



A report into regional conditions for e-Commerce

E-Readiness in Latin America

Conditions in the region for the development of e-commerce improved by 47.6% over the last four years. The gap with developed countries remains wide.

AméricaEconomía Intelligence

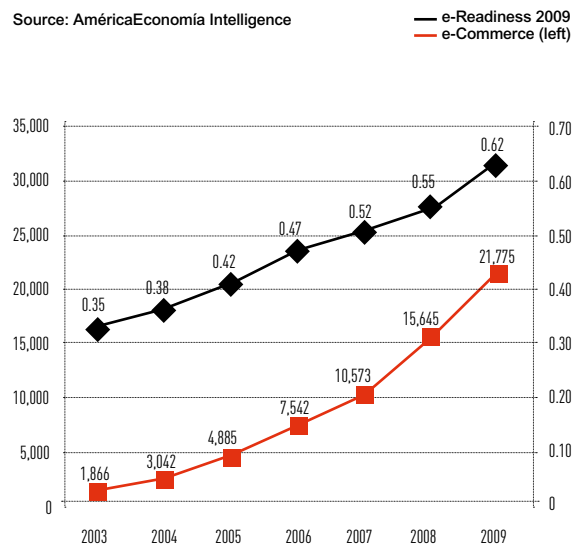
EXECUTIVE SUMMARY:

The development of electronic commerce in a country depends on a number of variables which can be grouped into five broad areas: potential demand, technological infrastructure, penetration of payment technologies, the strength of supply, and the speed at which consumers adopt new technologies. At the behest of payments company Visa, **AméricaEconomía Intelligence** analyzed each of one of these variables in Latin America's leading markets and developed an index of e-Readiness which describes the capacity of each country to transform the internet into an effective business-to-consumer sales channel. In order to give a referential value to this indicator, two markets (Spain and the US) which despite their proximity to Latin America have developed e-Commerce to a much greater extent were also analyzed, with the aim of understanding the region's failings and determining its strengths and challenges when it comes to e-Commerce. Latin America scored an e-Readiness score in 2009 of 0.62 points, which represents a significant 47.6% rise over 2005. However, the gap with developed countries remains wide: the regional index is almost two-thirds of Spain's e-Readiness and just a third of that of the US.

On the rise

Evolution of e-Readiness and the volume of B2C electronic commerce (left axis) in millions of US\$ for all of Latin America

Source: AméricaEconomía Intelligence



As Latin America's largest store chains and supermarkets have put greater emphasis on internet sales, they have moved from publishing sales catalogs in weekend newspapers to promoting online purchases. Check out this fact: of Latin America's sixty largest retail operations, whose annual sales all exceed US\$500 million, 53% already have an online strategy in place. It might not seem much, but it represents a high growth rate if one bears in mind that the overwhelming majority of their e-Commerce sites are less than two years old.

In fact, many retail operators that do not yet have an online sales strategy told **AméricaEconomía** that they plan to launch their first e-Commerce site in the coming months. This is good news for the development of e-Commerce in the region as many experts concur that the presence of established brands that are well-known by consumers on the internet will be an important factor in encouraging Latin Americans en masse to realize purchases online. This is what has happened in Brazil and Chile: the region's two leading countries in terms of the percentage of people who have made online purchases (e-consumers) are also the two countries whose retail industries have made the strongest inroads into e-Commerce.

This second version of the e-Readiness study, that AméricaEconomía Intelligence has carried out at the request of the payment technologies company Visa, incorporates the strength of online supply as one of its key indicators. As the aim of the e-Readiness index is to evaluate the progress made in conditions key to the development of B2C (business to consumer) e-Commerce, the methodology was modified to reflect the online presence and activity of traditional retail operators.

Ready for e-Commerce

Sample of the most representative indicators that form the e-Readiness index
Percentual values are percentages of the population

Source: AméricaEconomía Intelligence

COUNTRY	POPULATION (IN MILLIONS)	GDP PER CAPITA (IN US\$)	% 25-35 YEARS OLD	INTERNET USERS	POTENTIAL DEMAND INDEX	FIXED TELEPHONY	MOBILE TELEPHONY	PC	BROADBAND SUBSCRIPTIONS	COST OF BROADBAND (IN US\$)	INFRASTRUCTURE INDEX
ARGENTINA	40.3	7,726	15.8%	29.7%	0.65	24.9%	122.8%	12.8%	9.1%	20.14	0.61
BOLIVIA	9.8	1,724	14.8%	12.8%	0.32	7.3%	64.5%	2.7%	1.0%	53.00	0.19
BRAZIL	193.7	8,220	17.1%	40.1%	1.78	21.7%	95.7%	25.0%	7.7%	15.53	0.70
CHILE	16.9	9,525	14.6%	33.8%	0.50	21.1%	107.5%	18.9%	10.2%	24.38	0.59
COLOMBIA	45.6	5,087	16.0%	42.0%	0.73	17.9%	90.3%	11.7%	4.4%	31.72	0.41
DOM. REPUBLIC	9.7	5,176	15.5%	25.1%	0.40	10.5%	93.1%	2.4%	2.9%	18.99	0.43
ECUADOR	13.6	4,059	15.3%	29.9%	0.44	14.6%	99.0%	15.5%	0.3%	24.90	0.40
GUATEMALA	14.0	2,662	14.1%	16.8%	0.36	11.5%	155.6%	2.8%	0.7%	50.01	0.37
HONDURAS	7.4	1,823	15.4%	15.4%	0.32	13.4%	140.7%	2.6%	0.0%	25.00	0.40
MEXICO	109.6	8,135	16.3%	29.0%	1.14	19.8%	77.6%	18.4%	9.4%	20.05	0.52
NICARAGUA	5.7	972	16.0%	19.2%	0.33	5.7%	71.1%	6.4%	0.8%	39.99	0.26
PANAMA	3.4	7,132	15.6%	30.4%	0.39	16.4%	154.6%	3.1%	6.7%	16.95	0.62
PERU	29.1	4,356	16.3%	27.4%	0.55	10.6%	73.3%	14.8%	3.1%	22.28	0.43
PUERTO RICO	3.9	21,869	14.2%	40.0%	0.52	24.9%	149.5%	25.4%	6.2%	24.95	0.66
PARAGUAY	6.3	2,337	15.6%	14.8%	0.31	8.4%	128.6%	11.9%	1.9%	24.13	0.44
EL SALVADOR	6.1	3,623	14.2%	11.1%	0.29	19.6%	155.3%	10.2%	2.6%	21.99	0.54
URUGUAY	3.3	9,425	14.1%	41.9%	0.44	29.5%	126.0%	16.5%	7.9%	13.81	0.69
VENEZUELA	28.6	11,789	16.1%	31.2%	0.61	22.9%	110.2%	16.3%	7.2%	13.99	0.88
LATIN AMERICA	547.0	7,327	16.3%	33.2%	1.11	19.4%	96.9%	17.9%	6.8%	-	0.59
SPAIN	45.9	35,116	16.1%	57.7%	1.00	46.1%	112.9%	50.5%	21.5%	17.45	1.00
US	307.0	46,436	13.5%	78.9%	2.95	48.4%	90.0%	93.2%	25.0%	19.95	1.27



The strength of the retail industry, the number of participants which have implemented e-Commerce strategies, the number of product categories which are available online and the traffic their sites generate have been added to the more than twenty indicators used to generate the e-Readiness index. These are grouped into five broad areas to facilitate understanding as shown in the table at the bottom of this page (The methodology is explained in greater detail on page 8 of this report). Each one of the e-Commerce areas is used to create indices which were then weighted to determine the general e-Readiness index. To allow comparisons between Latin America and the rest of the world, two countries (Spain and the US) with a higher level of development in e-Commerce but whose economies have strong links to Latin America were also included in the study. This year's analysis is based on the situation in Spain in 2009: the e-Readiness index for each country and for each indicator is obtained through a comparison with hard data for Spain at the end of 2009.

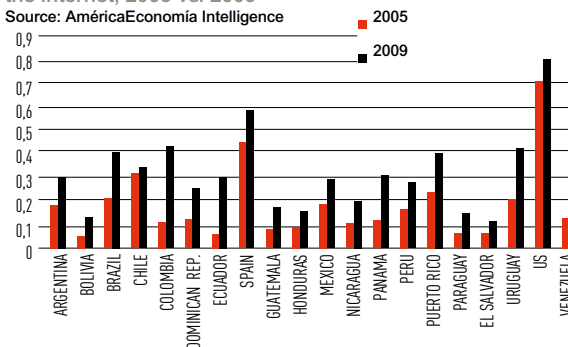
Thus Latin America's e-Readiness score of 0.62 for 2009 means that its conditions were the equivalent to 62% of Spain's in that year. However, this represents a considerable rise from the score of 0.42 that the region achieved in 2005, implying an improvement of 47.6% in the conditions for e-Commerce over the last four years.

The expectation is that this indicator will rise by another 10% in 2010. Brazil is the

Internet times two

Comparison of percentage of the population which uses the internet, 2005 vs. 2009

Source: AméricaEconomía Intelligencia



CREDIT CARD	DEBT CARD	ATMs	BANKING INDEX	MOBILE BROADBAND	E-BUYERS	ONLINE PURCHASES	TECHNOLOGY ADOPTION INDEX	ONLINE TAXPAYERS	MAYOR RETAILERS ONLINE	POTENTIAL SUPPLY INDEX	E-READINESS INDEX
40.8%	40.7%	15,000	0.34	3.32%	3.48%	875	0.32	0	2	0.09	0.46
2.2%	12.7%	908	0.04	0.32%	1.50%	44	0.20	0	0	0.00	0.17
71.2%	123.0%	174,255	0.97	4.27%	9.73%	13,230	0.61	0	10	0.33	0.95
53.2%	48.0%	7,562	0.70	3.41%	7.02%	1,028	0.55	131,974	6	1.06	0.63
16.6%	33.0%	9,274	0.20	1.85%	4.02%	435	0.20	-	1	0.07	0.36
16.7%	30.8%	2,000	0.17	1.38%	4.16%	209	0.34	-	0	0.00	0.31
14.2%	19.7%	1,340	0.13	0.60%	2.50%	71	0.15	-	0	0.00	0.26
8.6%	12.5%	1,254	0.09	0.76%	2.02%	77	0.21	9,500	1	0.06	0.25
8.1%	11.6%	735	0.10	0.70%	1.99%	28	0.20	-	1	0.06	0.25
10.8%	53.0%	39,856	0.20	0.99%	4.30%	2,625	0.31	418,972	11	0.22	0.53
10.8%	12.3%	568	0.10	0.35%	1.79%	12	0.15	-	1	0.06	0.20
15.7%	56.5%	944	0.62	1.52%	2.94%	102	0.26	-	0	0.00	0.43
16.1%	46.9%	3,763	0.22	0.53%	3.14%	276	0.20	34,049	1	0.13	0.34
33.8%	42.5%	1,478	0.42	4.91%	3.30%	588	0.59	-	0	0.00	0.50
12.2%	11.7%	526	0.14	0.61%	2.04%	38	0.24	-	0	0.00	0.27
7.2%	14.9%	694	0.10	0.80%	2.04%	46	0.33	-	1	0.06	0.30
51.5%	43.9%	1,985	0.58	4.85%	5.12%	82	0.36	-	0	0.00	0.48
24.5%	51.0%	15,124	0.34	0.86%	5.16%	906	0.34	0	0	0.00	0.45
37.6%	69.6%	277,266	0.51	2.50%	5.90%	21,775	0.41	-	-	0.22	0.62
95.4%	67.0%	61,374	1.00	11.30%	16.01%	8,400	1.00	5,630,896	-	1.00	1.00
187.8%	165.1%	500,000	2.14	14.59%	74.00%	146,420	2.25	98,000,000	-	2.25	2.12



country with the highest e-Readiness score in the region, followed by Chile and Mexico (for a more detailed analysis of each country's e-Readiness, see the final pages of the report).

DEFICIT IN INFRASTRUCTURE

ECLAC is forming a working group that will seek to reduce the price of broadband in several countries in Latin America. Cost of access is one of the main barriers to the spread of broadband across the region. The plan is to group demand from all these countries in negotiations with international telecommunications providers. If achieved, it would represent an

important advance for the infrastructure necessary for e-Commerce, one of the indicators where Latin America has the most catching up to do. Today the region has less than 60% of the infrastructure that Spain has. The main obstacle here is broadband penetration. The volume of broadband connections across the region stood at around 37 million at the end of 2009, representing almost one connection for every fifteen inhabitants. This is far fewer than in Spain where there is one connection for every 4.5 inhabitants, or in the US, where this one for every 3.9. There is a similar situation in personal computers. While in Spain, there are 504 computers for every 1,000 inhabitants, and in the US, the same figure is 932, the region has an average of just 180 for every 1,000 individuals. It is notable that the growth rates are not those one would expect of a region with a computer deficit: each year, the number rises by just 10%-11%, and growth has been slowing in recent years, which means that Latin America won't reach the current levels of

Spain and the US until 2031 and 2044, respectively. The gap is smaller in mobile phones. At the end of 2009, the penetration of mobile telephones in the region stood at 100.7%, far ahead of the US where the figure was 90% and only slightly behind Spain at 112%. In fact, six countries in the region achieved levels of penetration higher than that of Spain. A critical

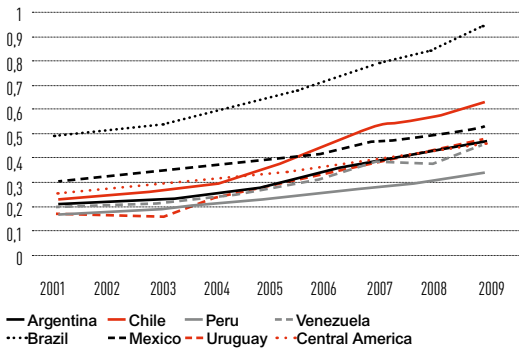
factor here, however, has been the developed of prepaid mobile telephone services which do not require that the user possesses a current account, a credit card or even a known address, which are all key prerequisites for e-Commerce. This explains why the technology gap widens again when we analyze newer technologies. One of the key variables in the Technology Adoption indicator is the penetration of mobile telephones with broadband internet access. In Spain, 11.3% of the population owns one while the figure in the United States is 14.6%. These are not high standards. In some countries in Asia, the penetration of mobile broadband exceeds 90%. The situation in Latin America is very different: just two out of every 100 individuals owns an intelligent telephone with capacity to transmit data at high speed. Uruguay and Puerto Rico, which have been the quickest to adopt this technology, penetration

stands at just 4.8% and 4.9% respectively. We must watch closely how this variable evolves in the future as mobile broadband is essential for mobile electronic commerce, referred to as m-commerce, which is expected to grow rapidly given the synergy between consumption and portability of mobile telephones.

Latin Disparity

A decade of development of e-Readiness, selected countries in Latin America

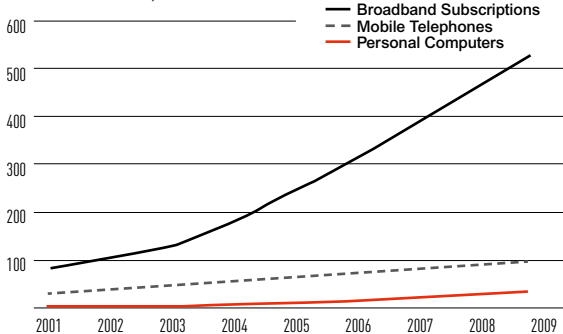
Source: AmericaEconomia Intelligence



Mobile Dominion

Comparing the evolution of the quantity of different technologies across Latin America (in millions)

Source: World Bank, Cisco and AmericaEconomia





PROMOTING BANKING

At the end of 2009, there were 205 million credit card users in Latin America (representing a penetration of 37%) and 381 million (70%) owned a debit card, not of all which can be used in electronic commerce. The figure represents a significant increase from five years ago (especially for debit cards) although there is still plenty of room for growth. “One of the main obstacles for e-Commerce’s development is the limited acceptance of debit cards for online operations”, says Guillermo Rospigliossi, executive director of Emerging Channels at Visa. “Enabling debit cards for e-Commerce represents one of the biggest opportunities in terms of the payment infrastructure and can quickly become one of the main drivers for online transactions as it has happened in more mature markets”.

In comparison, the US had a stock of 576 million credit cards at the end of 2009 (188%) while Spain had 44 million (95%). The Banking System indicator also includes the total sum of deposits as a proportion of GDP and the number of automated teller machines (ATMs) as a proxy for understanding its capacity for electronic transactions and the use by clients of operations outside bank branches. The region’s 277,000 ATMs represents a very low average penetration of this technology, with barely 0.5 ATMs for every 1,000 inhabitants, compared with 1.4 in Spain and 1.7 in the US.

But it is in the strength of supply where the deepest differences with the reference countries can be found. To study this variable, a sample of retail operators with annual sales of more than US\$500 million were analyzed based on the supposition that these companies have the financial and technical resources necessary to a launch an online sales campaign. Of the sixty operators analyzed, just 31 had an online strategy, i.e. a transactional website. In order to estimate the importance of the online channels for these operators, site traffic was analyzed (using the Alex.com service and GoogleTrends as sources) and compared with total sales. While Brazilian retailers achieved 492 site visits for every US\$1,000 of each operator’s total sales, the Argentinean companies could not even achieve two site visits. This shows that the volume of visitors to their real stores remains much more important than their online traffic, which is also vital for generating sales.

This indicator also measured the possibility of paying one’s personal taxes online, an activity which attracts large numbers of people to more sophisticated internet transactions. Only Chile, Guatemala, Mexico and Peru scored in this indicator. The rest have mechanisms to carry out some tax operations online but not tax payments meaning they are losing out in the opportunity to improve their efficiency and inform the wider population about this payment method.

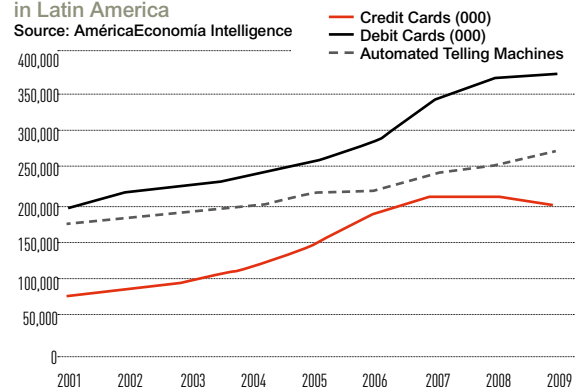
MORE OPPORTUNITIES

The e-Readiness indicator and its sub-indicators seek to shed light on the reasons behind the huge disparity in the development in electronic commerce across Latin America. The breaches that separate the region with more developed markets are wide. To overcome them, growth must be accelerated. The number of internet users hit 181 million in 2009, an annual rise of just 9% compared to growth of around 20% in previous years. However, the region remains full of opportunities and adoption of mobile technologies is high, creating space for the development of initiatives in this field comparable with those in more advanced markets.

Alternatives to money

Historic evaluation of banking components
in Latin America

Source: AméricaEconomía Intelligence





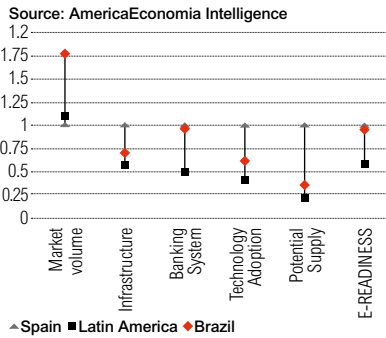
ANALYSIS OF E-READINESS BY COUNTRY AND ITS BREACHES

BRAZIL: 0.95

With all the right conditions in place to develop e-commerce, Brazil now leads the regional e-Readiness index. Latin America's largest economy not only has the largest number of PCs per inhabitant in the region but also the lowest broadband costs and the highest use of bank credit and debit cards in Latin America.

Brazilians' growing wealth is leading them to try new technologies in increasing numbers. While they may not have the region's highest level of mobile telephone penetration (95.7%), they are one of the leaders in mobile broadband (4.3%). Brazil's retail operators have been very aggressive in expanding their online presence, from wholly online companies like Submarino.com to traditional retailers like Americanas.com and Walmart. One pending challenge for Brazil is e-Government: Brazil's complex tax system has been an obstacle to developing an online tax payment system. However, Brazil, which spent more than US\$13 billion in B2C transactions in 2009, is the country closest to matching Spain's e-Commerce conditions.

Breaches in e-Readiness between country and Spain and region average

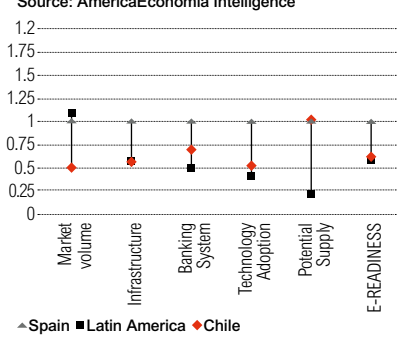


CHILE: 0.63

Chile is Latin America's most connected economy. Broadband penetration is the highest in the region. It has the highest level of online purchases per inhabitant and its banking system has the highest level of coverage. Chileans are also the leaders in the consumption of many technologies and Chile is the

regional leader in e-Government. For example, 77% of Chilean freelance taxpayers pay their personal taxes over the internet, thanks to a profound effort by the country's tax authority over the last five years which has allowed many to become familiar with online payments. However, mobile broadband has not grown as fast as expected and connection costs have risen relative to those in neighboring countries which has led the authorities to seek mechanisms to cut prices.

Breaches in e-Readiness between country and Spain and region average

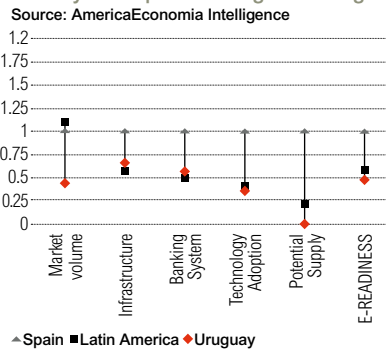


URUGUAY: 0.48

This small nation has advanced rapidly in adopting new technologies. No wonder that Uruguay is the country with the highest use of mobile broadband in the region (almost 5% in 2009) with high levels of penetration for complimentary technologies, such as PCs, mobile telephones and others. It also has one of the region's

lowest fixed broadband connection costs, the result of a government drive to improve technology infrastructure which has attracted many technology companies to operate in the country. However, the retail industry's online presence remains low and has not been accompanied by government initiatives to develop electronic government services.

Breaches in e-Readiness between country and Spain and region average

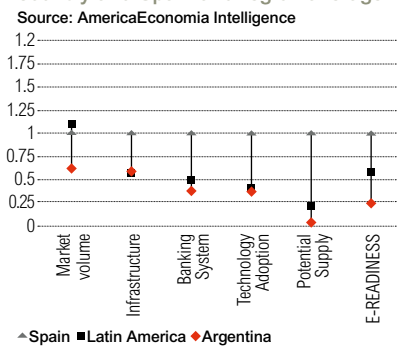


ARGENTINA: 0.46

Argentineans are amongst the fastest in the region in adopting new technologies. Argentina's penetration levels for mobile telephones, broadband and mobile internet are amongst the highest in Latin America. However, the country faces huge challenges in developing its banking sector,

where deposits represent just 21% of GDP, implying that a significant proportion of transactions occur outside the financial system. This has prevented retail operators from launching more robust internet strategies and the relatively greater weight of online operations between consumers (C2C) which use payment mechanisms, limiting growth.

Breaches in e-Readiness between country and Spain and region average



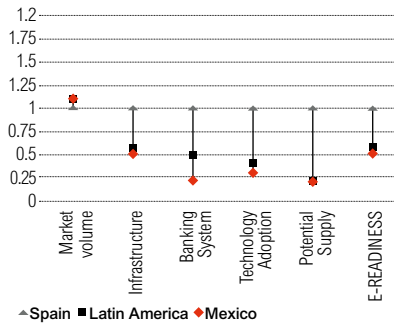


MEXICO: 0.52

Carlos Slim's homeland has just 77.6 mobile telephones for every 100 individuals (one of the lowest levels of penetration in the region), and just one out of ten Mexicans possesses a credit card. These two indicators exemplify the huge challenges Mexico faces in terms of technology adoption and its banking system.

Mexico's retail industry is powerful but it has not made much online progress. Walmart does not have a transactional website in Mexico although it does in the US and Brazil. However, there are other factors which helped Mexico achieve fourth place regionally for e-Readiness. As well as the advantage of the size of its market, the Mexican government has made important steps towards e-Government and today allows many tax operations, including tax payments, to be carried out online. Last year 410,000 Mexicans did so, the largest number of online tax payers of any country in the region.

Breaches in e-Readiness between country and Spain and region average
Source: AmericaEconomia Intelligence

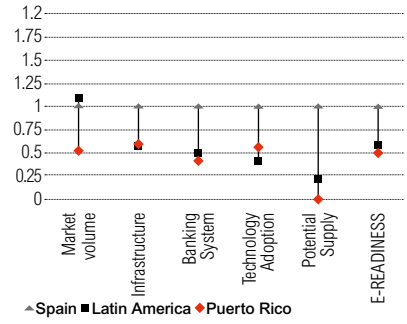


PUERTO RICO: 0.50

Puerto Rico's proximity and economic links with the US make the country a special case in terms of e-Commerce. A significant proportion of Puerto Rico's internet users buy online and spend large sums doing so, a reflection of their high per capita income. However, access to banking remains below the

Latin American average, the country lacks a robust local retail industry while its technological infrastructure is just average. However, the small Caribbean state is improving its position through mobile commerce, with a penetration rate of 5%.

Breaches in e-Readiness between country and Spain and region average
Source: AmericaEconomia Intelligence

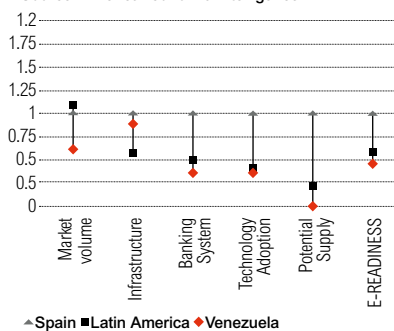


VENEZUELA: 0.45

Connectivity is a critical part of President Hugo Chavez's Bolivarian revolution. The government has invested significant resources in promoting broadband access through nationalized telecommunications company CANTV. This explains why subscription fees are so low (US\$14) in one of the region's

most expensive countries and the rapid growth in broadband connections in recent years (up 55% in 2009 alone), the fastest in the hemisphere. E-Commerce, however, has largely been developed through purchases from foreign stores and C2C operations. The government has undertaken few initiatives to encourage the payment for services over the internet and local retail operators are barely present online, weakening overall conditions.

Breaches in e-Readiness between country and Spain and region average
Source: AmericaEconomia Intelligence

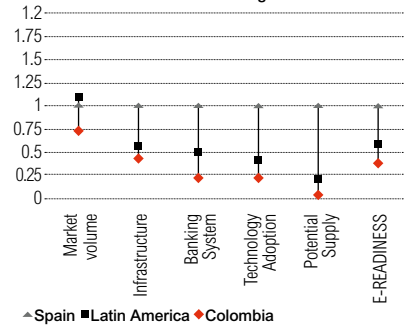


COLOMBIA: 0.37

At the end of 2009, there were twenty million internet users in Colombia, in a country with just two million broadband subscriptions. This highlights the importance of public connection sites, such as cybercafés, schools and businesses, in developing an internet culture. This movement has been

helped by government which has launched various e-Government initiatives. For now, only companies can pay their taxes online but a platform that allows individuals to do so is in the works. Colombia, however, faces major challenges in terms of technology adoption (fewer than two in every one hundred Colombians possess a mobile broadband connection and there is just one computer for every twelve people) and banking (just 16.6% of the population owns a bank credit card).

Breaches in e-Readiness between country and Spain and region average
Source: AmericaEconomia Intelligence

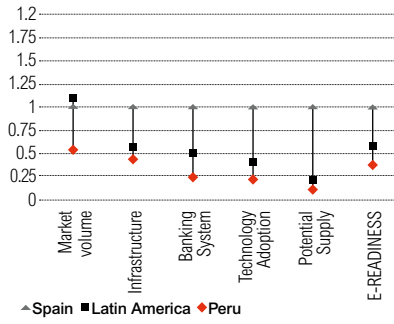




PERU: 0.34

Peru is one of Latin America's most dynamic economies which will be an advantage when it comes to create the conditions necessary to develop e-Commerce. One of the most important pending tasks is technology adoption. There are just over seven mobile telephones for every ten inhabitants and less than three broadband subscriptions for every 100 Peruvians. Less than 1% has access to a mobile broadband connection. The retail industry has not made great efforts online. Only the Wong chain of supermarkets has made an effort to create an online catalog but the project is limited.

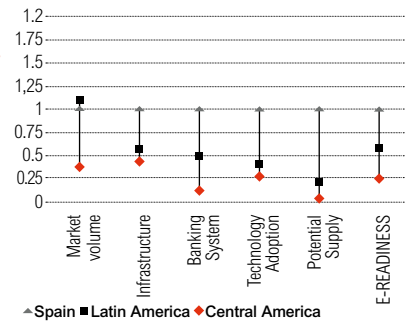
Breaches in e-Readiness between country and Spain and region average
Source: AmericaEconomia Intelligence



CENTRAL AMERICA: 0.46

Conditions in Central America vary from country to country. Panama's banking system is one of the most robust in the region while El Salvador and Guatemala lead the hemisphere in terms of mobile telephone penetration. The isthmus, however, has the region's lowest indicator for infrastructure and technology adoption, significant obstacles that must be overcome if e-Commerce is to prosper. The potential, however, is enormous. The integration of Central America and its proximity to the US are major advantages.

Breaches in e-Readiness between country and Spain and region average
Source: AmericaEconomia Intelligence



METHODOLOGY

The e-Readiness indicator reflects the conditions that a country offers for the development of e-Commerce. It does this by considering twenty economic and technological variables, shown in the table below, which are selected for their econometric importance as well as the importance given to them by various industry experts for the future growth of B2C electronic commerce. Time series were developed for each of the variables, covering 2001 to 2009, creating a complete database which will provide greater statistical solidity. As the different indicators use different units of measurement, the value 1.00 was taken for each indicator to represent the value of Spain in 2009, using this country as a reference as in the 2008 version of the study. A country will have a value of more than or less than 1.00 depending on how it compares to the indicator of Spain in that year. The sources for the data used in this study include the World Bank, CEPAL, the International Monetary Fund, Cisco, 3G Americas, Alexa.com, banking and financial regulators in each country as well as the corresponding tax authorities. We would like to thank each one of the sources that helped us to obtain the information, the industry leaders who shared their opinion on the methodology of the study and Visa Inc who supported the creation of this report.

