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# Adapt and Adopt

## Governments' Role in Internet Policy



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THE BOSTON CONSULTING GROUP

THE CONNECTED WORLD

# Adapt and Adopt

*Governments' Role in Internet Policy*

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## AT A GLANCE

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The most recent update to the BCG e-Intensity Index shows a widening spread between countries with high intensity ratings and those with lower ones. Governments of countries that are at the top of the rankings—or are rapidly moving up—recognize that Internet usage can be a powerful edge in the competitive global economy.

### **THE 2012 BCG E-INTENSITY INDEX**

Scores on the BCG e-Intensity Index continue to grow—but far from evenly. Scores for Central and Eastern European countries are rising quickly, faster than those of the EU-15 or OECD nations. Scores for the BRICI nations (Brazil, Russia, India, China, and Indonesia) grew especially fast from 2009 through 2012. Many African countries, starting from a low base, are growing quickly.

### **THE BENEFITS OF VISION AND STRATEGY**

Many of the leading e-Intensity Index countries have long had active programs to encourage Internet enablement and engagement. Governments need to follow an adaptive strategy that takes national strengths into account. Countries with high e-Intensity Index positions follow policies that encourage experimentation, and their governments know when to step aside and let innovations flourish.

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**F**IFTEEN YEARS AGO, THE Clinton Administration made a prediction that seemed radical at the time: “Over the next decade, advances on the GII [Global Information Infrastructure] will affect almost every aspect of daily life—education, health care, work, and leisure activities. Disparate populations, once separated by distance and time, will experience these changes as part of a global community.”<sup>1</sup>

The GII acronym failed to catch on, but in most other respects, Bill Clinton and Al Gore got it right. Gore did not invent the Internet, but he did recognize the importance it would have. The Internet has become pervasive and its economic impact considerable. It will represent more than 5 percent of GDP in the G-20 nations by 2016, and in the most advanced countries, that figure will exceed 12 percent.

As The Boston Consulting Group’s latest update to the BCG e-Intensity Index indicates, the gap between the world’s Internet leaders and laggards is widening. Governments of countries that are at the top of the e-Intensity Index rankings—or are rapidly moving up—encourage Internet use among consumers, businesses, and within government itself, because they recognize that it can be a powerful edge in the competitive global economy. Countries further down the list in many cases have failed to implement effective policies that encourage widespread adoption and use. These countries risk falling further behind if they do not act.

Back in 1997, the White House also put forth five principles that described how governments should approach Internet policy. The first and most important was that “the private sector should lead.” This has been borne out by time. The Internet has enjoyed widespread adoption in countries with vibrant private sectors that allow the inventions of Apple, Google, Orkut, Rakuten, Spotify, and their kin to thrive.

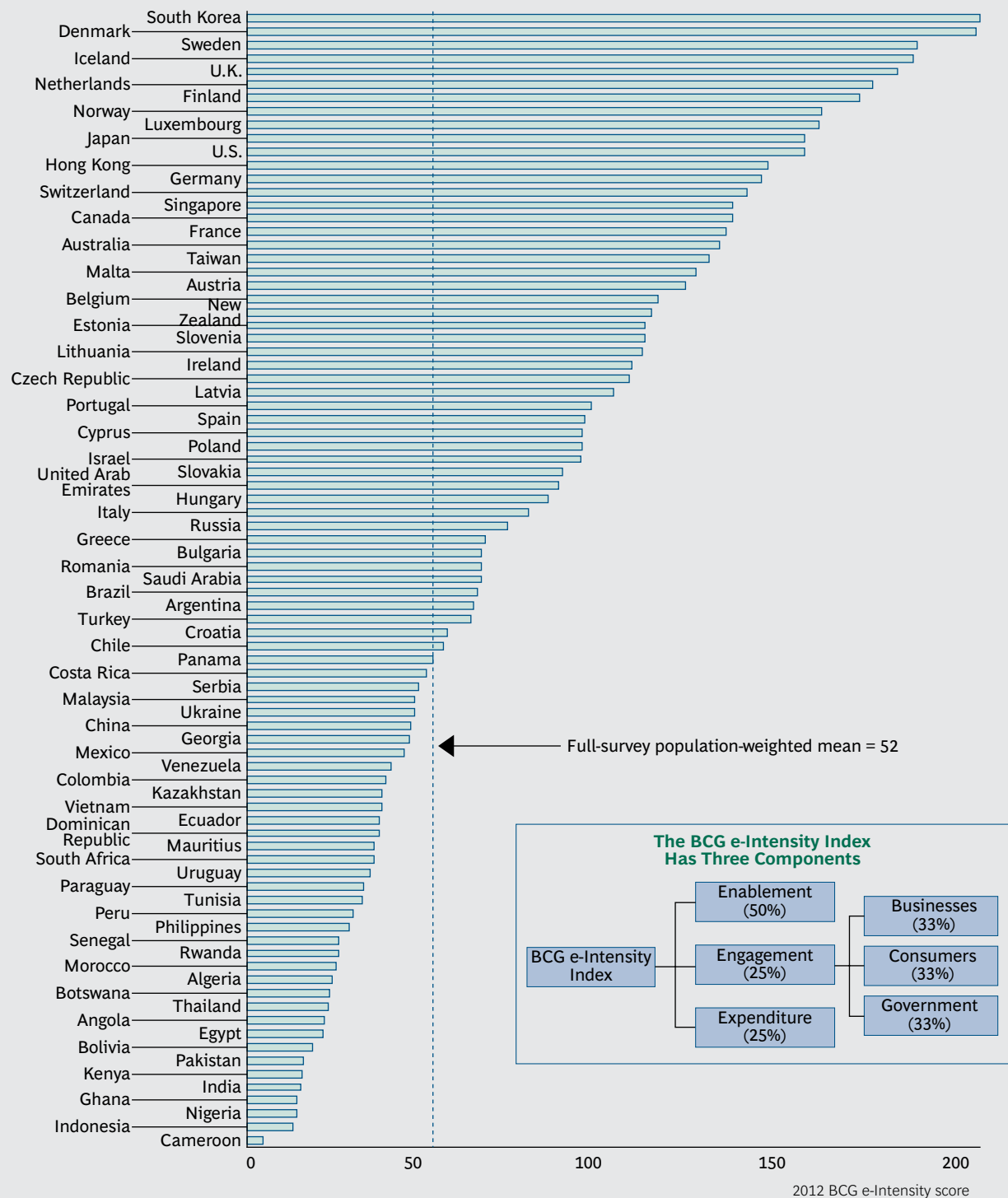
But if we examine the e-Intensity Index leaders, a more complex—and interesting—story emerges. (See Exhibit 1.) Many of the most advanced digital economies—South Korea, Sweden, and Japan, for example, three of the top ten 2012 e-Intensity Index nations—have developed coherent, long-term strategies for going digital.

The private sector in those countries created the products, but their governments took leadership positions: they foresaw the importance of the Internet, they believed that they could encourage its evolution, and they developed policies to help their countries get more than their fair share of the growth and social benefits the Internet brings. Both the private and the public sector have led.

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The Boston Consulting Group’s latest update to the BCG e-Intensity Index indicates that the gap between the world’s Internet leaders and laggards is widening.

## EXHIBIT 1 | The BCG e-Intensity Index Rankings



**Sources:** ComScore; Economist Intelligence Unit; Euromonitor; Gartner; International Telecommunication Union; Magnaglobal; Ovum; Pyramid Research; Speedtest.net; United Nations; World Bank; World Economic Forum; BCG analysis.

**Note:** The index is scaled so that the geometric mean is 100 for 34 OECD countries in 2011.



Today, with economies stagnating and countries looking for fresh growth engines, the economic potential of the Internet is particularly enticing. The Internet economy in the developed markets of the G-20 is forecast to grow at an annual rate of 8 percent over the next five years. In developing markets, annual growth is expected to be 18 percent. These rates far outpace just about every traditional economic sector.

Not only is this growth delivering new jobs across the employment spectrum—from app developers to smartphone manufacturers, from Internet marketers to so-called big-data analysts—but the jobs this growth creates are more valuable than others. Estimates show that in the U.S., the multiplier effect for high-tech positions is three times that for jobs in traditional manufacturing.

Our research into developed and developing markets worldwide shows that in the last three years, small and midsize companies that have embraced the Internet in their business operations grew by 10 percent annually, adding jobs as they did so. Companies that have not grew more slowly or shrank over the same period.

No wonder policymakers are intrigued. They are also unsure how to proceed. The Internet raises both hopes and fears in the minds of many politicians and senior civil servants: hopes, because the economic potential appears all but limitless; fears, because the challenges of getting policy right are big and complex, all the more so as governments must make long-term decisions while the technology evolves at a breakneck pace. Governments want to lead, but they worry about getting it wrong.

Would that government leaders could simply run a Web search for a “top ten” list of recommendations they should follow. Any such list, if it existed, would soon be out of date. For one thing, every country has its own attributes, from climate and culture to natural resources and economic strengths. For another, the Internet flattens out policy differences and telescopes catch-up times. Effective policy can give a government a lead, but such leads are temporary, and the country will soon find others nipping at its heels. Because the need to innovate is continuous, smart policy tries to aid and abet the private sector rather than supplant it.

The digital economy is often described as the “always on” or “real time” economy. The challenge for governments is to be always on too, in touch with the Internet’s impact on their economies and continually evaluating ways to promote its use—or to stay out of the way of what’s already working well. In this paper, we argue that, instead of focusing on specific policies, governments need to adopt a different style of policymaking, one based on experimentation and adaptation. By choosing the right approach—which should take into account national strengths and the current state of economic development—and organizing themselves accordingly, governments can make sure that they keep up with the best and move ahead by promoting their countries’ particular advantages.

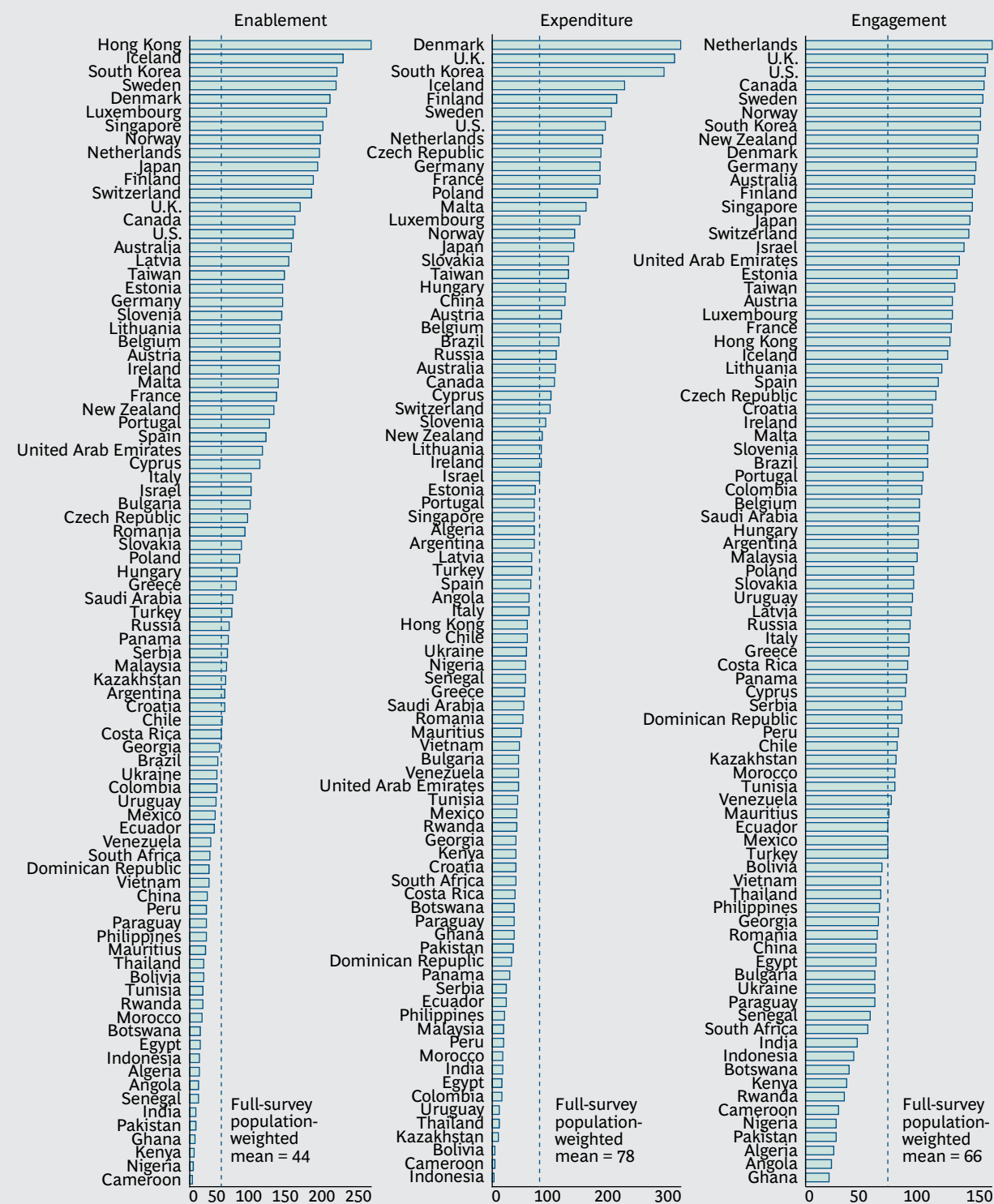
## The 2012 BCG e-Intensity Index

The BCG e-Intensity Index measures the relative maturity of countries’ Internet economies on the basis of three factors: enablement, engagement, and expenditure. (See Exhibit 2.)

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In the last three years, small and midsize companies that have embraced the Internet in their business operations grew by 10 percent annually, adding jobs as they did so.

## EXHIBIT 2 | The BCG e-Intensity Index Ranks Countries on Three Factors



**Sources:** ComScore; Economist Intelligence Unit; Euromonitor; Gartner; International Telecommunication Union; Magnaglobal; Ovum; Pyramid Research; Speedtest.net; United Nations; World Bank; World Economic Forum; BCG analysis.

**Note:** Subindexes are scaled so that the geometric mean is 100 for 34 OECD countries in 2011.



- *Enablement*, which accounts for 50 percent of the total weighting, involves fixed and mobile infrastructure. How well built is the national broadband infrastructure and how available is access? What volume of data can it handle? How fast are its upload and download speeds?
- *Engagement*, 25 percent, measures how actively businesses, governments, and consumers are embracing the Internet. What is the percentage of companies that do business online? Are consumers using the Internet for activities ranging from social networking to personal finance? Do governments provide information services online, and do they put a priority on Internet access and technical literacy in schools and training programs?
- *Expenditure*, 25 percent, measures the proportion of money being spent in online retail and advertising.

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Countries such as Estonia, Latvia, and Lithuania, although small, have recognized the impact the Internet can have on economic recovery and future development.

For 2012, we have added 35 countries to the 50 in the 2011 index, including, for the first time, 14 countries on the African continent. The index now comprises all 27 EU nations (plus Croatia, which will join the EU in 2013) as well as most of Latin America and Asia.

The following are our key findings from the 2012 index.

**BCG e-Intensity Index scores continue to grow, but growth is far from even.**

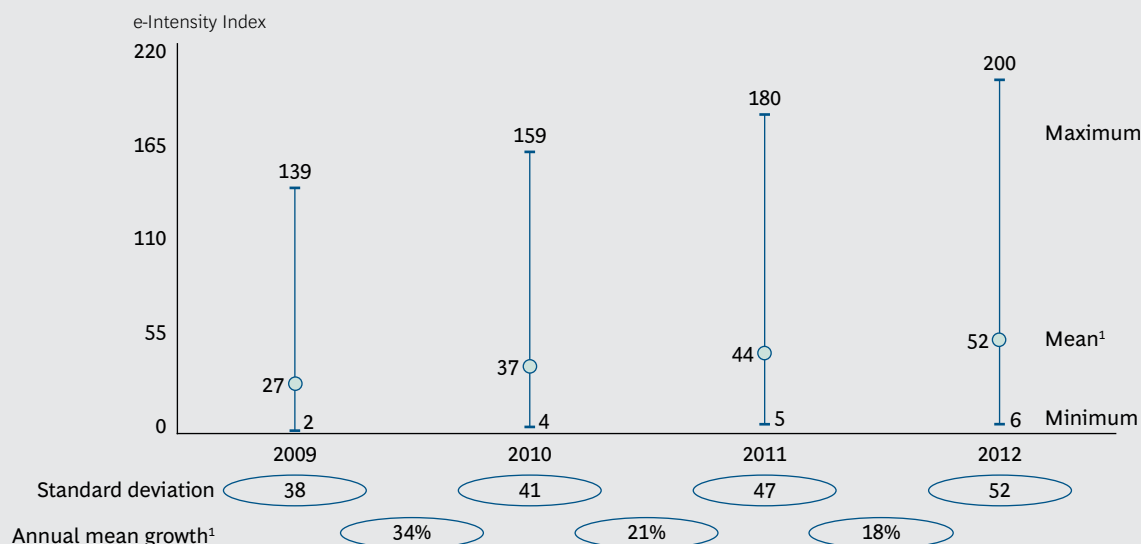
From 2009 through 2012, the population-weighted average annual growth rate for the index was 24 percent. The spread between countries with the highest and the lowest intensity ratings doubled during this period. The gap that has widened the most is in the enablement subindex. This is not surprising since enablement measures infrastructure, without which there is little opportunity for engagement or expenditure. Put another way, the Internet's "rich" countries are expanding their wealth while the "poor" are struggling to keep up or falling further behind. (See Exhibit 3.)

**The scores of Central and Eastern European (CEE) countries are rising rapidly—faster than those of the EU-15 and OECD nations.** In several CEE nations, accelerated growth is directly attributable to government activity, including investment in new and advanced enablement technologies. Countries such as Estonia, Latvia, and Lithuania, although small, have recognized the impact the Internet can have on economic recovery and future development.

In OECD nations, 56 percent of fixed broadband connections are DSL, 30 percent cable, and only 14 percent fiber-optic. Some leading Western economies have among the lowest rates of fiber-optic penetration—7 percent in the U.S., 1 percent in France, and 2 percent in the U.K.—whereas fiber-optic broadband accounts for more than half of Internet subscriptions in Japan, Hong Kong, and South Korea.

**The BCG e-Intensity Index shows that scores for Brazil, Russia, India, China, and Indonesia—the BRICI nations—rose especially quickly from 2009 through 2012.** As we have pointed out previously, these markets vary considerably: Brazil and Russia are more advanced than India and Indonesia, and China is far beyond all its BRICI brethren.<sup>2</sup> The Internet and mobile phones are deeply embed-

### EXHIBIT 3 | Overall e-Intensity Index Scores Have Improved Every Year as the Spread Between Highest and Lowest Continues to Widen



**Sources:** ComScore; Economist Intelligence Unit; Euromonitor; Gartner; International Telecommunication Union; Magnaglobal; Ovum; Pyramid Research; Speedtest.net; United Nations; World Bank; World Economic Forum; BCG analysis.

**Note:** The index is scaled so that the geometric mean is 100 for 34 OECD countries in 2011.

<sup>1</sup>Population-weighted mean.

ded in the lives of hundreds of millions of Chinese people. By 2015, or shortly thereafter, China will likely be the largest online retail market in the world, with close to 10 percent of retail sales occurring online.<sup>3</sup>

**Many African countries are growing quickly, although the base is generally low.** The advent of the mobile Internet is responsible for especially fast growth in several countries. Submarine fiber-optic connections to Kenya have brought down prices and expanded broadband access. Nearly 12 million of the country's 40 million people now use the Internet—three times the number in 2009. Nairobi, developing into a center of technology incubation, has earned the nickname “Silicon Savannah.”

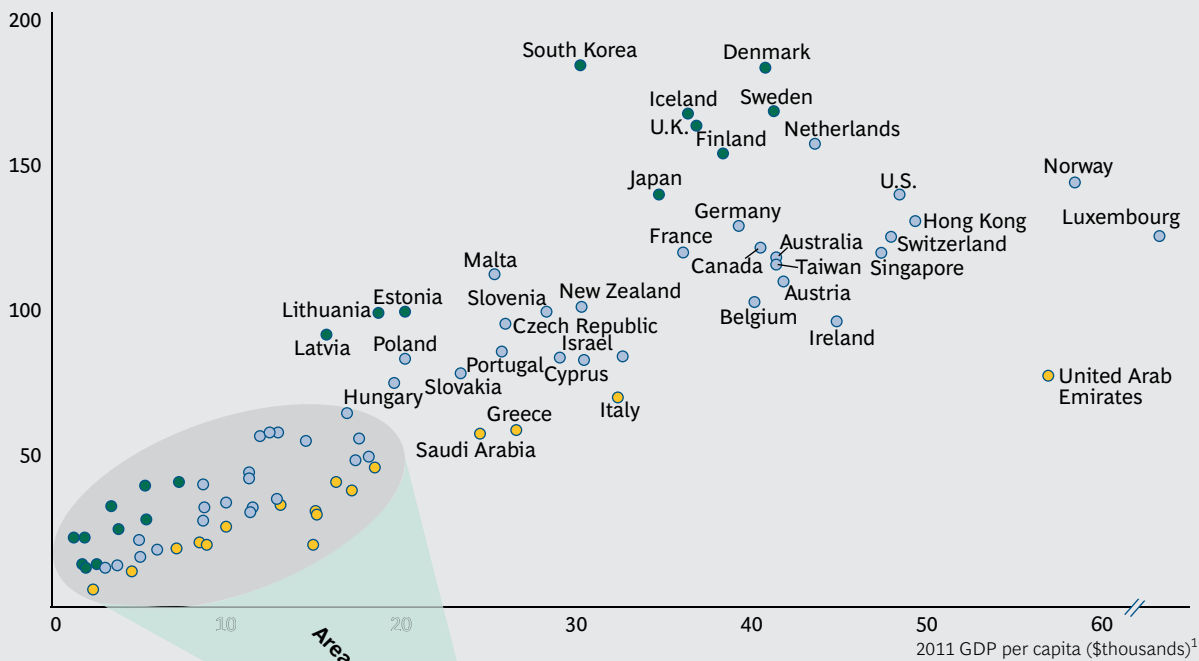
### The Benefits of Vision and Strategy

A most interesting finding, especially from a policymaker's perspective, is that a comparison of e-Intensity Index scores with per capita GDP (on a purchasing-power-parity basis) reveals clearly overperforming and underperforming countries. Some “get” the Internet while other countries are failing to fulfill their potential. (See Exhibit 4.) There is also a reasonable degree of correlation between a country's e-Intensity Index ranking and its score for innovation, a pillar of the World Economic Forum's 12 pillars of global competitiveness.

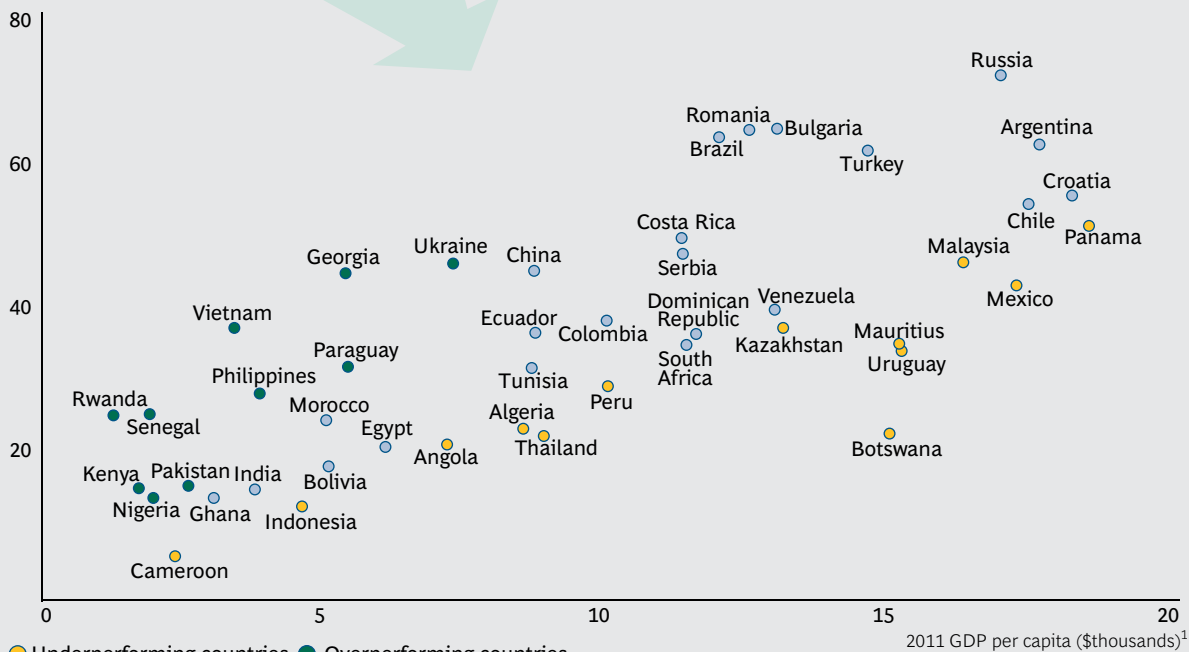
Many countries that rank high on BCG's e-Intensity Index have long had active programs to encourage Internet enablement and engagement. Sweden, for exam-

## EXHIBIT 4 | High GDP Is Not Always a Predictor of High e-Intensity Performance

2012 BCG e-Intensity score



2012 BCG e-Intensity score



● Underperforming countries ● Overperforming countries  
○ Countries whose performance is aligned with expectations

**Sources:** ComScore; Economist Intelligence Unit; Euromonitor; Gartner; International Telecommunication Union; Magnaglobal; Ovum; Pyramid Research; Speedtest.net; United Nations; World Bank; World Economic Forum; BCG analysis.

**Note:** The index is scaled so that the geometric mean is 100 for 34 OECD countries in 2011; GDP is reported on a purchasing-power-parity basis.

<sup>1</sup>The 2012 index comprises the latest available (in most cases, 2011) data.

ple, was the first country in Europe to develop a broadband policy, based on the principle that everyone should have access. The government invested €570 million to expand broadband Internet services nationwide and achieved 90 percent penetration in 2010.

South Korea saw the potential of information and communications technologies—many then still in their youth—during the Southeast Asian economic crisis of the late 1990s and turned itself into an economic powerhouse. Hong Kong has steered development through its Digital 21 Strategy. First published in 1998 and now in its fourth edition, it is an evolving blueprint for developing the world’s leading digital city.

About a decade ago, Denmark’s government issued the first of four consecutive strategies, which set aggressive timetables for digitalizing public services. For businesses, the government has mandated that “all relevant communications will be in digital form by the end of 2012.” And by 2015, “it will be mandatory for citizens to use digital solutions to communicate in writing with the public sector.” This will be possible because “as of 2014, all citizens will have their own digital letterbox” for corresponding with the government.

A number of European countries, among them Estonia, France, Greece, and Spain, have declared Internet access to be a fundamental right of all citizens. Finland has legislated a connection speed of at least 1 megabit per second as every citizen’s basic right. This is analogous to the goal of universal telephone service set by many countries a century or more ago. As the Internet’s pervasiveness and economic impact increase, leading countries appear set to make the transition to a world in which a commitment to universal broadband access is the norm.

CEE countries have lately undertaken efforts to build Internet enablement and engagement. Fiber-optic broadband projects have led to higher than average penetration in such countries as Slovakia and Estonia, where rates approach 30 percent, compared with an OECD average of less than 14 percent. As a result, access is much cheaper than in developed nations. In the U.S., with its aging infrastructure, for example, access costs \$4.95 per megabit, compared with \$0.97 in Romania, \$1.11 in Lithuania, and \$1.17 in Ukraine, according to Ookla, a company that specializes in broadband testing and Web-based network diagnostic applications.

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The Baltic states have been especially aggressive. Estonia’s EstWin program, which aims to provide every household and business with fast fiber-network access by 2015, has helped that country move up ten places in the 2012 enablement rankings and four spots in the overall e-Intensity Index rankings since 2011. The country has also built a nationwide Wi-Fi network. Latvia and Lithuania rank among the top five countries for upload and download speeds. The Latvian government has embarked on its eGovernment Development Plan, 2011–2013, which involves some 200 initiatives to strengthen state policy with complementary regulatory actions in areas ranging from training and procurement to health and social security.

Several emerging economies are also boosting their e-Intensity Index rankings by pursuing Internet enablement and engagement programs. The government of

Rwanda hopes to establish that country as a regional information and communications technology hub by 2020 and has embarked on building a fiber-optic network and advanced data center. Senegal has built a digital-telecommunications infrastructure and a widespread network of “telecentres” and Internet cafes.

Vietnam boasts fast connection speeds, and its government is actively promoting expenditure through e-commerce. In Latin America, Uruguay, Chile, and Panama all rank above the international mean for the level of Internet access in schools, according to the World Economic Forum.

## An Adaptive Approach to Internet Strategy

How does a government set about improving its e-Intensity Index score and reaping the Internet’s benefits for its economy and society? As BCG has argued with respect to competitive business strategy, increased turbulence in the business environment has invalidated an implicit and critical assumption of classical strategy: that competition is sufficiently stable and predictable for the basis of competitive advantage to be readily determined.<sup>4</sup> Traditional approaches to strategic planning are futile in sectors whose key variables are constantly shifting and difficult to forecast. Predictions are more guesses than sure things, so determining appropriate policy interventions can be a tricky business.

In developing their Internet strategies, governments need to follow an adaptive style, relying on experimentation and adjustment, starting with current circumstances and taking into account national strengths. A country that ranks low on the enablement scale is unlikely to develop the next Silicon Valley or Kista Science City, but investments in expanding broadband access can bring the power of the Internet to existing industries.

Adaptive strategy follows four steps:

- *Variation* addresses a changing environment by developing novel approaches.
- *Selection* recognizes the importance of choosing the most promising variations.
- *Amplification* identifies variations that work so that they can be scaled up and optimized.
- *Modulation* allows for fine-tuning the learning system for future policymaking.

Let’s consider each stage in turn.

**Variation.** Countries with leading e-Intensity Index positions have developed policies that encourage variation (light-handed regulation or targeted tax incentives, for example). These countries have known when to step aside and let the resulting innovations flourish. Internet-based business models evolve very quickly, and industrial policy should seek to facilitate this rapid innovation. Misguided policy can chill innovation—badly designed laws can preempt consumer and company behavior; monopolists can prevent rivals from developing new products.

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The first question governments should ask themselves is, What kinds of policies will encourage variation?

Personal privacy is one example. Privacy is a contentious issue with strongly held views on several sides. Consumers have a legitimate interest in how their personal data are used. At the same time, we all benefit from free services on the Internet because companies are monetizing the data consumers generate and using the information to create new products and services. Consumers place a high value on these benefits: as we have pointed out before, the “consumer surplus”—the perceived value that consumers themselves believe they receive over and above what they pay for devices, applications, services, and access—amounts to an average of \$1,430 per person in the G-20 nations.<sup>5</sup> Much like water, gold, or oil, personal information has become a tradable asset, so a set of rules is required to regulate its mining, sharing, and use. Governments need to define the conditions under which they will set rules and the circumstances under which others—industry groups, for example—can do the job more effectively.

Last year’s debate in the U.S. over SOPA—the proposed Stop Online Piracy Act—is one example of how fractious such issues can be. The street protests in several European cities against an antipiracy agreement seen as limiting the freedom of online speech provide another. A recent report by the World Economic Forum prepared in collaboration with BCG points out that getting the balance right is no mean feat with an emotionally charged issue in a rapidly evolving market.<sup>6</sup>

Copyright, a similar issue, calls for weighing creativity against access. The Internet raises new questions about how to strike this balance. If these questions are answered crudely, governments can do damage to one side of the equation or the other.

When they address legitimate social concerns relating to the Internet, governments should be careful not to threaten variation, which is the lifeblood of adaptation. Their responses should be calibrated, balanced, and specific. Several approaches, including the following, can help governments strike the right balance between addressing social concerns and preserving variation.

- *Devolving and Evolving.* For such social-policy challenges, governments need to devolve and evolve. They should create regulatory systems that can be adaptive, enacting laws based on principles—for example, that consumers have a right to keep certain personal data private—and giving authority to third parties to apply those principles to changing market conditions. For issues such as privacy and copyright, this can be accomplished through formal and informal judicial processes. For issues such as technology or content standards, industry bodies can take the lead, often with government as a partner.
- *Guide Rails.* Like many other new technologies, the Internet spawns moral and social panics, and governments feel pressure to respond. Every time they do so, however, they risk chilling innovation. Governments should therefore set out guide rails—signaling types of policy that they won’t pursue—so that they can resist such pressures. Such “untouchable” areas should include the indepen-



dence of the regulator even where there is pressure from incumbent players, editorial independence and media freedom, competition and the primacy of consumer interests, and arm's length public funding for content.

**Selection.** Governments operate in a global innovation lab. They can learn from the successes of other countries. They can allow competition among alternative approaches and natural selection, and they can foster the conditions that allow selection to occur cleanly and promptly. Not hampering business startups and encouraging ready access to capital are two examples, as are periodic policy reviews and policy expiration horizons.

Policymakers should trawl for what is working—for safe-bet policies that they can adopt, adapt, and amplify. Here are some proven examples:

- *Infrastructure.* After water, energy, and transport, broadband is now the fourth essential infrastructure element in developed countries. For the last decade or so, many governments have been encouraging private investment to build this infrastructure, and in areas of high population density, such as Singapore and Hong Kong, this has been sufficient.

In numerous places, however, the private sector delivers only patchy broadband coverage, and governments have stepped in with public money and sponsored partnerships to increase speeds in densely populated areas and to ensure sufficient access in remote ones. New Zealand has provided NZ\$1.5 billion to bring fiber-optic access to 75 percent of the population and broadband to 84 percent of the rural population. The Dominican Republic's National Broadband Strategy, a public-private partnership, targets an Internet penetration rate of 40 percent and access to computers for half the population.

- *Regulation.* Most countries have separate regulators for the various media and telecommunications sectors. The Internet blurs such distinctions and their relevance in the regulatory sphere. Countries should aim to create a merged regulator—the U.K.'s Ofcom is one example—that is, nonpoliticized, authorized to make decisions, able to respond quickly to changing market dynamics, staffed by experts with relevant experience across both the private and public sectors, and funded to compete with industry for talent.

A similar approach should be considered for government departments. This is far from simple: Internet policy touches every aspect of broader government policy, including business, culture, education, and health. Several core functions, however—including telecommunications, media, and Internet policy—are candidates for merger or consolidation within an existing department or ministry. At the least, some formal arrangement for coordination should be pursued.

- *Education and Training.* Developing countries such as Thailand, Chile, and Peru have established programs to connect schools and build digital literacy. In developed nations, governments are helping close the digital divide. Today's challenge is not whether to use the Internet in education; it is how to do so

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effectively. In an earlier report, BCG argued, with respect to education policy in the U.S., that schools and school districts need to reorganize their instructional models, using digital technology to raise the productivity of teaching staff and improve educational outcomes through high-quality, individualized instruction at a more affordable cost.<sup>7</sup>

- **Digital Public Services.** In emerging and developed markets alike, putting government services online can encourage Internet use. Interactions with private companies in developed markets are raising citizens' expectations for how all organizations should perform. In all countries, the next step is to move to digital services as the default standard—or to go even further and follow the Danish government's aspiration to phase out paper-based interaction entirely.

All governments can follow these safe bets. However, they are only a beginning. Since most, if not all, governments are following similar policies, what is cutting edge today will be the norm tomorrow and inadequate soon after that. Today's variation will quickly become tomorrow's safe bet. Countries have to keep running just to maintain their relative position.

**Amplification.** The intensity of competition in the global economy means that countries need to specialize to benefit from the jobs and economic growth that the Internet delivers. Most will not become global leaders in every aspect of the Internet. But those countries that have attained leadership positions—those at the top of the e-Intensity Index as well as those moving up in the rankings—have sought to use the Internet to fortify fields in which they are already strong.

For their countries to lead, governments need to make a few big bets—interventions that seek to build on their strengths. The adaptive approach is especially relevant here: rather than promulgating thoroughly deliberated, definitive policies, governments should pursue quick, iterated initiatives—policies that start out rough and are refined over time, perhaps even changing course in the light of evolving experience.

Governments should play to their countries' strengths and established capabilities. Sweden has a competitive advantage in services and platforms; it is home to several household-name companies, among them Ericsson, Skype, Spotify, QlikTech International, and Polar Rose. Australia and the U.K. have strong traditional media and online-content sectors. Big bets in taxation, exports, education, immigration, and other policy areas can strengthen and expand these established competitive positions. Indeed, thanks in part to a combination of government's direct investment and tax incentives, online media revenues in Australia are forecast to grow 25 percent annually from 2011 through 2015, from A\$1.6 billion to A\$4 billion, and jobs are forecast to grow 23 percent annually over the same period, from nearly 6,000 to more than 13,000.

The Internet can enhance existing industries. Italy is widely recognized for capabilities in design, and in Germany, manufacturing and engineering are national strengths. London, Singapore, and Hong Kong are established centers of financial activity. Smart policy would seek to use the Internet to extend these advantages.

The government of Singapore offers one example of an aggressive coordinated approach to policy with its comprehensive effort—involving initiatives by multiple ministries—to push small and midsize enterprises (SMEs) online. The Infocomm @SME program of the Ministry of Information, Communication and the Arts provides subsidized packaged information and communications technology solutions and helps SMEs leverage Internet tools such as e-mail, voice over IP, antispyware, and antivirus software. Singapore's Standards, Productivity, and Innovation Board, under the Ministry of Trade and Industry, aims to enhance the competitiveness of SMEs through tax incentives and the funding of online resources and advisory services.

Singapore's SME Market Access Programme aims to catalyze first-time forays into new markets and to facilitate the overseas growth of Singapore-based companies, promoting international trade. The Ministry of Manpower's Work-Life Works! Fund provides business grants to encourage flexible work arrangements, including telecommuting. The Inland Revenue Authority provides tax benefits for investment in innovation.

Governments in developing countries should look for opportunities to leapfrog developed nations. Many emerging economies are already climbing up the digital curve quickly. Unshackled by legacy infrastructure or embedded commercial interests, they can take advantage of the next waves of innovation, including the following:

- *Mobile Access.* By 2016, two-thirds of mobile Internet connections in the G-20 will be in developing countries. Kenya's success with mobile money—two-thirds of its citizens use the technology—shows how mobile technology can be put to work in a region where more than half the population lacks a traditional bank account.
- *Cloud Computing.* Recent research by BCG shows that after a lengthy wait-and-see period, corporate CIOs are turning to cloud computing in large numbers, lured by the potential for better, faster, and cheaper IT.<sup>8</sup> Virtually all the CIOs we polled have deployed some form of cloud services, using either their own or third-party resources. Roughly a quarter of their current IT capital spending is directed at some sort of cloud technology.
- *Social Networking.* Emerging markets are going straight to social media. More than 90 percent of Internet users in Argentina, Brazil, Mexico, and Indonesia participate in social media—more than in any developed country of the G-20. Much of this activity goes beyond simply keeping up with friends. Social networks are fast becoming important sources of information and commerce.

**Modulation.** To take the lead, governments need to be quick to spot innovations, identifying those that work and discarding the rest. They also need to modulate—or fine-tune—the innovations that are working. Traditional bureaucracies are not well equipped for this job. At best, they improve efficiency by standardizing around the best approach, basing decisions on evidence, fair process, and collective evaluation. At worst, they are inward looking, slow, and resistant to change.

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An adaptive style requires an organization that looks outward and abroad, tolerates failure, and moves and learns quickly. It uses techniques such as periodic policy reviews and flexible planning with clear goals. It can shift and adjust tactics to evolving circumstances. No magic formula exists for creating an adaptive policy function. But some useful features include being located near centers of Internet expertise, favoring time-limited teams with members of mixed background (civil servants, academics, consultants, and private-sector executives with Internet expertise), using such techniques as scenario planning and war-gaming, making quick rough decisions rather than slow definitive ones—and then iterating quickly in the light of experience—and seeking ministers who are comfortable with the latest technology, many of whom may be outsiders to politics.

**T**HE INTERNET IS much bigger and more complex today than it was in 1997, when the Clinton administration made its prediction. But looking back over the 15 years since, governments can draw some lessons. They must create adaptive organizations that match the Internet's own turbulence. They must avoid preempting the natural evolution of the market, whether through prescriptive laws or anticompetitive behaviors. They must scan other governments' approaches to make sure they keep up with the best, adopting those policies that have been shown to be safe bets. They must identify the areas in which their country can lead, and they must make some big bets—through which they will risk getting ahead of the technology—to give their country the best chance for leadership.

Style will not triumph over substance. But in the fast-moving Internet age, it can play a critical supporting role.

#### NOTES

1. The White House, "The Framework for Global Electronic Commerce," <http://clinton4.nara.gov/WH/New/Commerce/>.
2. See *The Internet's New Billion: Digital Consumers in Brazil, Russia, India, China, and Indonesia*, BCG report, September 2010.
3. See "China's Digital Generations 3.0: The Online Empire," BCG article, April 2012.
4. See "Adaptive Advantage," BCG article, January 2010.
5. See *The Internet Economy in the G-20: The \$4.2 Trillion Growth Opportunity*, BCG report, March 2012.
6. See *Rethinking Personal Data: Strengthening Trust*, a report by the World Economic Forum and The Boston Consulting Group, May 2012.
7. See "Achieving More for Less in U.S. Education with a Value-Based Approach," BCG article, July 2012.
8. See "CIOs and Cloud Computing: A Relationship Revisited," BCG article, June 2012.

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