data protection requirements	35%	26%	10%	29%	14%	9%
IPR infringement	23%	24%	19%	0%	14%	13%
Burdensome IP rules	12%	26%	10%	29%	9%	22%
Uncertain legal liability rules	23%	34%	19%	29%	32%	17%
Censorship	23%	8%	10%	0%	12%	17%
Compliance with customs requirements	35%	32%	38%	57%	20%	26%
Market access limitations	23%	40%	19%	29%	38%	57%
Problems with online payments	35%	32%	19%	57%	9%	26%
Poor logistics in other markets	23%	30%	29%	29%	20%	57%
Limited or poor connectivity	0%	28%	0%	57%	12%	13%

Source: IADB survey of Connectamericas.com companies.

Poorly functioning online payments are flagged by nearly a third of cross-border online sellers as an important barrier to cross-border transactions. This may stem from several reasons, including limited credit and debit card usage, consumers’ concerns of the security of online payments, and gaps in the interoperability of payment systems. In a Visa index of monetary connectivity – consumer access to relevant payment products and purchasing power – Latin American economies are still quite far from Western European economies like France (figure 36).

Figure 36 – Monetary Connectivity Index for Latin American Ecommerce, by Country



Index of monetary connectivity: consumer purchasing power and their access to relevant financial products

Digital Liquidity in Latin America: DineroMail

In 2000, scholars at the Wharton Financial Institutions Center stated that “the Internet has had a profound effect on the financial services sector, dramatically changing the cost and capabilities for marketing, distributing and servicing financial products and enabling new types of products and services to be developed.”¹⁹

This view has only been cemented over the years, as financial services have migrated from traditional services to digital platforms, enabling people to bank, invest, borrow and pay online. Globally, some of the leading companies within online payment options are PayPal (179 million active customer accounts), Google Wallet, WePay, Stripe, and Dwolla.

However, as payment tools have proliferated, challenges remain. The key factor undergirding online trade is online payments systems that work across borders. If a business is unable to accept a trusted online payment, then doing business in another country will be a challenge. Moreover, as mobile phones proliferate as a key means by which B2C and B2B buyers shop, mobile payments are particularly critical for online trade to function.

Cash-on-delivery is still an important method of payment in Latin America – for example, in Colombia, nearly a quarter of online shoppers chose cash on delivery for online purchases. Moreover, among the broader population of shoppers and those who do not yet shop online, the usage rates for online payments and credit and debit cards is low.

At the same time, online payments have grown significantly in the region; shoppers prefer credit and debit cards, followed by digital payments systems such as Allpago or PayPal. In Brazil, over 50 percent of online shoppers pay by credit cards and a third use local banking method Boletão Bancário. In Mexico, debit cards and PayPal were used by about one-half of online shoppers.

The region has also become a hotbed for innovation in mobile payments. The number of mobile payment users grew almost 6-fold between 2009 and 2016, when they reached 22.3 million. For example, in Argentina, the number of online shoppers who made payments via mobile phones doubled in 2015; numbers are also rising in Mexico. In Brazil, almost half of online shoppers use mobile payments.

These developments do not occur on their own. They require rules that enable online payments and ensuring that the various payments systems interoperate. In 2014, Colombia’s Ministries of Finance and Information Technology and Communications introduced a bill that seeks to increase access to online payments, wire transfers and lower cost transfers and simplifies the process of opening

an account for online payments. In 2013, Brazil created uniform standards for mobile payments to promote interoperability.

DineroMail has furthered the ease of access to payments systems and their interoperability in the region. It is one of the leading payment providers in the region and the world, with a potential consumer base of 2.2 billion. Starting as a payments platform in Argentina, Brazil, Chile, Mexico, and Colombia with a staff of 100 people, DineroMail is now part of PayU present in 16 countries and 4 continents, offering more than 250 payment methods.

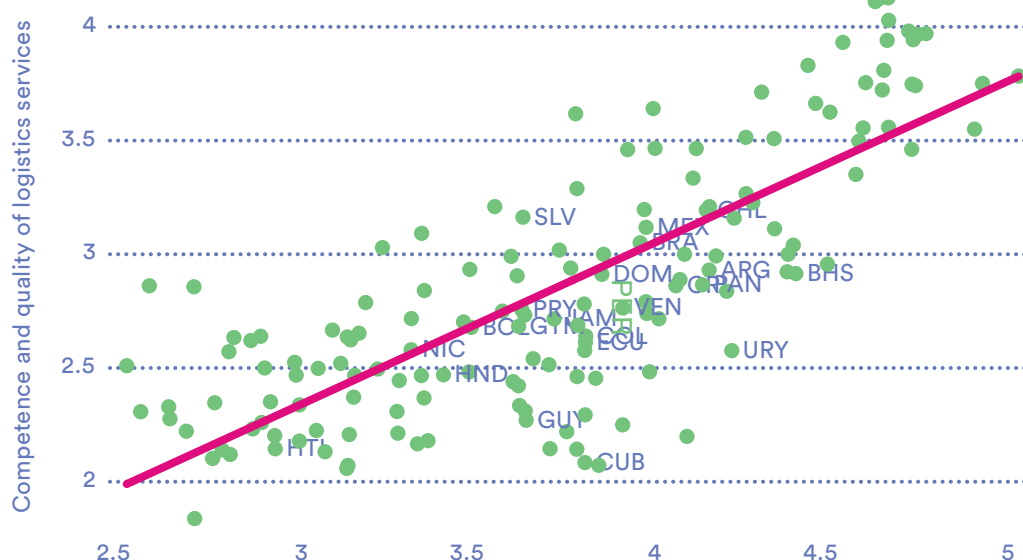
DineroMail grew from 618,500 online payment transactions of \$36 million in 2008 to 5.6 million transactions of \$271 million by 2011. It has presence in Mexico, Panama, Colombia, Peru, Brazil, Chile, and Argentina, and serves over 10,000 websites and over 1,000,000 buyers. Any company in the world wishing to sell its products or services online in Mexico, Brazil, Argentina and Chile can use DineroMail. The company aggregates all major payment methods used in each market, from cash and local and international credit cards to bank transfers and DineroMail balances.

DineroMail is adapted to Latin American culture of payment methods and options. When it was created, the company provided an online payment system in which operations were to be made by only using an email address. For the company, the fact that over 60 percent of all ecommerce transactions in Latin America are paid with non-cash methods drives their strategy “the more local payment methods you offer, the more browsers become buyers.”

For payments, DineroMail works with both online payment methods and physical cash through agreements with all major cash payment networks, such as Visa, MasterCard, Boletto Bancario, 7-Eleven and PagoFacil, generating a large consumer base. Its success depends on its ability to offer online support and platform development services. In terms of international sales, the company has a consistent platform which supports several types of integration methods to merchants’ websites and APIs, depending on each merchant’s needs.

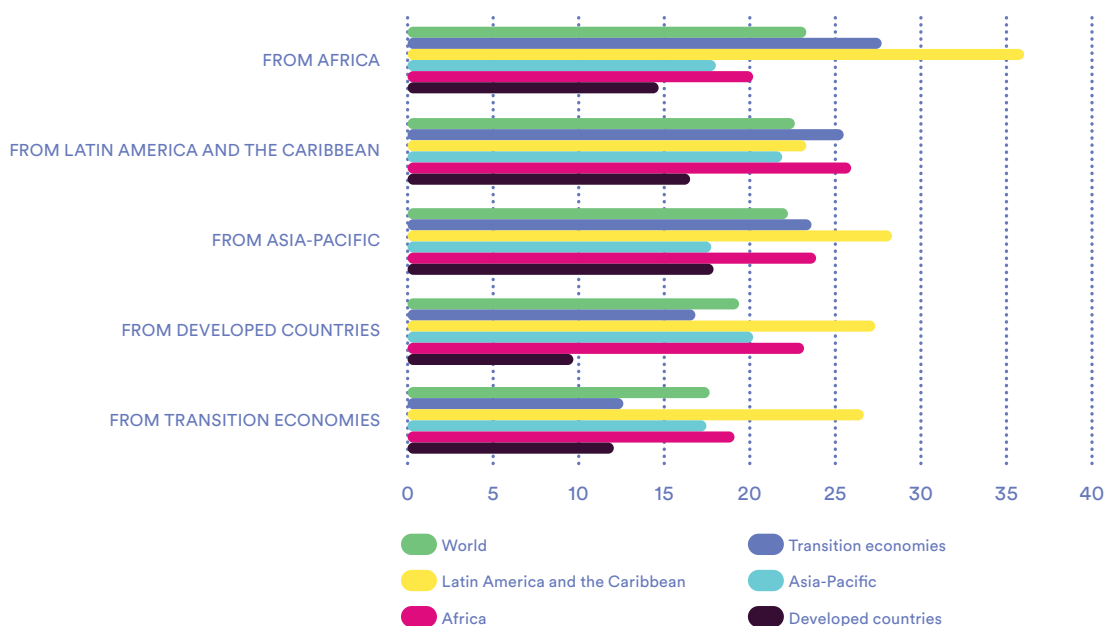
Most companies in the sample sell to intra-regional markets, which means that the concern about poor logistics is reflected in the region. Most LAC countries trail global averages in logistics quality and timeliness of delivery (figures 37-38). With the exceptions of El Salvador and Mexico, all LAC countries are at best at a par with countries of similar levels of development in terms of quality of logistics services. African and Latin American economies have relatively long parcel shipping times both as exporters and as importers. For example, in both regions it takes over twice as long to ship intra-regionally (about 20 and 23 days, respectively) as it takes to ship among advanced economies (about 9 days). This adds to the cost at the point of sale and to overall unpredictability, which can become cost-prohibitive for small shipments.

Figure 37 – Competence and Quality of Logistics Services, 2014 (1=low to 5=high)



Source: World Bank, World Development Indicators.

Figure 38 – Average Shipping Time for Parcels to Various Destinations, Q2 2013 to Q1 2014, Selected Regions



Source: United Transportation Union (UTU).

How Digital Entrepreneurs Solve LAC’s Logistics Problems: Case of Shippify

In a world of B2C and C2C transactions involving millions of small, individual parcels, each with a customized path and delivery, logistics is growing much more complex and sophisticated. Warehousing too is more demanding – ecommerce warehouses need to handle the order fulfilment, sorting, distribution and returns of the parcel alike.

Founded by Miguel Torres and Luis Loaiza in June 2014, Shippify is creating a solution for the Latin American logistics challenges, drawing on the sharing economy model. The original vision was a cross-section of PayPal and Uber for logistics. The company started with a website, WhatsApp, and 5-10 Uber drivers to serve the local community. Shippify then created an API whereby any ecommerce site could integrate Shippify into its website. Doing so allows customers to select a Shippify as a delivery option when they checkout. Orders are made at an ecommerce store and go straight to the Shippify system, which finds the closest shipper to fulfill the order and deliver it within three hours.

Shippify is a cloud-based system where users can track their delivery end-to-end in real time. Products are shipped via traditional shippers as well as bikers, motor bikes and taxi drivers. The buyer can communicate directly with the shipper. Shippify has more than 15,000 drivers and entrepreneurs in its community, which is especially important in countries like Brazil due to high unemployment.

The company is active in Brazil, Chile, and Ecuador, and is planning to open operations in Spain, Mexico, and Argentina. Shippify has competitors in Brazil, Mexico, and Chile. However, most of the plausible competitors are consumer apps in the B2C space. Shippify meanwhile, is in the B2B space and a platform, not an app. Unlike its competitors, the company has a variety of different vehicles in its fleet and can therefore delivery small and large packages. It can also quickly add new vehicles in its fleet.

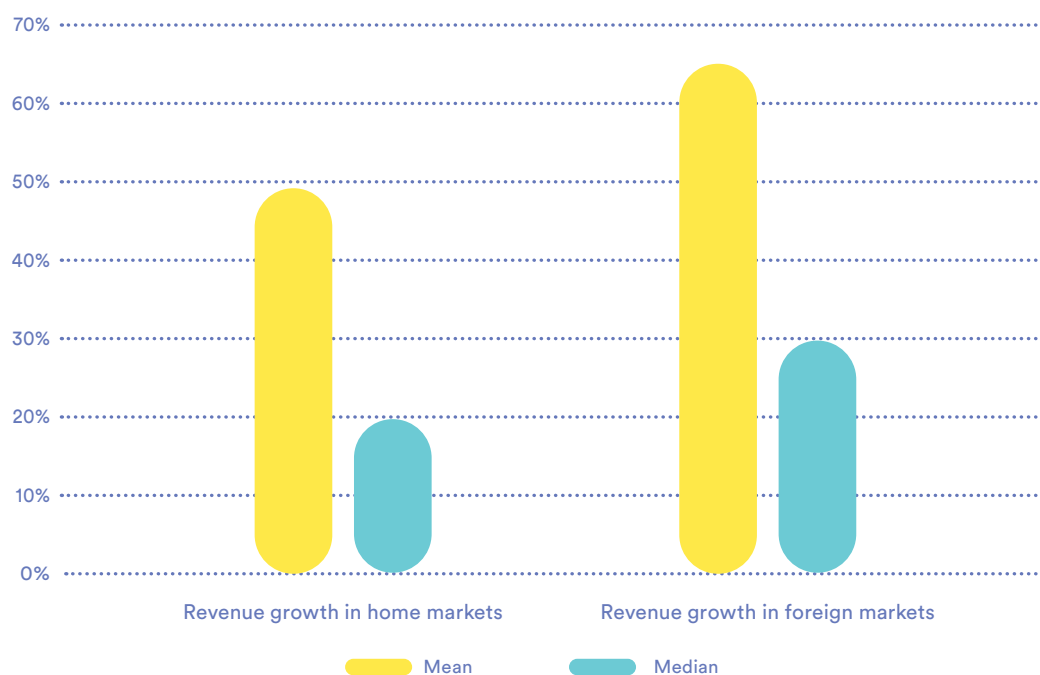
Shippify is very lean and uses various creative strategies of growth hacking and word of mouth in its community. The company has recently concluded a round of seed funding to expand.

For Shippify, Latin American regulations and innovation policies are not yet aligned with technology-driven startups and with the growth of on-demand, flexible work. Logistics regulations is another area of improvement. One example is frequent inspections of vehicles due to drug trafficking, which slows the flow of legitimate cargo. In countries such as Colombia, vehicles are inspected especially outside urban areas where Shippify is growing its business.

Notably, these various barriers obstruct small companies much more than large ones. For example, data localization rules can in practice mean that a company needs to build a physical local infrastructure in every jurisdiction in which it operates. In logistics, small businesses incur higher fixed costs than larger ones due to not being able to secure the same bulk shipment discounts available for large retailers. Per-unit trade compliance too is higher for small businesses due to smaller shipments. As such, small and young companies which the Internet has empowered to reach buyers and sellers around the world paradoxically also face barriers to enter new markets.

What is the impact if all these obstacles to doing business across borders over the Internet were removed? According to the surveyed companies, LAC companies report average gains of 65 percent of revenue growth from international sales and 50 percent from domestic sales (figure 39). Companies that are intensive digital traders – that derive over 50 percent of their online sales revenue from foreign markets – report gains of 51 percent in the home market and 90 percent in the foreign market if these obstacles were removed.

Figure 39 - LAC Companies' Perceived Revenue Growth at Home and Abroad if Challenges Were Removed



Source: IADB survey of Connect Americas.com companies.

The survey results show that the smallest companies with less than \$1 million in revenue believe their revenue gains would be 88 percent in foreign markets if barriers were removed, a notably higher number than for larger companies.

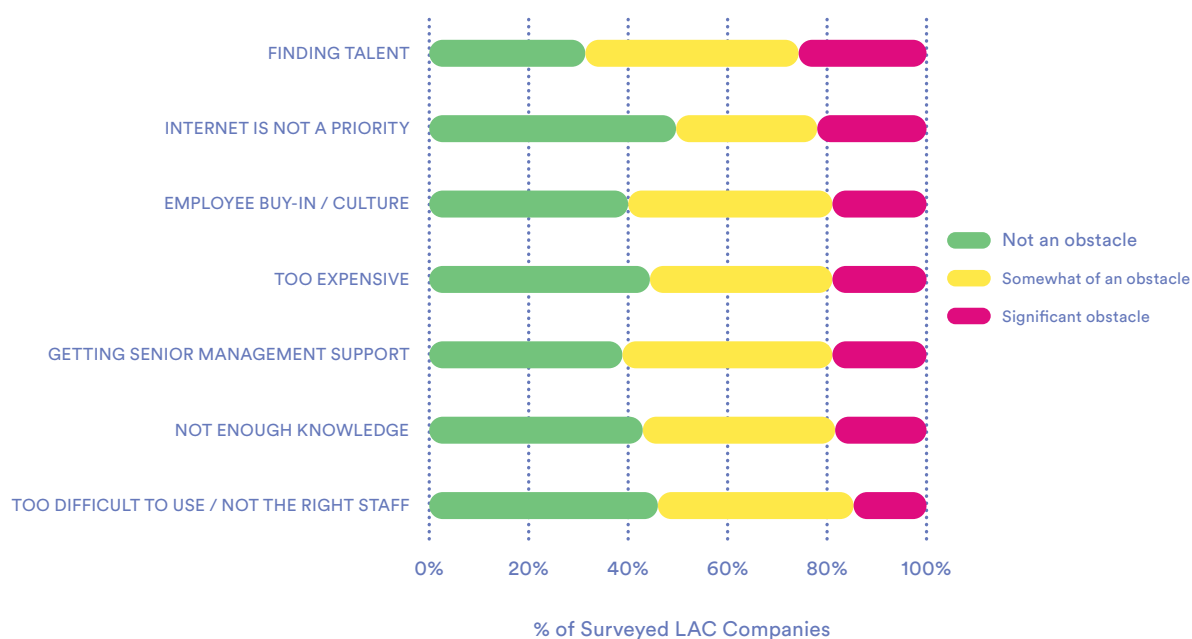
It is likely that the removal of these barriers would also fuel job-creation and aggregate welfare in the region. While this type of simulation is beyond the scope of this report, there are some indicative findings. For example, U.S. International Trade Commission finds that removing the foreign barriers to digital trade would increase U.S. employment in the digitally intensive sectors by up to 1 percent. In Argentina, Mexico and Colombia alone, over 340,000 jobs have already been created through the production and distribution of mobile apps.

LAC Companies and Consumers Still Struggle to Make the Most of Online Commerce

While some of the challenges to digital trade are external, many are internal. Succeeding in cross-border online sales is challenging – it requires localizing websites and customer service, handling cross-border logistics and returns, managing payments and currency conversions, and complying with taxes and trade rules, among other things. In the survey of ConnectAmericas companies, over one-half of companies cited lack of knowledge and limited staff as the leading impediments for growing their online sales.

LAC companies surveyed for this study find it challenging to succeed online. For the majority, finding the right talent, securing employee and management buy-in, and gaining the knowledge on how to leverage the Internet are either significant obstacles or somewhat of an obstacle to increasing online revenues (figure 40).

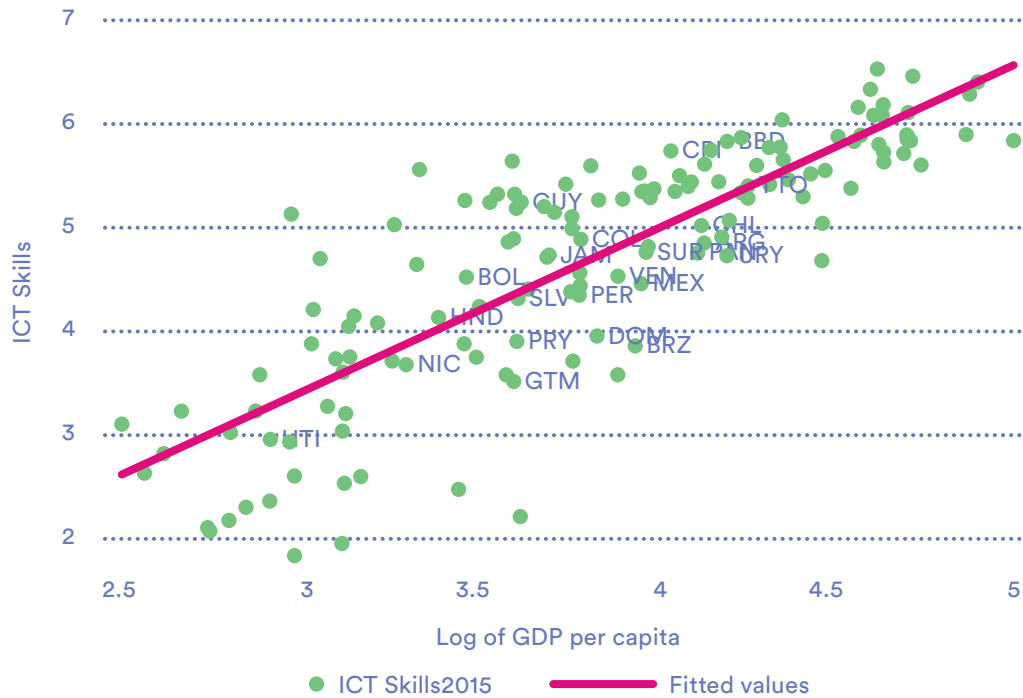
Figure 40 - Challenges Experienced by LAC Companies to Use the Internet for Growing Revenue, by Type



Source: IADB survey of Connect Americas.com companies.

The talent gap is also reflected in the World Economic Forum’s data on ICT skills, an indicator that measures a society’s ability to make an effective use of ICT thanks to the existence of basic educational skills captured by the quality of the educational system, the level of adult literacy and the rate of secondary education enrollment. Most LAC economies trail countries at similar levels of development in ICT skills; Guyana, Colombia, Costa Rica, Jamaica, and Barbados outperform (figure 41).

Figure 41 – ICT Skills in the LAC Region, Compared to Countries at Similar Levels of Development

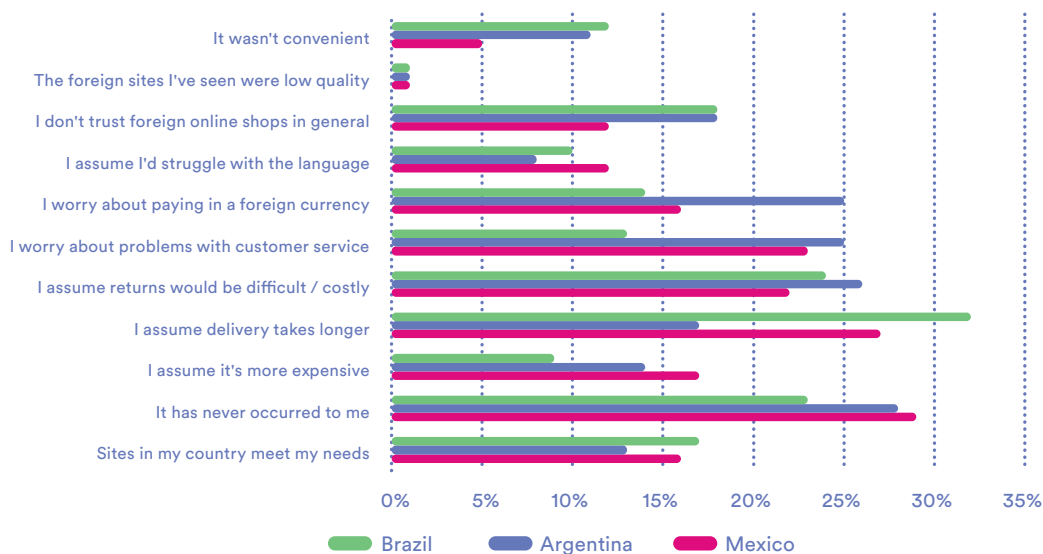


Source: Author on the basis of World Bank’s World Development Indicators and World Economic Forum’s Networked Readiness data.

These gaps will need to be bridged at schools and at workplaces alike. An IDB/OECD study finds that LAC primary schools are not as optimally connected as they should be.²¹ Especially primary schools remain without Internet, barring many children from learning the basic skills required for the 21st century world economy.

Connectivity does increase through secondary, tertiary and university levels, though there are disparities: in some markets such as Uruguay and Barbados, the learner-to-computer ratio is very small at 1-5 students per computer; in Paraguayan primary schools, it is still very high at 130 students per computer. Positively, the majority of countries in LAC appear to be active proponents of e-learning: 92 percent of economies surveyed by the IDB and OECD report having an initiative to promote e-learning or tele-learning in the country.

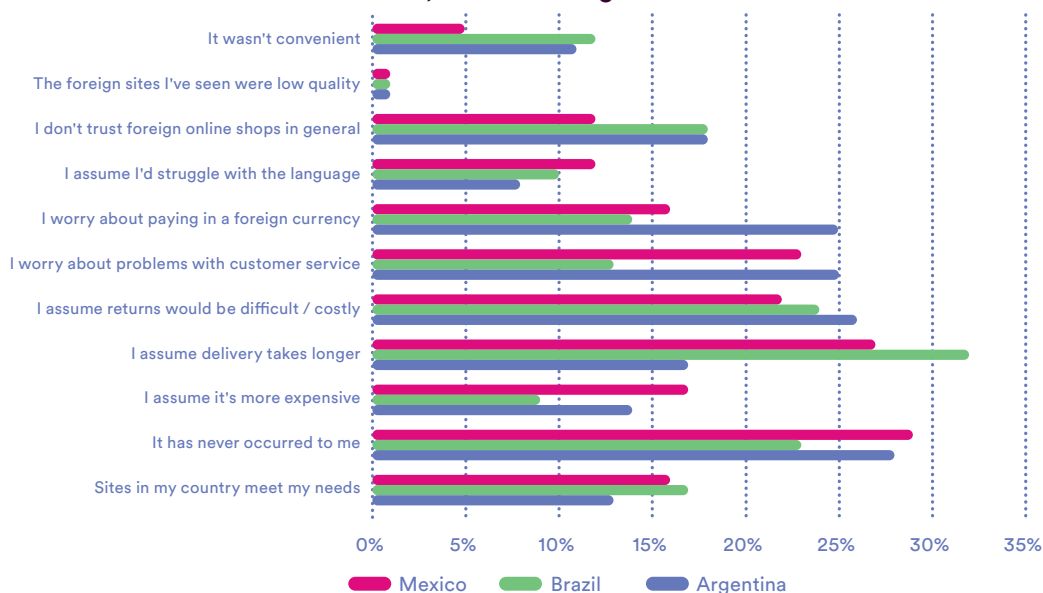
Figure 42 - Learners-to-Computer Ratio in Primary and Secondary Education (2010)



Source: UNESCO (2012).

Consumer behaviors and perceptions also limit digital trade in the region. Though some 40 percent of Brazilian shoppers and over half of Mexicans buy online from abroad at least once a year, shoppers also report hesitations related to shipping costs and ability to return items purchased (figure 43). In Argentina, online payments issues pose an obstacle to cross-border online shopping. Notably, large majorities imply demand for cross-border B2C shopping experiences: fewer than 20 percent state that their respective domestic websites meet their shopping needs.

Figure 43 – Answers to Question, “What would prevent people from making purchases online from foreign countries?” - Consumers in Mexico, Brazil and Argentina



Source: Google Consumer Barometer.

Latin American consumers also struggle with online fraud, especially in payments and counterfeit products. For example, according to the Online Fraud Report for Latin America 2015 by CyberSource and eInstituto.org, 6.8 percent of orders in Latin America are rejected because of fraud suspicion, compared to 4.8 percent in Europe and 2.3 percent in the United States and Canada. Some 1.4 percent of sales are chargebacks (that is, cases where credit card providers demand a retailer to make good the loss on a fraudulent or disputed transaction) in the region, compared to 0.8 percent in Europe and 0.6 percent in North America (table 2). Venezuela and Brazil have some of the highest incidences of fraudulent ecommerce transactions in the world; in the case of Mexico, research by Aite shows that nearly half of all Mexican consumers have been victims of fraud in the past five years.

Table 2 - Global Online Fraud Indicators, 2015

	Chargeback rate by revenue	Rejected orders	Merchants doing manual review	Reviewed orders	Orders accepted post-manual review
BRAZIL	1.6%	3.8%	96%	16%	62%
MEXICO	1.9%	13.9%	91%	30%	62%
LATIN AMERICA	1.4%	6.8%	86%	31%	65%
US - CANADA	0.6%	2.3%	81%	27%	86%
EUROPE	0.8%	4.8%	75%	14%	62%

Source: CyberSource Corporation, a Visa company

Conclusions

In the digital era where transactions are made online, companies need a digital enabling environment to thrive in. This includes Internet connectivity, well-functioning online payments, work forces with technological skills, regulations conducive to digital trade, entrepreneurship, and so on.

- Most LAC economies trail countries at similar levels of development in mobile subscription rates, firms' technology absorption capacities, business-to-business and business-to-consumer Internet use, and in the political and regulatory environment for information and communications industries. The region still has significant "e-frictions" compared to advanced nations.
- Of companies that already sell and buy goods and services to and from foreign markets, 50 percent find market access barriers as a "very significant" obstacle to their digital trade, while over 40 percent find the same for poor logistics in other markets and about a third do so for online payments and intermediary legal liability. Companies in business services and education sectors find data localization practices as burdensome, while business services and IT companies struggle with legal liability issues. Notably, these various barriers obstruct small companies much more than large ones.
- LAC companies report average gains of 65 percent of revenue growth from international sales and 50 percent from domestic sales if these obstacles to selling online and cross-border were removed. Companies that are intensive digital traders – that derive over 50 percent of their online sales revenue from foreign markets – report gains of 51 percent in the home market and 90 percent in the foreign market if these obstacles were removed.
- While some of the challenges to digital trade are external, many are internal. LAC companies surveyed for this study find it challenging to succeed online. Companies report finding talent, securing employee and management buy-in, and gaining the knowledge on how to leverage the Internet as important challenges to increasing online revenues. This reflects the region's still limited ICT skills levels. Consumers meanwhile are concerned about online fraud and ability to deal with shipping costs of items ordered from overseas.
- Latin American digital entrepreneurs are providing critical solutions to these very challenges. For example, DineroMail is solving cross-border payments challenges, while Shippify is solving Latin American logistics challenges, drawing on the sharing economy model.
- Policymakers still struggle to learn about the regulatory framework that optimizes the enabling environment for digital trade in LAC. It is very important to help policymakers learn about the power of digital trade and digital entrepreneurship to change lives, create jobs, and boost trade across the region, and about models and frameworks that have powered digitization and trade in other countries.

Strategic Policy Options to Unlock Digital Trade in Latin America and the Caribbean

Latin America has a vibrant digital economy and digital trade is on the rise. This report has unearthed ways in which LAC companies leverage the Internet in their operations and trade, and the challenges they face in doing so. While more work needs to be done to uncover the specific challenges in each LAC economy to develop targeted solutions, it is clear that all regional economies benefit from fueling digital trade. This means nothing less than transforming countries' trade policies, trade-related capacity-building, export promotion and export credit to better meet the needs of their digitally intensive companies.

In addition, LAC countries can learn from each other's experiences in developing the enabling environment for digital trade, and develop joint solutions, building on decades of collaboration in trade and regional integration. Advancing the regional economies' digital trade with each other and with extra-regional countries requires upgrading regional integration efforts to include keen focus on the factors that make digital trade flow.

Given that the private sector is closest to the problems to digital trade and solutions to it, optimizing the enabling environment for digital trade cannot be done by government fiat, but via informed, multi-stakeholder dialogue and ideation among entrepreneurs, corporations, academics and the Governments.

In terms of specific measures, three set of policies can be highlighted for the regional economies to accelerate digital trade:

1 Remove market access and regulatory barriers to digital trade

This report identified numerous frictions for LAC digital companies to operate cross-border, such as in the areas of market access, customs procedures, online payments, and legal liability regimes. Some key solutions include:

- **Undo market access and customs bottlenecks to digital trade.** LAC companies surveyed here that sell goods online but deliver them physically cite as obstacles Latin America's traditional barriers to trade – market access, customs procedures, and logistics challenges. However, old solutions do not help new trade. For example, customs regimes and Trusted Trader programs that fast-track trade through customs are still tailored to the patterns of traditional trade – large, regular trade volumes shipped by large companies – rather than accommodating small enterprises and consumers, whose trade is more sporadic and who are ill-equipped to comply with complex trade rules.

Some solutions include “Trusted eTrader” programs tailored to small businesses. Given that much of the online trade is still intra-regional, one simple measure to fuel especially lower-value shipments is raising de minimis regionally. This can be done plurilaterally among LAC economies, whereby every country gives some market access to low-value shipments for others, while receiving greater market access to its own businesses in exchange.²³

Governments need to make better use of the established mechanisms to fuel trade, such as increase customs clearance times 24 hours per day, put in place electronic filing of customs documents via “single windows” for one-stop compliance; and enable the collection and remitting of taxes for goods above the de minimis level away from the border. Since ability for the customer to return the item is a pillar for the competitiveness of ecommerce retailers, there should also be simplified, duty-free returns on items sold online by domestic sellers to foreign buyers.

- **Evaluate and address the regulatory bottlenecks to digital trade and economy.** Regulatory frameworks need to be upgraded to the digital era. LAC economies rank below countries at the same level of development in the policy environment for ICT, and according to data have been less focused on adopting legal frameworks for ICT, which limits the development of local ICT services and makes it more difficult for local SMEs to leverage existing cross-border platforms. The following steps can help reduce barriers to the digital economy:

- Create or modernize safe harbor rules that limit internet intermediaries' liability from user-generated content. Intermediary liability protections are already present in Chile's Intellectual Property Law and Brazil's Marco Civil da Internet.
- Update copyright laws to include limitations and exceptions (such as fair use) that balance the protection of IP rights while fostering the development of new Internet services and platforms.
- Limit over-regulation of online services and application of legacy infrastructure regulations to online services, such as extending telecommunications or broadcasting regulation to messaging applications or streaming platforms. "Innovation without permission" policy frameworks have enabled the development of the most robust startup ecosystems.
- Implement flexible data protection regulations that focus on improving security rather than limiting the use of data, and promote interoperable policy frameworks (e.g., APEC Cross Border Privacy Rules) that enable LAC firms to do business across borders.²⁴
- Avert data localization requirements for foreign online services. Access to data from around the world is critical for companies' competitiveness and customer service. Countries should not bar cross-border data transfers, force companies to localize servers on their soil or transfer technology, or mandate local presence for such critical tools of ecommerce as electronic payment services. This, research suggests, is conducive to more foreign investment, expanded trade, and lower costs on local businesses.
- Create balanced consumer protection laws. Consumer trust in products and services sold online, delivery systems, online payments, and other online services is critical for digital economies to grow. At the same time, Governments need to work with the industry to ensure consumer protection laws do not impose excessive compliance costs on online companies.
- **Work regionally to modernize and harmonize ecommerce and digital regulations and ensure interoperability of the Internet across the region.** Common regional regulatory and policy frameworks in areas such as free circulation of digital goods and services, privacy, consumer protection laws, cybersecurity, taxation of products and companies, and others help lower the costs for companies to operate across the regional market, incentivize investment and startup formation, and fuel the expansion of digital networks and services. This is especially useful for small businesses and startups that usually lack resources to navigate or adapt operations to complex frameworks between different countries. Some useful immediate measures include:
 - Work towards mutual recognition of online service providers that operate in multiple markets, such as of online payment, online delivery service, data analysis, digital marketing, online lending, and ecommerce companies. Providers of these services can more quickly expand to service multiple countries in the presence of mutual recognition across countries of their business licenses, certificates, professional qualifications, and digital signatures, among other requirements.
 - Digitize and harmonize Know Your Customer (KYC) requirements and forms across the region. It is easy to complete KYC data requests in any one country. However, the KYC document issued by one country seldom works in another – where the company unlikely has a paper trail or credit history that enables a KYC assessment.
 - Ensure interoperability of payments. Online payments are critical for online trade. Positively, online payment platforms have proliferated worldwide – there are more payment platforms than there are countries – and helped unlock new exports by online sellers. However, there are two major challenges – scant adoption of online payments by companies and consumers in the region and many world markets, and national financial regulations that hamper the interoperability of payments systems across countries. To ensure greater interoperability, LAC economies can enable processing of payments from local cards in cross-border commerce, and of international payments with security codes. A possible broader solution is a global online payments agreement that is sponsored by trade policymakers and agreed on by financial regulators.

This work starts on the domestic level. For example, in 2016 the Argentine public and private sectors worked together to revise the legal framework governing payments. These changes increased competition in the local payments system and enabled debit card payments for online purchases, among other reforms.

2 Enhance LAC's digital fitness

LAC economies share a keen interest in enhancing their digital fitness – cultivating the creation of trade in digital products and services, providing the right foundations for digital companies to flourish, and helping their traditionally “analog” companies digitize, an endeavor that is shown to have a particularly high return on investment. Some key strategies include:

- **Improve ICT skills specific to digital trade.** A leading constraint for more LAC companies to sell online is companies' limited capabilities to use the Internet strategically for selling goods and services, particularly for selling to foreign markets. This reflects the regional gaps in the bedrock of digital economies, digital trade, and ICT skills. The problem can be bridged in businesses and in schools – digital education has high return on investment. Some of the innovation is coming from the private sector. For example, the Mexican company Robotix School prepares students for the digital era by teaching them robotics, new technologies, and entrepreneurship skills.
- **Improve the environment for digital businesses and invest in local startup ecosystems.** Several entrepreneurs interviewed for this report also discussed the need for improved innovation policies and cutting of red tape miring digital businesses and entrepreneurship. Public investments in the startup ecosystems are also important. An example is Startup Chile, which after its launch in 2010 has grown into one of the most renowned technology accelerators worldwide. The program has brought 1,309 startups from several different countries to Chile, providing them with significant infusions of equity-free seed funding, mentoring, and office space, as well as a temporary one-year visa to develop their projects. Startup Chile is a strong model for other LAC countries that are interested in building out their ecosystem of startups and app developers.
- **Enhance connectivity.** Latin America is getting online by going mobile. The region's mobile and smartphone adoption rates have skyrocketed, which is bringing people online. Broadband tariffs are also lower than in many other emerging regions. However, mobile subscription rates are still lower in LAC countries than in countries at similar levels of development, keeping half of the region's populations from the online economy, and the region's SMEs are underutilizing their online presence, often going without online stores or sales platforms and online payments. Basic connectivity issues are still important in the region.

3 Adjust export promotion and credit to meet the needs of online sellers

Just like trade policy, export promotion needs to change as trade digitizes. Governments not only need to grasp the opportunities of exports of digital goods and services, but also their own limitations in guiding companies to use online tools and platforms for engaging in trade – and pursuing new strategies:

- **Create public-private partnerships for ecommerce export promotion.** Governments and companies share an interest in expanding digital trade in LAC economies. Yet trade capacity-building as it has been known won't suffice. Public sector support tends to be ad hoc, and export promotion agencies are unlikely to have the best technical knowhow about cross-border online selling or purchasing, or about leveraging technologies to optimize digital sales opportunities. The best trainers of online sellers are either other sellers, or platforms like MercadoLibre, eBay or Workana that have not only the right expertise, but also a keen corporate interest cultivating new online sellers.

Positively, selected LAC Governments have started to form public-private partnerships to help companies participate in digital trade with online platforms. For example, Mexico's export promotion agency, Proméxico, has organized seminars and training for Mexican SMEs with numerous platforms, created a B2B platform for Mexican SMEs selling to overseas markets, and offered consulting services for SMEs to develop digital marketing strategy, development of online stores and online payments systems, and social media engagement.²⁵ Each qualifying company can request a \$4,000

reimbursement against these costs. Chilean export promotion agency, ProChile, has comprehensive “Digital Exports” seminars on ecommerce, digital marketing, international promotional campaigns, and others.²⁶ Costa Rica’s export promotion agency, Procomer, has launched a service that brings together B2C and B2B sales channels and customers of three global platforms – I.Gourmet, Alibaba y Amazon.²⁷

- **Help companies tap into the intra-regional digital market and U.S. Hispanic market.** The case studies and survey in this report illustrated the importance of the intra-regional market to Latin American companies that sell online. Latin American companies have an edge in Latin American markets: they are often more in tune with regional B2C and B2B buyers than companies from abroad, and uniquely placed to leverage online presence and social media to gain new online buyers and expand their online market share in the region – a viable play given that Internet users in Latin America spend more of their online time with social media than their counterparts anywhere else in the world. Companies in Mexico and Central America can specially target the U.S. Hispanic market, with \$1.5 trillion in purchasing power and appetite for food products, clothing, electronics, higher education, financial services, and media and entertainment. In addition, Spanish-language call centers, software support and training and medical tourism all have potential.
- **Bring new digital players to provide trade finance in the digital era.** Export credit agencies have traditionally guaranteed exporters’ working capital loans, but the ticket size on those loans has been quite large and they have typically been issued by a bank. Today small businesses and banks are parting ways: small online sellers often need much smaller and faster working capital loans than banks want to issue, while banks are stifled from lending to small business, due to know your customer rules and Basel III capital requirements. Non-bank online lending platforms, many with solid underwriting criteria, are helping to bridge this gap. Export credit agencies could now systematically enable these platforms to issue small export working loans to LAC companies, for example by offering guarantees for diversified pools of such loans.²⁸

This report is only a start: much more research is needed for a more comprehensive understanding of the extent and dimensions of LAC region’s digital trade, the opportunities it creates, and the frictions hampering it. There is a need for country-specific and comparative deep-dive analyses of the state of digital trade, and keener understanding of the barriers that LAC entrepreneurs face when seeking to digitize their analog businesses, mounting new platforms, and scaling their sales regionally and beyond.

There is also much more work to be done to improve the indicators and methodologies for trade and growth accounting in the digital era. Indeed, misconceptions and disagreements over gaps in data and methods augur poorly for motivating policy improvements and for crafting appropriate policies to facilitate digital trade, or making adjustments as needed. There is need for benchmarking and innovative public-private partnerships to assess the state of the regional digital economy through real-time data and analytics.

The digital trade agenda ahead is challenging, but also exciting for LAC economies, opening many further opportunities for entrepreneurship, growth, and job-creation in the region. As the world digitizes, there is no turning back: LAC governments must revise the trade agenda for the region to compete and prosper in the 21st century global digital economy and support the many regional companies that are already driving the region to the digital era.

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Appendix I - Descriptive Statistics on ConnectAmericas Sample

Sector	Numbers of companies	Avg. Age	Avg. Number of employees (upper bound)	Gross revenue US\$ (millions, upper bound)	Avg. number of business locations
Agriculture & food	19	10.3	28.0	6.1	1.8
Banking and financial services	5	10.4	16.8	4.2	5.6
Business services	110	11.3	33.2	6.9	1.7
Chemicals	6	5.8	6.0	3.0	1.8
Consumer products	20	11.2	11.8	6.3	1.7
Education	8	13.9	46.0	16.4	1.6
IT, software, telecom	54	7.7	26.0	9.3	1.6
Manufacturing	41	17.5	60.1	8.5	1.3
All	263	11.0	28.5	7.6	2.1

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