

The 2007 e-readiness rankings

Raising the bar

A white paper from the Economist Intelligence Unit





About the 2007 e-readiness rankings

The Economist Intelligence Unit has published an annual e-readiness ranking of the world's largest economies since 2000. The ranking model evaluates the technological, economic, political and social assets of 69 countries—including this year's newest addition, Malta—and their cumulative impact on their respective information economies.

E-readiness is the "state of play" of a country's information and communications technology (ICT) infrastructure and the ability of its consumers, businesses and governments to use ICT to their benefit. When a country does more online—or, as is increasingly the case, wirelessly—the premise is that its economy can become more transparent and efficient. Our ranking allows governments to gauge the success of their technology initiatives against those of other countries. It also provides companies that wish to invest in online operations with an overview of the world's most promising investment locations.

The e-readiness rankings are a weighted collection of nearly 100 quantitative and qualitative criteria, organised into six distinct categories measuring the various components of a country's social, political, economic and of course technological development. The underlying principle behind the rankings is that digital business is at its heart business, and that

for digital transactions to be widely adopted and efficient they have to thrive in a holistically supportive environment. E-readiness derives from more than just the number of computers, broadband connections and mobile phones in the country; also critical are citizens' ability to utilise technology skilfully, the transparency of the business and legal systems, and the extent to which governments encourage the use of digital technologies.

In this and previous e-readiness rankings, the Economist Intelligence Unit has worked in co-operation with the IBM Institute for Business Value, which through its extensive business research provides strategic insights and recommendations used by senior executives around the world. IBM worked together with the Economist Intelligence Unit to build the rankings model. The Economist Intelligence Unit, however, is entirely responsible for the rankings and for the content of this white paper.

"To keep their countries on a competitive track, governments are clearly committing to ICT infrastructure initiatives," says George Pohle, Global Leader, IBM Institute for Business Value. "However, to truly succeed in the global economy, the evidence shows that focused public-private sector partnerships can be used to ignite economic growth."



Executive summary

In 2007, the Economist Intelligence Unit looks out on a world that continues to adopt information and communications technology (ICT) quickly. More importantly, the world is also getting better at adapting to new ways of living and working based on ICT. Digital networks and applications now underpin not only how organisations work and do business, but increasingly also how people obtain goods and services and remain connected with friends and family.

E-readiness is progressing around the world, but achieving it is growing more complex. Basic connectivity, for example, is no longer adequate to use the Internet efficiently; the connections must be fast, secure and affordable. Likewise, governments must demonstrate their commitment to digital development not only through broad policy, but also in practical ways, such as delivering public services to citizens and business via electronic channels.

The goalposts of e-readiness, in other words,

are shifting, and we have accordingly modified the criteria by which we measure it. In raising the bar, several e-readiness leaders from previous years have experienced a decline in scores and ranks in 2007, while other countries, particularly in Asia, have seen their fortunes improve.

The core notion that underlies our definition of e-readiness remains unchanged: that each country possesses an interconnected set of infrastructural, political, commercial, legal and social attributes that, when combined effectively, help the economy to grow and government and society to improve. But the shifting landscape of new technologies and consumer preferences means that e-readiness is a fast-moving target, and static measures will fail to capture its impact.

In consideration of this dynamism, we have introduced refinements to our e-readiness model in order to capture the impact of emerging influences on each country's digital landscape, as well as to

Defining the next generation of e-readiness

Several new ranking criteria have been introduced to the e-readiness model in 2007, and primary categories have been changed. In addition, some individual criteria have been retired or had their weighting reassessed.

We have refined our notion of connectivity. It remains a defining indicator of how a country's population is able to access the Internet and digital channels;

the more telephones and Internet accounts a country has, the easier that e-readiness is to achieve. But it is also true that certain types of connectivity are proving better than others in enabling e-readiness. Broadband Internet access enjoys greater influence in 2007—not only its penetration, but also its affordability to households. We have also eliminated fixed-line phones as an indicator and increased the weight of mobile penetration, as mobile phones are generally cheaper, easier to access and, with text messaging and mobile commerce applications, increasingly powerful digital devices.

Another key refinement has come in our

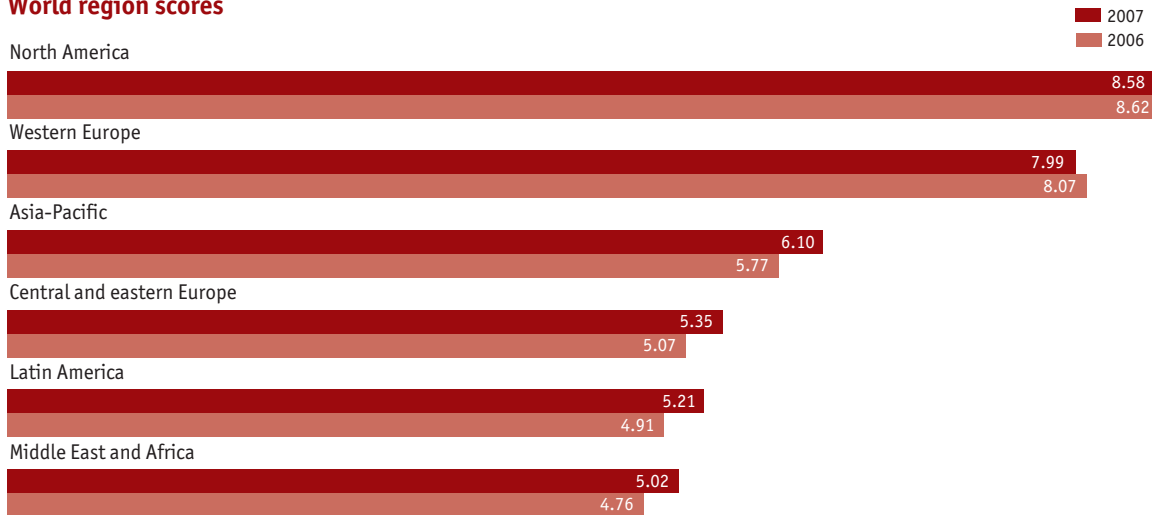
analysis of the part that legal structures play in creating e-ready economies. We have also placed greater emphasis on the role of governments in fostering digitalisation, both as providers of vision and policy direction, and also as creators of digital channels for their constituents.

Lastly, we have re-focused the consumer and business adoption category to evaluate the utilisation of digital channels by individuals and businesses. We have also slightly increased its weight relative to connectivity and other categories in recognition of the fact that, ultimately, it is actual users who determine a country's e-readiness, not its networks.



Economist Intelligence Unit e-readiness rankings, 2007

World region scores



Each region's score is based on the e-readiness scores for each of that region's countries covered in our rankings. Source: Economist Intelligence Unit, 2007.

re-evaluate the impact of those that appear to be waning. The refinements have particularly affected how we assess countries' digital infrastructure, the legal and policy environment surrounding its use, and how individuals and businesses consume digital services (see box).

The divide still narrows

The net effect of these changes has created some movements among the rankings, although few reversals of fortune—the fundamentals, after all, remain unaltered.

The world's incumbent e-readiness leaders—Denmark and the US—retain their respective number one and two spots (with Sweden also tied for 2nd place), and nine of last year's top ten remain in that bracket. Only Canada (13th) has slipped out, owing to a slightly reduced social and cultural environment score, and a lower rating for government policy and vision than other developed-market peers. Singapore (6th), on the other hand, excels in both of these areas, as well as in some of the other new connectivity and adoption criteria we have introduced; this has

helped to catapult the country seven places in the rankings to number six.

Other Asian countries have also experienced significant boosts in the 2007 rankings, thanks in no small part to the vision and commitment demonstrated by their governments in pushing digital development. North Asian markets South Korea (16th), Japan (18th) and particularly Taiwan (17th) have all moved up solidly in the top 20. Singapore and Hong Kong (4th) both owe much of their e-readiness success to strong government policy.

Several OECD countries, on the other hand, have suffered a decline in e-readiness performance as a result of the changes. Our sharpened focus on the policy environment and e-government, as well as the use of new data to assess educational levels and innovation have resulted in drops in both scores and ranks for Switzerland (5th), Finland (10th), Germany (19th) and Ireland (21st) as well as Canada. Even Denmark and the US experienced a reduction in scores.

Further down in the rankings, the role of the government as a promoter and adopter of ICT was a key determinant in whether countries moved up or



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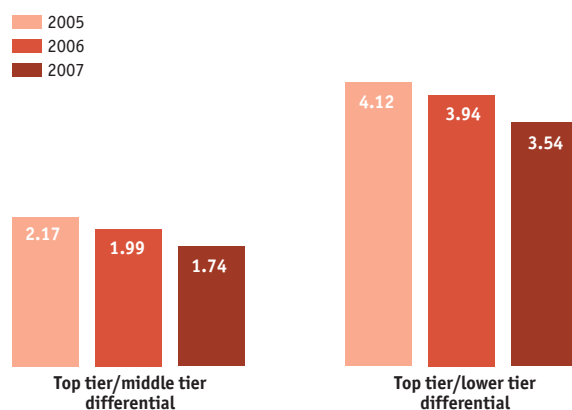
down. Those countries where tangible commitment has been expressed in terms of national infrastructure initiatives and clear stimulus programmes—including Chile (30th) and Romania (45th)—made visible gains in scores and ranks. Those where government commitment is not as strong—for example, Indonesia (67th), Brazil (43rd) or Russia (57th)—saw their places in the rankings slide, although their absolute scores did not.

Intuitively, the changes we have introduced in 2007 should have increased the distance between the “haves” and “have-nots”. That gap is still significant: on a scale of 1 to 10, the top 20 countries register an average score of 8.40 compared with 4.11 for the bottom 20 countries.

The world’s overall e-readiness is improving perceptibly, however: a global average score of 6.02 in 2006 rose to 6.24 this year. And the e-readiness gap is decreasing: the distance between the most e-ready country and the least (Azerbaijan in 2006, Iran in 2007) dropped from 6.08 points to 5.80 points this year. The score differentials between the top, middle and lower tiers also continue to decline year on year.

Average score differentials between top, middle and lower tiers of countries

The chart depicts the differentials between the average 2005, 2006 and 2007 e-readiness scores of the top tier of 20 countries, the middle 20 and a lower 20. (Only the top 60 countries have been included overall, in order to ensure comparability with 2005 when fewer countries were covered in the rankings than this year’s 69.)



Source: Economist Intelligence Unit, 2007.

Rising to the challenge

These results make it apparent that most countries are rising to the tougher e-readiness challenge we have defined. Particularly notable are the efforts of developing-country governments in defining a future for digital commerce and in investing in ICT in its own right. It is not only Asian policymakers that have formally articulated visions; several Middle Eastern and African countries have committed significant resources to e-government and digital economy development, particularly Jordan (52nd). Even Nigeria (62nd), which performs poorly in the overall policy and vision category, scores respectably for its digital development strategy.

In estimating broadband affordability for the first time, we also found that there is not, on the whole, a massive gap between developed and developing markets. The lowest speed of digital subscriber line (DSL) service available in west European and North American markets costs households 1% or less of median monthly income. In many individual markets in Latin America, central and eastern Europe, and developing Asia, similar services demand the same or a slightly higher share of household budgets. Broadband is increasingly affordable in the developing world.

Communicating globally, social networking locally

One other emerging digital phenomenon, although not measured explicitly in our model, will increasingly come to have an impact on countries’ e-readiness—the emergence of “Web 2.0” applications, technologies and business models, and the social networking movement they are spawning. Social networking has exploded over the past year, with millions subscribing to services that let them communicate and share experiences through multimedia means.

The MySpace and YouTube generation currently remains a phenomenon of mature economies. But even in emerging economies, simple applications



Economist Intelligence Unit e-readiness rankings, 2007

2007 e-readiness rank (of 69)	2006 rank	Country	2007 e-readiness score (of 10)	2006 score	2007 e-readiness rank (of 69)	2006 rank	Country	2007 e-readiness score (of 10)	2006 score
1	1	Denmark	8.88	9.00	36	37	Malaysia	5.97	5.60
2(tie)	2	US	8.85	8.88	37	39	Latvia	5.88	5.30
2(tie)	4	Sweden	8.85	8.74	38	39	Mexico	5.86	5.30
4	10	Hong Kong	8.72	8.36	39	36	Slovakia	5.84	5.65
5	3	Switzerland	8.61	8.81	40	34	Poland	5.80	5.76
6	13	Singapore	8.60	8.24	41	38	Lithuania	5.78	5.45
7	5	UK	8.59	8.64	42	45	Turkey	5.61	4.77
8	6	Netherlands	8.50	8.60	43	41	Brazil	5.45	5.29
9	8	Australia	8.46	8.50	44	42	Argentina	5.40	5.27
10	7	Finland	8.43	8.55	45	49	Romania	5.32	4.44
11	14	Austria	8.39	8.19	46(tie)	43	Jamaica	5.05	4.67
12	11	Norway	8.35	8.35	46(tie)	46	Saudi Arabia	5.05	5.03
13	9	Canada	8.30	8.37	48	44	Bulgaria	5.01	4.86
14	14	New Zealand	8.19	8.19	49	47	Thailand	4.91	4.63
15	20	Bermuda	8.15	7.81	50	48	Venezuela	4.89	4.47
16	18	South Korea	8.08	7.90	51	49	Peru	4.83	4.44
17	23	Taiwan	8.05	7.51	52	54	Jordan	4.77	4.22
18	21	Japan	8.01	7.77	53	51	Colombia	4.69	4.25
19	12	Germany	8.00	8.34	54(tie)	53	India	4.66	4.04
20	17	Belgium	7.90	7.99	54(tie)	56	Philippines	4.66	4.41
21	16	Ireland	7.86	8.09	56	57	China	4.43	4.02
22	19	France	7.77	7.86	57	52	Russia	4.27	4.14
23	22	Israel	7.58	7.59	58	55	Egypt	4.26	4.30
24	--	Malta*	7.56	--	59	58	Ecuador	4.12	3.88
25	25	Italy	7.45	7.14	60	61	Ukraine	4.02	3.62
26	24	Spain	7.29	7.34	61	59	Sri Lanka	3.93	3.75
27	26	Portugal	7.14	7.07	62	60	Nigeria	3.92	3.69
28	27	Estonia	6.84	6.71	63	67	Pakistan	3.79	3.03
29	28	Slovenia	6.66	6.43	64	64	Kazakhstan	3.78	3.22
30	31	Chile	6.47	6.19	65	66	Vietnam	3.73	3.12
31	32	Czech Rep.	6.32	6.14	66	63	Algeria	3.63	3.32
32	29	Greece	6.31	6.42	67	62	Indonesia	3.39	3.39
33	30	UAE	6.22	6.32	68	68	Azerbaijan	3.26	2.92
34	32	Hungary	6.16	6.14	69	65	Iran	3.08	3.15
35	35	South Africa	6.10	5.74					

* New to the annual rankings in 2007.
Source: Economist Intelligence Unit, 2007.



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such as instant messaging (IM) have proved useful in both social and business contexts. The most popular means of cost-effective “social networking” remains short messaging service (SMS) over mobile phones, which are readily accessible and affordable in both developed and emerging markets. The evolving success of free and easy voice over Internet protocol (VoIP), IM and SMS services points to their utility as enablers of e-readiness. It also underscores the rapidity with which individuals and businesses can take big digital steps to change how they communicate, share information and work.



Connectivity: The goalposts shift

There can be no e-readiness without widespread connectivity. The rationale is simple: without ready access to voice and data communications networks, a population cannot make use of advanced digital services. For this reason, connectivity and technology infrastructure remains one of the two most heavily weighted of e-readiness categories in the 2007 rankings.

The demands placed on networks increase, however, as the services delivered over them grow more sophisticated. Connection to the “plain old telephone service”—still perfectly good for making voice calls—is no longer enough to make efficient use of the Internet; for this broadband access is required, whether through DSL, cable modems, fibre or wireless technologies. We have thus removed narrowband telephone penetration as an indicator in favour of a heavier weighting for broadband and also for mobile phone penetration.

No less important than availability is the average citizen’s ability to pay for broadband service without breaking the budget. To this end, we have added broadband affordability to our rankings model, having measured the cost of a broadband subscription in each country as a percentage of median household income.

This year we also compare countries on their success in creating access to digital services through other means—electronic identity cards. These are capable of storing biometric data and citizens’ records, and—provided that they are used responsibly by governments and businesses—will prove an increasingly useful, and possibly even necessary, tool for individuals to engage in digital commerce and obtain government services provided through electronic channels.

Speed and affordability

In many developed markets, broadband penetration is rapidly reaching mass-market levels. By the end of 2007, according to Pyramid Research, a telecoms consultancy, household broadband density reached 60% in the Netherlands (8th), for example, 58% in South Korea and 55% in each of Switzerland and Taiwan. Broadband density in western Europe as a whole is expected to grow from 37% of households in 2006 to 45% by the end of 2007.

This success is driving developed countries farther down the bandwidth path, as cable TV companies, utilities and other alternative carriers look to offer

Connectivity and technology infrastructure: Top scores by region

North America	
United States	8.10
Canada	7.90
Western Europe	
Switzerland	9.50
Sweden	8.40
Denmark	8.20
Asia-Pacific	
Hong Kong	8.50
Singapore	8.10
Australia	8.10
Central and eastern Europe	
Slovenia	6.40
Latvia	6.00
Estonia	5.95
Latin America	
Chile	4.60
Argentina	4.00
Venezuela	3.75
Middle East and Africa	
Israel	8.00
United Arab Emirates	5.20
South Africa	3.95

Source: Economist Intelligence Unit, 2007.



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Average broadband affordability scores by region

Scores are on scale of 1-10, with 10 representing the highest level of affordability. Scores are based on the cost of a monthly subscription to the least expensive DSL service available in a country as a percentage of median household income.

North America	10.0
Western Europe	9.9
Central and eastern Europe	7.6
Middle East and Africa	7.4
Latin America	7.3
Asia-Pacific	7.1

Source: Economist Intelligence Unit, 2007.

consumers faster alternatives to today's staple asymmetric digital subscriber line (ADSL). Denmark's largest power company, Nesa, has been offering fibre-based broadband connectivity since 2004, and Nesa and other utility companies in the country are expected collectively to push the number of homes with fibre connectivity past the half-million mark by the end of this year.

Utility companies are frequently test-beds for new technologies and broadband service delivery methods. Aurora Energy, the state-owned power company for the Australian state of Tasmania (Australia—9th), entered the market in 2005, with 12-mbps (megabits per second) broadband offerings in a market where average speeds were less than 1 mbps. More than a step increase in bandwidth, however, Aurora also offers broadband service as a utility that extends beyond Internet access—consumers can manage their electricity accounts through an Internet-enabled meter, without actually going through a computer.

Networks' reach and speed are of course critical, but broadband adoption will not attain mass proportions until it becomes affordable. Great strides have been made in achieving this, and not just in the top tier of countries. In comparing the cost of ADSL broadband subscriptions across countries—measured as a percentage of monthly median household

income—there is not a massive gap in affordability levels between developed and developing countries.

Western Europe and North America boast the most affordable broadband in the world—in nearly every country across both regions, average broadband subscriptions cost households less than 1% of median monthly income; the same is true in most developed Asia-Pacific markets. But in the other regions as well, broadband affordability levels are between 3% and 10% of household income—within the range of an acceptable addition to a basket of communications products. Even in nascent broadband markets such as Pakistan (63rd), cheap high-speed Internet access (coupled with a step increase in the penetration of cheap mobile phones) helped that country increase its connectivity score and leap up four places in the overall ranking.

Government initiatives and competition, working in tandem, both serve as levers to lower broadband tariffs and increase penetration. Thanks to a pro-ICT government facilitating both competition and infrastructure development, Chilean Internet subscribers can get 128-kbps (kilobits per second) DSL service from a half-dozen providers for less than US\$28 per month. This is not Hong Kong- or US-cheap but is just about affordable in Latin America, and has helped Chile—the region's clear e-readiness leader—pass the 1m broadband subscription mark at the end of 2006.

Leapfrogging hotspots

The ability to tap broadband while on the move is increasingly becoming a contributor to improved employee productivity in many countries. WiFi is the most prevalent form of wireless broadband today, and an important indicator in the connectivity component of our rankings. Hotspot growth continues apace but is still limited largely to urban areas—mainly coffee shops, airports and railway stations—and has not quite lived up to one of its promises, to supply those without other Internet means with easy, cheap web access.



Electronic ID— like it or not

Governments and enterprises globally are becoming increasingly interested in biometric smart-card-based passports, national identity cards and other stored-data identification (ID) devices. The use of such cards could create powerful efficiencies: citizens can gain access to electronic services and information from government agencies. Public health administration could benefit through instant, secure provision of a patient's records. There are also enormous potential e-commerce advantages to having secure cards in people's wallets.

Thus far, however, it is

government efforts to tighten border controls that have been the primary driver of electronic ID. Over 40 countries are in the process of forming internationally standardised, machine-readable passports with electronically-stored biometric data, mostly driven by US requirements for participation in its Visa Waiver Program.

Also prevalent are initiatives to develop electronic ID cards for authentication in the use of public services. Hong Kong, for example, is near to completing an estimated US\$400m investment in smart ID cards that use fingerprint-recognition technology. EU countries are in various stages of implementing biometric ID cards for their residents.

Most electronic ID programmes have achieved only modest benefits to date. Nearly three years after Hong

Kong's Immigration Department began the conversion of all of the territory's nearly 8m residents to biometric smart ID cards, cardholders can really only do two things they could not do before: pass through automated counters at immigration control and take out library books.

Not everyone feels that electronic ID cards are beneficial: the governor of California recently vetoed a bill to limit the use of radio-frequency technology for identity verification by state agencies, to allay growing public concerns about privacy issues. Provided that safeguards can be developed to prevent the misuse by governments and businesses of personal data gained through such technologies, the use of electronic ID should, however, prove a net positive for citizens, businesses and governments.

Notwithstanding their global lag in other types of mobile service development, carriers in the US are out in front of efforts to define the future of broadband wireless in terms of both speed and ubiquity. The US subsidiary of Germany's T-Mobile, for example, has overlaid its cellular coverage with a network of over 7,300 WiFi hotspots nationwide. Sprint Nextel is investing US\$2.5bn in developing and deploying

a mobile WiMAX network nationwide, with the aim of providing connectivity through 100m points of presence by 2008.

Outside the US, commitment for "next-generation" wireless is strong in markets such as South Korea, where the leading carriers KT and SK Telecom have collectively earmarked US\$750m to develop WiBro, a locally-developed flavour of WiMAX.



Business environment: Toward a stable and open playing field

The Economist Intelligence Unit considers a holistic complement of economic, political and commercial factors in developing its Business Environment Rankings, and we have long used these rankings as a primary anchor in our analysis comparing the relative competitiveness of countries in the global economy. All of these factors are equally relevant in evaluating e-readiness.

We hold that stable governments with a commitment to wide-ranging competition, fair and transparent taxation frameworks, and a willingness to foster borderless trade and investment all contribute to a business-friendly platform without which attempts to digitise the economy cannot take hold. In 2007, we have maintained the Business Environment Rankings as a core category of e-readiness criteria, focusing on the outlook for the 2007-11 period. Below, we reproduce our assessments for selected regions from the Business Environment Rankings sections of our *Country Forecasts*.

Steady progress for most

In North America, Canada is expected to boast one of the most attractive business locations in the world over the next five years. Political stability, a positive foreign investment environment and strong support for private enterprise and competition mark this country's business environment. The US, on the other hand, despite equally robust support for private enterprise, has recently suffered a fall in the Business Environment Rankings owing to a less stable political environment and concerns about macroeconomic growth prospects.

In western Europe, the most attractive business locations are Finland, the UK and Denmark. The high ranking of two Nordic countries with high-

tax environments belies the popular claim that globalisation forces countries to engage in a "race to the bottom". Both Denmark and Finland compensate for their high tax burdens with stable, transparent and effective institutions, competitive product markets, a favourable official disposition to free trade and the quality of their public goods.

Recent years have brought considerable improvement in central and eastern European investment climates, particularly the new EU members. Reform in the Commonwealth of Independent States (CIS), as well as in most of the Balkans, has been much more uneven and subject to periodic reversals, but even in these subregions

Business environment: Top scores by region

North America	
Canada	8.69
United States	8.59
Western Europe	
Finland	8.65
United Kingdom	8.65
Denmark	8.65
Asia-Pacific	
Singapore	8.67
Hong Kong	8.62
Australia	8.39
Central and eastern Europe	
Estonia	7.78
Slovakia	7.48
Czech Rep	7.44
Latin America	
Chile	7.99
Mexico	7.06
Brazil	6.88
Middle East and Africa	
Israel	7.61
United Arab Emirates	7.54
South Africa	6.84

Source: Economist Intelligence Unit, 2007.



significant progress has been made. Looking at the transition region as a whole, its main advantages are a low-cost but qualified labour force, proximity to developed markets and long-term market potential.

In Asia, Singapore and Hong Kong continue to vie for the title of the region's most attractive business environment. Both score highly for their economic stability and the quality of the investment environment. Hong Kong's lower score is mainly a reflection of our assumption that the quality of the territory's political environment and labour market will not improve over the next five years as links with China become stronger. (China also has a low ranking in these subcategories in both global and regional terms in 2007-11.) South Asia, meanwhile, will continue to have some of the region's least attractive business environments over the next five years, notwithstanding the subregion's likely rapid economic growth.

Chile boasts the most attractive business environment in Latin America on the strength of its proven commitment to economic liberalisation and structural reform since the 1970s. It is also the only Latin American country in the top 20 in this category. Mexico's growing integration with the US since the North American Free-Trade Agreement (NAFTA) came into force in 1994 has made it an especially attractive

location for foreign investors. Brazil's large market size and export potential likewise make it attractive to investors, but both countries suffer from deficiencies in regulation, tax policy and the labour market.

Israel enjoys the Middle East's most positive business environment, notwithstanding an unclear political outlook and the ever-present security concerns. Its score in the Business Environment Rankings has risen in the 2007-11 forecast period, reflecting both an improved security situation and expectations of progress in the macroeconomic environment and tax policy. Elsewhere, scores are also improving in countries such as Egypt (despite political uncertainty) and Jordan, due largely to efforts to improve competition and foreign investment policies.

Africa, meanwhile, produces stark contrasts in business environment quality. South Africa's is improving measurably, particularly in the area of political stability. There have also been substantial improvements in foreign trade and tax policy, the objectives of which are to make South Africa a less taxed and more open economy. Poor infrastructure and a difficult business environment, on the other hand, place Nigeria near the bottom of the regional and global rankings, despite a better macroeconomic outlook due to expanded production of oil and gas.



Social and cultural environment: The human factor

Having access to ICT counts for little if people do not know how to use it. Literacy and basic education are preconditions for being able to utilise Internet services, but we also consider a population’s “e-literacy”—its experience and comfort with using the Internet—and the extent to which the workforce possesses technical skills. Companies, often start-ups, utilise such skills to develop new, Internet-based business models, creating a virtuous circle that ultimately has a tangible impact on a country’s economic growth. A culture of risk-taking and innovation is critical for this to develop.

It is no accident that 18 of the top 20 countries in e-readiness overall also figure in the top 20 in social and cultural environment. The US, with its heavily entrepreneurial culture, penchant for innovation and highly IT-literate workforce and student population, stands clear at the top of the group, trailed by countries that perform particularly strongly in either education and e-literacy (Australia and Denmark) or innovation (South Korea).

Lingua franca

Is local-language content required to promote Internet literacy? The web is becoming distinctly more multilingual, but it is also the case that English is a default language for web content creation in countries where the total population of those that speak and read indigenous languages is small, or where the Internet-literate elite has been educated in English. According to the UN, the default language of the vast majority of websites in Central Asia and the Middle East is English; by contrast, the default for most sites in East Asia is the native language—Chinese, Japanese or Korean—even though an estimated 91% of sites throughout all of Asia have some English.

The issue is double-edged, for while local public services and online transactions are impossible to provision without local-language delivery, the ability to leverage the Internet’s global reach is constrained for those who lack English, or another of the web’s other emerging lingua franca such as Spanish or Chinese.

And yet, a “local-language” website can still command a global audience: a project to increase the use of Armenian in content development, for example, is not only aimed at increasing access to the country’s 3m residents who speak the language, but also giving access to native-language resources to

Social and cultural environment: Top scores by region

North America	
United States	8.80
Canada	7.40
Western Europe	
Denmark	8.60
Germany	8.20
Sweden	8.20
Asia-Pacific	
Australia	8.60
South Korea	8.20
New Zealand	8.20
Central and eastern Europe	
Slovenia	6.60
Czech Rep	6.00
Hungary	6.00
Latin America	
Chile	6.20
Argentina	5.60
Brazil	5.60
Middle East and Africa	
Israel	7.20
Turkey	6.00
United Arab Emirates	6.00

Source: Economist Intelligence Unit, 2007.



The all-inclusive Internet society

A critical shift is occurring in the social fabric of countries: as governments and enterprises increasingly migrate services online, those without reliable Internet access are in danger of being disenfranchised. Both public- and private-sector organisations have spent considerable time and money trying to get economically disadvantaged communities online. Increasingly, these attempts are spreading to the socially dis-

advantaged as well.

Senior-citizen access has been a particular focus for developed countries: their fast-growing elderly populations access public services frequently yet are generally the least Internet-literate members of society. The government of Spain (26th), for example, has made available €6m (US\$8m) in grants to organisations and projects aimed at familiarising women and “vulnerable citizens”, such as the elderly and disabled, with online services.

Austria (11th), with 19% broadband

density, has taken a particularly active approach in bringing the elderly online: groups representing the interests of seniors can receive public funding to run their websites and train their members in Internet and computer use. Some 20,000 senior citizens are estimated to have been trained through various initiatives. The incumbent telecommunications carrier, Telekom Austria, and the Austrian Senior Citizen’s Council have joined to launch an awareness initiative called “Seniorkom.at” to inform the wider population about the elderly digital divide.

the 4m Armenians who make up its global diaspora. The European Commission’s eContent Plus initiative provides access to digital content development tools in multiple languages throughout the EU, linked to its larger programmes to support the development of technology in business and society.

Mobile literacy and social networking

Comfort in using mobile technology is also an important consideration for e-readiness, even though by design most mobile phones require less skill to operate than computers. But as broadband goes increasingly wireless, consumer familiarity with mobile devices—phones as well as handheld computers—will help individuals make the most of the Internet.

According to NeuStar, a US-based provider of mobile number registration services for 700 carriers globally, some 60% of the 2.5bn mobile subscribers in the world actively use text messaging, commonly known as SMS (short messaging service), generating some US\$60bn in service revenue annually. Its low

cost and ease of use has made SMS a powerful tool for consumers to access commercial and public services, for businesses to advertise and for governments to educate and inform, particularly in developing economies where there are several dozen mobile phones for every Internet-connected personal computer (PC).

Whether through mobile instant messaging in emerging markets or MySpace profiles in developed ones, societies are rediscovering that the Internet is good for communicating. The purchase, by News Corporation (US), of the social networking site MySpace for US\$580m in 2006 may strike some as a very expensive research and development initiative better to understand the Web 2.0 youth demographic. But it is likely to be more than this, for the social networking phenomenon is in fact an important indication of how society is evolving online, creating a future network-based culture that is both simpler than many Internet observers originally imagined, and more complex.



Legal environment: The importance of transparency

Both the Internet and the ICT industry are coming to be characterised by open-standards-based approaches to building networks and applications. A key ingredient to their rapid and sustained development is free and unfettered access to information. In this light, a country's legal regime, and regulatory policy in particular, can seem restrictive, a drag on the "Internet speed" with which digital business is used to moving.

Yet neither the Internet nor the industry that serves it can develop if the country's legal regime fails to protect the right to profit from one's own intellectual property, protect online content or safeguard rights to communicate and access online information.

In the 2007 e-readiness rankings, we have separated our analysis of the legal regime from that of policy, creating a new legal environment category in its own right. In it, we consider four essential criteria for such a legal environment to support e-readiness effectively: laws must sufficiently protect consumer rights and intellectual property rights (IPR) offline and online; they must foster the development of digital security enablers such as authentication and certification of online transactions; they must not censor; and they must allow new businesses to be registered quickly and easily.

Adapting to the online world

The free-wheeling territory of Hong Kong earns top scores for e-readiness legal environment in the 2007 rankings. This is by virtue of its long-standing legal protections for businesses and for competition; relatively strong intellectual property protection and enforcement; and adoption of Internet-specific legislation addressing such issues as electronic

signature and cybercrime. Only in the area of censorship—thanks to the long arm of Beijing—does Hong Kong lag other developed markets. Australia, the US, Canada and also the business-friendly enclave of Bermuda (15th) form the rest of the top five countries in this category.

Asia-Pacific and North American countries may tally the highest scores, but European organisations have been at the forefront of developing legislation relevant for the online world. The Council of Europe, for example, is the author of the Convention on Cybercrime, a treaty harmonising approaches to combating illegal online activity, which came into

Legal environment: Top scores by region

North America	
United States	9.00
Canada	8.95
Western Europe	
UK	8.50
Sweden	8.50
Netherlands	8.50
Asia-Pacific	
Hong Kong	9.70
Australia	9.40
New Zealand	8.85
Central and eastern Europe	
Czech Rep	7.05
Poland	7.05
Hungary	6.80
Latin America	
Chile	8.00
Brazil	7.40
Mexico	7.40
Middle East and Africa	
Israel	7.00
South Africa	6.60
United Arab Emirates	5.55

Source: Economist Intelligence Unit, 2007.



force in most of Europe early this decade and which has been gaining adherents in other regions. And the EU developed a framework e-signature law as long ago as 1999.

Innovations are also being developed at the national government level. In 2006, the government of Spain (26th) implemented common tools for validating electronic signatures, one of the most important and technically complex components of a functioning digital legal framework. It also represented a feat of local government legal “interoperability”, as the system was developed by the Andalusia region’s Council of Justice and Public Administration and adopted by all the country’s legal agencies, from the national to the local level.

Still, interoperability raises concerns about the reliability of legal enforcement infrastructure based solely on electronic platforms, particularly across borders: the EU’s draft of data protection legislation faced scrutiny last year because it was deemed too vague in its handling of criminal records—a concern brought to light when it was revealed that some 2,700 British citizens had been incorrectly given criminal records in the UK’s Criminal Records Bureau.

Much work to be done

Outside of developed OECD markets, the parity between offline and online worlds is not as even. South American legal environments are distinctly less clear in their legislation of the online world, although Chile’s is an exception: copyright legislation, for example, is relatively clear and uniform in the online and offline worlds, and consumer protection laws cover online fraud schemes.

Africa boasts a few bright spots as well, including the regional harmonising of legal structures around cybercrime. The East African Community trading bloc of Kenya, Uganda and Tanzania is working towards a unified set of laws overseeing security and legitimising electronic transactions, which is modelled on a similar set of laws drafted earlier by the South African Development Community. Yet in the main, the region contains poor examples of legal environments, from Nigeria, with its notorious reputation as a cyberscam haven, to Zimbabwe, which has one of the highest rates of software piracy in the world.

Personal freedom online is also circumscribed in Africa. Zimbabwe again figures prominently, having introduced a law authorising government monitoring

Tough on cybercrime in Asia-Pacific

Enforcement of cybercrime legislation typically focuses on the activities of the hacker in the developed world, where growing dependence on online activity means that people and businesses are increasingly vulnerable to a loss of productivity—or income—as a result of viruses or denial-of-service (DoS) attacks. Australia’s Computer Emergency

Response Team and the High-Tech Crime Centre report that DoS attacks were the country’s top electronic crime in 2005, outpacing even “old economy” crimes such as laptop theft; they estimate that in Brisbane alone, DoS attacks resulted in losses of A\$8.9m (US\$6.8m).

Elsewhere in Asia-Pacific, such crimes are on the rise—and increasingly muscular responses in enforcement and prosecution are being mounted to combat them. Japan’s National Police Agency reported that cybercrime increased by nearly 12% in the first half of

2006, to 1,802 cases—some 40% of them involving online fraud. South Korea’s government estimates that there are some 200,000 cybercrime sites in the country, and it has declared war on them through the creation of an Internet Crime Centre, which reports directly to the country’s Supreme Public Prosecutor’s Office. India has enacted Section 66 of its Information Technology Act, which provides precise definitions of hacking—and tangible punishments (three years in prison and Rs200,000—around US\$4,680—in fines).



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of electronic correspondence, and in Egypt (58th) an increasing number of bloggers are being jailed, discovering that cyberspace is proving as risky an environment for voicing opinions as the country's restricted traditional media. Censorship and the criminalisation of online political discourse are certainly not unique to Africa, with the likes of China, Iran, Burma, Tunisia and Uzbekistan also regularly cited by journalist organisations as practitioners.



Government policy and vision: The virtue of commitment

Governments play a pivotal role in the facilitation of e-readiness. No other agent of a country's economic growth has the ability to set in motion several catalysts for digital transformation simultaneously: implementing policy that will facilitate technology adoption through infrastructure development and education; providing for a framework that accepts digital transactions as legitimate; and adopting technology itself as a way of saving its taxpayers time and money, as well as of attracting less e-ready businesses and citizens to follow.

For these reasons we have determined this year to examine the role of the state explicitly in a distinct category. An e-ready government uses digital channels to communicate with its constituents. It provides citizens and businesses with Internet-based services that are more efficient than traditional channels. It leverages technology to create efficiencies in its own operations. And, most importantly, it uses all these processes to engender more transparent, more democratic societies.

Digital push and pull

One of the best tools a government can use to edge its constituents online is to leverage its buying power to encourage electronic commerce. The e-procurement platform used by Denmark's public agencies to receive invoices has become the standard for northern Europe, and the European Commission is considering its adoption across the EU. This is an example of how e-readiness best practices spread quickly in countries that have institutionalised the sharing of information and resources.

Not coincidentally, three of the top five countries in e-readiness government policy and vision are from the Nordic region, and four Nordic countries are in the

top ten—Denmark, Sweden, Norway and Finland.

Chile's government procurement system, ChileCompra, is a centralised procurement and contract system through which the government processed more than US\$3bn in purchases in 2005, and it has over 164,000 registered suppliers, nearly one-third of which are small and medium-sized enterprises (SMEs). The government reckons that purchases now represent some 3% of GDP—small in absolute terms, but enough of a focus point to generate awareness of the virtue and efficiency of online purchasing.

Many governments are taking encouragement of online interaction with public agencies one

Government policy and vision: Top scores by region

North America

United States	9.00
Canada	8.40

Western Europe

Denmark	9.85
Sweden	9.70
Norway	9.35

Asia-Pacific

Singapore	9.40
Hong Kong	9.10
Japan	9.05

Central and eastern Europe

Estonia	6.25
Slovenia	5.75
Romania	5.60

Latin America

Chile	6.80
Mexico	6.80
Brazil	6.10

Middle East and Africa

Israel	7.05
South Africa	7.05
United Arab Emirates	6.45

Source: Economist Intelligence Unit, 2007.



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step further, by mandating it for certain types of transactions. This is a reliable way to ensure broader adoption of online channels by citizens, but it runs the risk of alienating them as well.

In Denmark, there has been vocal objection to the government's mandated online transactions—such as enterprises having to send their invoices exclusively through electronic channels, or the requirement for individuals to designate a single bank account for all digital payments of tax and services. The trend is growing: the US state of Rhode Island recently passed legislation requiring that its 50,000 unemployment benefit recipients receive their payments online. In this situation, governments must be able to demonstrate clear efficiencies from the shift to online processing. The Danish government claims that migration to digital channels has saved it €100m in administration costs to date. Rhode Island's US\$500,000 in estimated savings are more modest but still tangible.

Vote early, vote online

E-democracy is perhaps e-government's endgame: the logical result of efforts to harness the speed and efficiency of the Internet to increase transparency and citizen participation in the political process. This is still far out on the adoption curve for most countries, as concerns over the security and reliability of electronic voting mechanisms run high. Public advocacy groups in Ireland and the Netherlands have raised the level of debate about the reliability of available technology and the ability to verify results. In the US, e-voting machines are also regarded as imperfect.

Estonia (28th), on the other hand, has embraced e-democracy. Since the dawn of the Internet era, Estonia has been a forerunner in the usage of ICT in running the government and connecting the government to its people. In local elections held in October 2005, it became the first country to use the Internet as an accepted voting channel. In February 2007 it took this further, establishing online voting as a legally binding means of casting a ballot in national parliamentary elections, another worldwide first.

Resourceful Yogya

Indonesia's Yogyakarta Province (popularly known as Yogya), home to over 3m and a large percentage of the country's leading universities, has for some years been trying to leverage its unique blend of cultural and economic assets and recast itself as Indonesia's "cyber-province". Seizing upon national initiatives to increase ICT usage, the local parliament has equipped more than fifty legislators with laptops, which they can use to access an information and constituent communication portal through 11 WiFi hotspots blanketing the parliament building.

The broader impact of this initiative on local governance is limited, as the legislators cannot connect to the majority of their constituents: Internet use in the province is estimated at no more than 16% of the population, most of them students.

But this limited e-government initiative has not been in vain. Legislators have been creative both in the ways they use ICT to boost their efficiency, and in their efforts to reach constituents. For example, lawmakers save time by using their new portal to research and share data during the annual budget ratification process. Party members in the legislature use instant messaging chat-rooms while in session, to

build immediate voting consensus on bills presented.

And with Internet use limited, the government has gone mobile to draw in citizens. Both the provincial parliament and the city government have installed SMS gateways linked to their portals, where citizens can use phones to lodge complaints or comments online. The mayor of Yogya even uses SMS comments on road works or sanitation to launch improvement campaigns. Legislators also leverage SMS to create "broadcast" bulletins for their constituents; one sends regular public health tips to his community on issues such as dengue fever and avian flu.



Consumer and business adoption: Technology to use

In measuring connectivity as a determinant of e-readiness, we ask whether digital channels in a country are plentiful, fast and reliable enough for its people and its organisations to make the most of the Internet. In considering consumer and business adoption, we ask if these channels are proving useful enough. If yes, then they can begin to deliver added value, and create efficiencies of time, of money, of human resources. If individuals and businesses do not find the available channels useful in completing transactions, then the number of PCs or mobile phones in a country is a worthless measure.

This is why we have boosted the weight of the consumer and business adoption category this year, to reflect our belief that utilisation is among the most important measures of a country's ability to be a digital economy. It is also why we have re-oriented the category so that it not only reflects adoption behaviour—how much consumers and businesses spend on ICT, or how often they use it to complete transactions—but it also looks at the opportunities that the country provides them to complete transactions. Consistent with our belief that government advocacy is a key to adoption, we have included in this category the availability of digital channels to allow constituents to access services such as licensing and registration, tax filing or employment services.

A virtuous circle

The US and Hong Kong are the leaders in this category of e-readiness in 2007. In the sheer scale of individual and business Internet use, the US certainly dwarfs all other countries. Market analysts Forrester estimate that online retail sales in the US grew by 15% in 2006; US\$44bn was spent online in the third quarter, and the firm estimates that 2006 online sales in the

Christmas holiday season alone reached US\$27bn. Another research firm, IDC, estimates that business-to-business (B2B) transaction volume in the US will reach US\$650bn by 2008—amounting to two-thirds of the world's US\$1trn B2B market by that time.

There is some concern that the great weight of the US in online activity makes it a sponge for the world's available digital resources, including talent and funding. It is more apparent, however, that the continued progress made by the US in online adoption also benefits other countries, and often in rapid order. China (56th) is one beneficiary of the growth of B2B volumes in the US: the result has been the creation of

Consumer and business adoption: Top scores by region

North America	
United States	9.50
Canada	8.60
Western Europe	
Sweden	9.35
United Kingdom	9.25
Denmark	9.15
Asia-Pacific	
Hong Kong	9.50
Singapore	9.45
South Korea	8.85
Central and eastern Europe	
Estonia	7.60
Slovenia	7.20
Hungary	7.00
Latin America	
Chile	6.40
Mexico	6.20
Argentina	5.20
Middle East and Africa	
Israel	8.00
South Africa	7.00
United Arab Emirates	6.50

Source: Economist Intelligence Unit, 2007.



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some very big, sophisticated B2B transaction service providers, including one of the world's largest online B2B marketplaces, Alibaba.

Over 15m business and consumer customers in China use Alibaba's online platform. While most do not pay to use basic services, more than 100,000 businesses do. (The US's Yahoo bought a 40% stake in Alibaba for US\$1bn in 2005.) The Chinese firm is evolving into a comprehensive supplier of online business development resources for Chinese customers, many of whom would not be doing business online at all if not for Alibaba.

Another type of virtuous circle can be evidenced in South Africa (35th). There, gradual liberalisation of the telecoms market and the incumbent carrier's own broadband deployment progress have made broadband access much more affordable in recent years. The result has been a fairly healthy increase in online retail sales; South African e-commerce consultancy World Wide Worx reports that online sales of consumer goods grew by 25% in 2006, to R688m (US\$94m), and expects it to expand by another 35% in 2007.

South African enterprises have in turn leveraged online channels to manage growth more efficiently, particularly in newly competitive industries: low-cost

airlines have burgeoned in South Africa in the post-apartheid era, in large part owing to online booking: World Wide Worx estimated that the four primary airlines selling online did business worth R1.8bn in 2005, with one—Kulula—accounting for 60% of that trade, becoming the country's largest online commerce site.

E-government services

In e-ready countries, consumers regularly interact through digital channels not only with businesses but also with government agencies to access public services. As discussed earlier, many e-government initiatives are driven by the desire to improve the public sector's operational efficiency, but the most successful efforts are those that actually put the needs of the constituent, not the provider, first. The UK's e-government consumer-services portal, DirectGov, and its business-services counterpart, Businesslink, are being developed precisely in this constituent-centric model. Built to accommodate all national and local electronic information and service functions, the portal reportedly had 2.1m hits a month in 2006, and the government asserts that an increasing share of those visits result in transactions: it already processes 132,000 car-tax payments per month nationwide.

E-commerce mobility

The role of mobile communications in digital commerce in many developing economies is not merely important—for some it may be vital for their future development. The Asian Development Bank (ADB) is investing heavily in Afghanistan's mobile networks, and not simply to help the country improve its teledensity. In strife-torn, rebuilding Afghanistan, most forms of electronic infrastructure for financial services are

lacking, including banking networks and automated teller machines (ATMs); physical bank branches are scarce as well. Mobile phones are becoming the only channel most Afghans have to access their banking services.

The Philippines (54th) continues to have a long and innovative relationship with mobile commerce, and now m-commerce service sites are becoming more integrated with Filipinos' broader online activity. New mobile "loading" sites (where money is transferred, usually from friends and

relatives abroad, to a local mobile phone linked to a bank or debit account) such as Aryty also operate like social networking sites, offering users chat and other services. The rationale is solid: the "loading" of overseas remittances is a major source of income for relatives of the 7m Filipinos abroad—the vast majority of whom rely on online or mobile portals to manage and transfer funds. It is thus an activity that inherently relies on keeping in touch with communities of people, not simply point-to-point transfers.



Conclusion: Keep the options open

We have written in earlier editions that there may be many paths to e-readiness. Sustained investment in technology is required, as is investment in human capital and the promotion of favourable business and legal conditions for online activity to thrive. But developing e-readiness also involves a willingness to experiment with new business models and processes that may help countries progress toward the desired end even without all the components being in place.

For example, mobile banking is successful in developing economies such as the Philippines and Afghanistan precisely because of the lack of any other supporting infrastructure. On the other hand, in infrastructure-rich markets, such as Taiwan, with dense broadband and ATM networks, mobile banking has yet to take hold. The final objective in all three markets is the same: to provide consumers with multiple and efficient digital channels to do their banking. Businesses in each country are simply finding different ICT solutions to reach it.

End-users will ultimately determine what combination of applications and services are most efficient in communicating or transacting business online. Instant messaging, for instance, is more than a cheap, effective way of interacting with friends

and business contacts; it is becoming an essential anchor application to numerous other services: online customer relationship management, VoIP, social networking sites, B2B portals and, of course, mobile instant messaging. Similarly, video broadcasting over the Internet or a mobile phone may not be a critical service for most people, but it may well prove desirable and is likely to trigger additional service usage.

Resourceful businesses in many countries have also found ways of using ICT to create new service models, reaping significant benefits for themselves and their economies. India provides the most famous examples, with its IT-outsourcing and now “knowledge-process” outsourcing industries dependent on advanced networks to deliver services. Romania, Bulgaria, Brazil, the Philippines, Vietnam and other developing countries are similarly building outsourcing sectors that generate tangible economic benefits.

Measuring such economic gains is beyond the scope of our e-readiness analysis. The above examples underscore our conviction, however, that e-readiness is ultimately about giving digitally enabled people and businesses as many options as possible to determine their own most productive path forward.

Appendix 1: Methodology and category definitions

As in past years, the Economist Intelligence Unit's e-readiness rankings methodology in 2007 has been modified to reflect the current "state of play" in the development of ICT and its application in the economy, as well as the shifting influence of non-technical factors affecting its implementation. It continues to be a holistic, multi-faceted model that attempts to measure the importance that many unique social, economic and technological factors have in determining the direction of e-commerce in a market.

There are nearly 100 separate quantitative and qualitative criteria, which are scored by Economist Intelligence Unit country analysts and organised into six primary categories. These are, in turn, weighted according to their assumed importance as influencing factors. Major data sources include the Economist Intelligence Unit, Pyramid Research, the World Bank and the World Information Technology and Services Alliance (WITSA), among others. In addition, extensive research has been conducted this year to compile service pricing for major Internet service providers (ISPs) in each market, to provide a richer view on the affordability of Internet services.

This year, many new ranking criteria have been introduced, and primary categories changed; in addition, several individual criteria have been retired or had their weighting reassessed. Two categories—connectivity and technology infrastructure, and consumer and business adoption—have seen their ranking criteria significantly adjusted to reflect our current beliefs on the importance of high-speed Internet affordability and the availability of digital public services for both individuals and enterprises. The legal environment category has been refined to reflect a more focused look at the specific government frameworks that influence e-adoption, and a new category, government policy and vision, has been added, better to isolate the effect that policy has on determining a country's overall e-readiness journey. This process is undertaken by an Economist Intelligence Unit analyst panel led by the director of global technology research. These assessments are, in turn, reviewed by our senior economists. The six categories (and their weights in the model) and criteria are described below.

1. Connectivity and technology infrastructure

Weight in overall score: 20%

Category description: Connectivity measures the extent to which individuals and businesses can access mobile networks and the Internet, and their ability to access digital services through means such as digital identity cards. Effective access uses two primary metrics: penetration and affordability. Penetration of each market's PCs, mobile phone subscriptions, WiFi "hotspots", overall Internet users and broadband Internet accounts are ranked as a percentage of the total population; this "basket" of connectivity we feel now to be the optimal representation of the extent to which voice and data services are accessible to a country's residents. The affordability of the lowest-priced broadband subscription (in the form of DSL), measured as a percentage of the median monthly household income, is used as the overall measure of digital service affordability. The penetration of secure Internet servers in the population is also used as a reference indicator of the extent to which reliable digital transactions can be made in each market. Finally, a new indicator—the commitment of the country to implementing digital identity cards—is also considered as a means of determining how a country's population can access digital commerce and digital government services.

Category criteria: Broadband penetration; broadband affordability; mobile-phone penetration; Internet penetration; PC penetration; WiFi hotspot penetration; Internet security; electronic ID.

2. Business environment

Weight in overall score: 15%

Category description: In evaluating the general business climate, the Economist Intelligence Unit screens 70 indicators to provide a comprehensive and forward view of each country's attractiveness as a trading economy and as a destination for business investment in 2007-11. The criteria cover such factors as the strength of the economy, political stability, taxation, competition policy, the labour market, and openness to trade and investment. The aggregate scores of the individual indicators are grouped into nine categories, shown below. Updated quarterly as part of the Economist Intelligence Unit's Country Forecasting Service, these rankings offer investors an invaluable comparative index of 82 economies worldwide.

Category criteria: Overall political environment; macroeconomic environment; market opportunities; policy toward private enterprise; foreign investment policy; foreign trade and exchange regimes; tax regime; financing; labour market.

3. Social and cultural environment

Weight in overall score: 15%

Category description: Literacy and basic education are preconditions to being able to utilise Internet services, but this category also considers a population's "e-literacy"—its experience using the Internet and its receptivity to it—and the technical skills of the workforce. These technical skills are evaluated by both evidence of the familiarity a country's population has with IT applications, and the extent to which its schools and governments provide the education infrastructure to engender it. We have made one change in assessing the latter criterion, switching to the use of UNESCO data on school life expectancy from our earlier reliance on an internal calculation of mean years of schooling. Continued from last year is a look at entrepreneurship and innovation levels in each market (the latter measured by the number of patents registered, as recorded by the World Intellectual Property Organisation), to evaluate how well the society fosters creative business activity that can lead to the creation of intellectual property, new products and industries.

Category criteria: Level of education; level of Internet literacy; degree of entrepreneurship; technical skills of workforce; degree of innovation.

4. Legal environment

Weight in overall score: 10%

Category description: E-business development depends both on a country's overall legal framework and specific laws governing Internet use. This category has been refined in 2007 to reflect those legal frameworks that directly affect the use of digital technology to inform, communicate and transact business. Governments need to be forward-thinking in their creation of legal frameworks to cater to Internet commerce, digital rights management and intellectual property protection, but just as importantly they need to create a legal atmosphere that works to minimise abuses and non-competitive behaviour, including provisions covering consumer protection and legal jurisdiction. E-ready

countries are those that allow businesses and individuals to move nimbly and freely, where there is little bureaucracy that interferes with the registration of a new business, or restricts access to information.

Category criteria: Effectiveness of traditional legal framework; laws covering the Internet; level of censorship; ease of registering a new business.

5. Government policy and vision

Weight in overall score: 15%

Category description: E-ready governments supply their constituents—citizens and organisations—with a clear roadmap for the adoption of technology, and they lead by example in their use of technology to create efficiencies. The Economist Intelligence Unit has created this new category to assess the activities of governments in this area, and their ability to lead their countries towards a digital future. Are governments employing technology to operate and provide public services with less resource investment? Are they spending on ICT to stimulate similar spending in the greater economy? Are "savings" translated into service gains for citizens? Can more people interact with, and receive information from, the government regardless of their own access to technology?

Category criteria: Government spend on ICT as a proportion of GDP; digital development strategy; e-government strategy; online procurement.

6. Consumer and business adoption

Weight in overall score: 25%

Category description: If connectivity, societal adoption, and legal and policy environments are necessary enabling platforms for e-readiness, then the actual utilisation of digital channels by people and companies is a measure of successful implementation. The Economist Intelligence Unit looks at the amount that businesses and consumers spend on accessing ICT services and their adoption levels of e-commerce. This year the Economist Intelligence Unit has also re-oriented the category to include analysis of the availability of digital channels for accessing government services.

Category criteria: Consumer spending on ICT per capita; level of e-business development; level of online commerce; availability of online public services for citizens and businesses.

Appendix 2: Category scores

Economist Intelligence Unit e-readiness rankings, 2007

Category scores

	Overall score	Connectivity and technology infrastructure	Business environment	Social and cultural environment	Legal environment	Government policy and vision	Consumer and business adoption
<i>Category weight</i>		20%	15%	15%	10%	15%	25%
Denmark	8.88	8.40	8.65	8.60	8.50	9.85	9.15
US	8.85	8.10	8.59	8.80	9.00	9.00	9.50
Sweden	8.85	8.60	8.40	8.20	8.50	9.70	9.35
Hong Kong	8.72	8.50	8.62	6.80	9.70	9.10	9.50
Switzerland	8.61	9.60	8.53	7.60	8.25	9.00	8.40
Singapore	8.60	8.10	8.67	7.00	8.55	9.40	9.45
UK	8.59	8.30	8.65	7.80	8.50	8.65	9.25
Netherlands	8.50	8.30	8.58	7.60	8.50	9.35	8.65
Australia	8.46	8.10	8.39	8.60	9.40	8.70	8.20
Finland	8.43	7.80	8.65	7.80	8.25	9.00	8.90
Austria	8.39	7.90	8.09	7.40	8.50	9.05	9.10
Norway	8.35	7.30	8.04	8.20	8.25	9.35	8.90
Canada	8.30	7.90	8.69	7.40	8.95	8.40	8.60
New Zealand	8.19	7.30	8.22	8.20	8.85	8.35	8.50
Bermuda	8.15	7.80	8.41	6.40	9.15	8.35	8.80
South Korea	8.08	7.10	7.47	8.20	7.80	8.75	8.85
Taiwan	8.05	8.00	7.96	8.00	7.80	8.15	8.20
Japan	8.01	7.50	7.16	8.00	8.00	9.05	8.30
Germany	8.00	7.10	8.25	8.20	8.25	7.85	8.45
Belgium	7.90	8.00	8.10	6.80	8.25	8.35	7.95
Ireland	7.86	6.80	8.59	7.80	8.50	7.50	8.25
France	7.77	6.90	7.97	7.40	8.25	8.15	8.15
Israel	7.58	8.00	7.61	7.20	7.00	7.05	8.00
Malta	7.56	6.65	7.76	6.60	8.00	8.25	8.15
Italy	7.45	6.90	6.85	7.40	8.50	7.90	7.60
Spain	7.29	6.70	7.84	7.00	8.00	7.25	7.35
Portugal	7.14	7.00	7.33	6.60	8.00	6.75	7.35
Estonia	6.84	6.00	7.78	6.00	7.35	6.25	7.60
Slovenia	6.66	6.40	7.21	6.60	6.50	5.75	7.20
Chile	6.47	4.60	7.99	6.20	8.00	6.80	6.40
Czech Rep.	6.32	5.45	7.44	6.00	7.05	5.55	6.70
Greece	6.31	4.70	6.68	6.60	7.95	6.90	6.20
UAE	6.22	5.20	7.54	6.00	5.55	6.45	6.50
Hungary	6.16	5.20	7.11	6.00	6.80	4.85	7.00
South Africa	6.10	4.30	6.84	5.00	6.60	7.05	7.00

	Overall score	Connectivity and technology infrastructure	Business environment	Social and cultural environment	Legal environment	Government policy and vision	Consumer and business adoption
Category weight		20%	15%	15%	10%	15%	25%
Malaysia	5.97	5.30	7.38	4.60	5.55	6.45	6.35
Latvia	5.88	5.95	7.06	5.60	6.45	4.55	5.85
Mexico	5.86	3.55	7.06	5.20	7.40	6.80	6.20
Slovakia	5.84	4.50	7.48	6.00	6.50	4.55	6.35
Poland	5.80	5.10	7.18	5.60	7.05	4.70	5.80
Lithuania	5.78	4.80	6.93	5.60	6.50	4.70	6.35
Turkey	5.61	4.00	6.66	6.00	5.10	5.75	6.15
Brazil	5.45	3.10	6.88	5.60	7.40	6.10	5.20
Argentina	5.40	4.00	6.21	5.60	7.15	5.40	5.20
Romania	5.32	4.20	6.73	5.00	6.45	5.60	4.95
Jamaica	5.05	3.70	6.17	5.20	7.40	5.10	4.40
Saudi Arabia	5.05	3.80	6.37	4.80	4.80	6.05	4.90
Bulgaria	5.01	4.40	6.67	4.80	6.20	4.55	4.45
Thailand	4.91	3.10	6.97	4.40	5.65	5.40	4.85
Venezuela	4.89	3.75	4.57	4.60	6.60	5.75	4.95
Peru	4.83	2.70	6.20	5.00	7.40	5.10	4.40
Jordan	4.77	3.40	6.27	5.40	5.10	5.25	4.15
Colombia	4.69	3.60	6.27	4.40	6.30	5.40	3.70
India	4.66	2.90	6.25	5.20	5.50	4.60	4.50
Philippines	4.66	2.70	6.43	4.40	4.65	5.05	5.10
China	4.43	3.50	6.37	4.80	3.60	3.70	4.55
Russia	4.27	3.90	6.08	4.80	4.45	2.85	3.95
Egypt	4.26	2.75	6.04	5.00	4.00	5.10	3.55
Ecuador	4.12	2.85	5.04	4.20	6.05	4.25	3.70
Ukraine	4.02	2.95	5.27	4.60	4.45	2.85	4.30
Sri Lanka	3.93	1.80	5.90	4.40	5.40	3.75	3.70
Nigeria	3.92	2.00	5.08	4.40	5.15	4.40	3.70
Pakistan	3.79	2.90	5.34	3.00	4.65	3.90	3.65
Kazakhstan	3.78	2.40	5.93	4.20	3.40	2.85	4.05
Vietnam	3.73	2.25	5.98	3.60	4.05	4.25	3.20
Algeria	3.63	3.20	5.17	4.00	3.30	3.20	3.20
Indonesia	3.39	2.10	6.33	3.20	2.80	3.40	3.00
Azerbaijan	3.26	2.70	5.39	3.00	2.60	2.85	3.10
Iran	3.08	2.80	4.17	4.60	2.10	2.50	2.50

Whilst every effort has been taken to verify the accuracy of this information, neither The Economist Intelligence Unit Ltd. nor the sponsors of this report can accept any responsibility or liability for reliance by any person on this white paper or any of the information, opinions or conclusions set out in the white paper.

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