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## Abbreviations

<table>
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<tr>
<th>Abbreviation</th>
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<tr>
<td>GICT</td>
<td>Global ICT Department</td>
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<tr>
<td>ICT</td>
<td>Information and communication technologies</td>
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<tr>
<td>IDA</td>
<td>International Development Association</td>
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<tr>
<td>IEG</td>
<td>Independent Evaluation Group</td>
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<tr>
<td>IFC</td>
<td>International Finance Corporation</td>
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<tr>
<td>IT</td>
<td>Information technology</td>
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<tr>
<td>M&amp;E</td>
<td>Monitoring and evaluation</td>
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<tr>
<td>MIGA</td>
<td>Multilateral Investment Guarantee Agency</td>
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<tr>
<td>VPO</td>
<td>Village phone operator</td>
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</table>
This evaluation was prepared by an IEG team led by Keta Ruiz, Stephan Wegner, and Ann E. Flanagan (IEGPE). Ethel Tarazona contributed to the analysis and drafting of the report. The team consisted of IEG staff and consultants Sanghoon Ahn, Jacqueline Andrieu, Marc Blanc, Unur Demberel, Silke Heuser, Houqi Hong, Sayuri Inoue, Suvranil Majumdar, Carlos Nuñez, and Pratima Rodrigues. Carlos Elbirt, Andrew Fyfe, William Melody, and RAND Europe provided background papers. Victoria Elliott provided useful feedback on the evaluation design.

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Technological innovation drives economic progress. Information and communication technologies (ICT) can be leveraged for development, but harnessing this potential depends on an enabling environment for their production, diffusion, and use. Otherwise, technology can widen rather than narrow existing inequalities.

Over the past decade developing countries have seen rapid but uneven growth in ICT access and use. The unprecedented spread of mobile technologies, driven by private sector investment and supported by reforms to promote competition, enabled the growth of phone services for the underserved and poor to levels unseen before. But outside mobile telephony, large gaps exist in high-speed Internet access and broadband connectivity and in the diffusion and use of ICT in business, services, and government—the areas where ICT can deliver the largest developmental impacts.

The World Bank Group’s strategy has sought development results in ICT by promoting (i) sector reform, (ii) access to information infrastructure, (iii) ICT skills development, and (iv) ICT applications. Among these areas, the Bank Group’s most notable contributions have been in sector reforms and support to private investments for mobile telephony in difficult environments and in the poorest countries, where most of its activities have taken place. Countries with Bank Group support for policy reform and investments have increased competition and access faster than countries without such support.

In other priority areas, the World Bank Group’s contribution has been limited. Targeted efforts to increase access beyond what was commercially viable have been largely unsuccessful. Access for the poor has been more effectively supported through general, non-targeted interventions focused on the enabling environment and direct support to private investments. But positive examples of Bank Group support indicate the potential of targeted approaches, including those carried out through public-private partnerships. ICT skills development is emerging as an important constraint to ICT diffusion and applications, but has received little attention in Bank Group operations. Finally, with respect to ICT applications, 74 percent of World Bank projects had ICT components, but the Bank Group’s record has been modest, reflecting the intrinsic high risks in the implementation of information technology (IT) projects in the public and private sectors, and also shortcomings in the Bank Group’s delivery and quality at entry.

Going forward, the World Bank Group should retain a role in ICT, but with an important shift in priorities. First, the importance of reforms suggests a role for the Bank in this area related to (i) updating regulatory frameworks and (ii) preserving competition in the face of consolidation and convergence in the sector. Second, gaps in broadband and Internet access, in the context of overall expansion of coverage, call for a selective role of the International Finance Corporation (IFC) and the Multilateral Investment Guarantee Agency (MIGA) in supporting private investments in difficult environments. Expanding access beyond what market players would provide should remain an important priority for the World Bank Group, with a need to identify effective mechanisms for targeted interventions. Third, building on the significant progress in basic connectivity and the opportunities this offers for development, ICT applications should become the main focus of Bank Group support, including through ICT skills development—areas where the Bank Group has had a weak record so far. Finally, the existence of a global mobile network presents enormous opportunities and challenges for the way the World Bank Group delivers its services. This, together with the growing importance of ICT applications for development impact, suggests the need to ensure that the World Bank Group’s organizational structure for ICT enables effective strategy formulation, coordinated delivery, and effective division of labor among the World Bank, IFC, and MIGA.

Foreword

Vinod Thomas
Director-General, Evaluation
Over the past decade, developing countries have seen rapid but uneven growth in information and communication technologies (ICT) access and use. Progress has been noteworthy in mobile telephony, where the gap between developing and developed countries is narrowing rapidly.

The unprecedented spread of mobile technologies was driven by large pent-up demand and, on the supply side, by economies of scale and innovations in business models supported by reforms to promote competition. Dramatic reductions in the cost of communication enabled access to phone services for the poor to levels unseen before, although gaps remain in certain areas and for the poorest. But outside mobile telephony, there are large and widening gaps in high-speed Internet access and broadband connectivity, the development of local information technology (IT) industries, and of ICT applications; that is, the diffusion and use of ICT in business, services, and government—the areas where ICT can deliver the largest developmental impacts.

The World Bank Group's strategy has sought development results in ICT by promoting:

- Sector reform
- Access to information infrastructure, by leveraging the private sector and through efforts that go beyond what commercial providers would be willing to do on their own
- ICT skills development
- ICT applications.

Among these areas, the Bank Group's most notable contributions have been through support to sector reforms and to private investments for mobile telephony in difficult environments and in the poorest countries, where most of its activities have been. Countries with Bank Group support for policy reform and investments have increased competition and access faster than countries without such support.

In other priority areas, the Bank Group's contribution has been limited. Targeted efforts to increase access beyond what was commercially viable have been largely unsuccessful. Support to universal access programs was largely superseded by the rollout of phone services by the private sector, in some cases supported by Bank sector reforms. Access for the poor has been more effectively supported through general, non-targeted interventions focused on the enabling environment and direct support to private investments. But positive examples of Bank Group support, as in Chile and Pakistan, indicate the potential of targeted approaches, including those carried out through public-private partnerships.

In the case of Chile, a World Bank–funded rural ICT study supported the government of Chile in updating the policies and regulations of its Telecommunications Development Fund. This study recommended adjustments to the scope of the Fund and a tendering process for private operators, which led to a series of projects that have significantly increased Internet access in rural Chile. It is expected that by February 2012, coverage of broadband Internet services will reach more than 90 percent of the rural population of Chile.

Pakistan's model—the administration of the Universal Access Fund by a non-profit with an executive management team—is promising. Using a transparent mechanism for the award of subsidies from the Fund, it has already committed over 60 percent of all funds collected since it began operations four years ago, increasing voice access to remote villages and extending fiber backbones across provinces.

ICT skills development is emerging as an important constraint to ICT diffusion and applications, but has received little attention in Bank Group operations. Finally, in ICT applications, the Bank Group has played a significant role (74 percent of World Bank projects had ICT components). But the Bank Group's record has been modest, reflecting intrinsic high risks in the implementation of information...
technology projects in the public and private sectors, but also shortcomings in the Bank Group’s delivery mechanisms and quality at entry.

Going forward, the Bank Group should retain a role in ICT, but with important shifts in priorities:

- First, progress in reforms suggests a role for the Bank in this area related to (i) updating the regulatory frameworks to support broadband and Internet access and (ii) preserving competition in the face of consolidation and convergence in the sector.

- Second, gaps in broadband and Internet access, in the context of overall expansion of coverage, argue for a selective role in supporting private investments in difficult environments. Expanding access beyond what market players would provide on a commercial basis (for example, by using public-private partnership approaches) should remain an important priority.

- Third, building on the significant progress in basic connectivity and the opportunities this offers for development, ICT applications should become the main focus of Bank Group support, including through ICT skills development.

- Finally, the creation of a global mobile network presents enormous challenges and opportunities for the way the Bank Group delivers its services, and this requires immediate attention.

Development needs and opportunities thus dictate a shift in priorities toward areas where the record has been mixed. This suggests the need for a strategic rethinking of the approach—that is, to do things differently. This need is particularly pronounced in two areas: (i) the use of targeted approaches to expand access beyond what is commercially viable and (ii) in ICT applications.

Regarding targeted approaches, the Bank Group needs to identify and support effective mechanisms to promote access to the underserved based on successful examples in its ICT portfolio and nonlending activities, but also drawing on its experience with targeted interventions in other areas. With respect to ICT applications, the Bank Group needs to strengthen its capacity by (i) building greater ICT expertise and awareness across sectors and Regions and in procurement practices; (ii) building incentives mechanisms for collaboration, coordination, and joint approaches across the Bank Group that reflect the thematic nature of ICT; and (iii) transforming the ICT unit to act as a connector between internal/client demands and outside expertise from the public and private sectors.

**Context**

Developing countries have seen a tremendous increase in ICT access and use over the past decade (figure 1).

The unprecedented speed of this evolution has been enabled by changes in technologies, markets, and policies and driven in large part by private sector investment. The gap in access to mobile technology between developed and developing countries is narrowing quickly. By 2010, there were 3.9 billion mobile phone subscribers in devel-
Developing countries, equivalent to a 68 percent penetration rate (figure 2). Internet and broadband access have also increased rapidly, but the gap between developed and developing countries remains large. More recently, the focus has shifted to the potential of ICT to serve as a platform for productive purposes and to extend services to the public. As ICT continues to evolve, so must the role of the Bank Group.

Developing countries have faced challenges to adapt policies and regulations to rapid changes in technology and market structure. In the early 2000s, these included lack of independent regulation, noncompetitive telecommunications markets, and low levels of privatization of operators. Reforms were needed for spectrum allocation, licensing of new operators to introduce competition, ensuring workable interconnection arrangements, and ensuring ICT access to the poor and underserved. Furthermore, to be able to reap the benefits of ICT for growth and to realize its transformative potential, governments needed to support the development of ICT skills and adopt ICT for better delivery of education, health, and other services and enhanced government efficiency and transparency.

Notwithstanding the progress made in the intervening years, challenges remain. These include voice access in the...
poorest countries and to the poorest people, and, in certain areas, the lag in Internet access and use, broadband, and the adoption of ICT applications (figures 3 and 4).

In these areas the Bank Group has a role in helping governments to develop policy, providing advice and sector expertise, supporting clients in building ICT skills, and enabling private sector investment and innovation. From a viewpoint of the larger development agenda, the speed of adoption of mobile technology has been in stark contrast to the lagging access to other basic infrastructure, including electricity, water, and roads.

**World Bank Group Strategy and Role**

The 2002 World Bank Group ICT Strategy focused on four broad tasks: (i) broaden and deepen sector and institutional reform, (ii) increase access to information infrastructure by mobilizing and leveraging private sector investments and by going beyond what commercial providers would be willing to do on their own, (iii) support ICT human capacity, and (iv) support ICT applications to enhance public administration and private sector development (figure 5).

The strategy coincided with major changes in ICT in developing countries, and was based on three assumptions: (i) ICT development would be contingent on sector reform and a strong regulatory environment, (ii) market failures and equity considerations would require public support for private investment and market-based subsidies to foster access to information infrastructure, and (iii) the International Finance Corporation (IFC) and the Multilateral Investment Guarantee Agency (MIGA) would have a role in mobilizing and leveraging private sector investments, complementing the work of the World Bank on sector and institutional reform, ICT human capacity, and ICT applications, including in education and health.

The evaluation is organized around the main pillars of the Bank Group ICT Strategy. It differentiates between (i) the ICT sector, covering sector reforms and access, and (ii) ICT applications, covering the use of ICT in the private sector, as well as for delivery of services to the public and to enhance government efficiency and transparency. ICT skills apply to both the ICT sector and ICT applications.

**The World Bank Group’s Evolving ICT Portfolio**

The global ICT market has been dominated by private commercial players. The Bank Group has been a catalytic player in the sector. It has supported ICT through lending,
policy advice, investments, advisory services, and political risk guarantees. In terms of volume of operations, during fiscal 2003–10, the Bank Group provided $4.2 billion in support to the ICT sector, or about 1 percent of private investment in telecommunications of $400 billion between 2003 and 2009. Yet the Bank Group remained the largest multilateral financier in telecommunications in Africa, where its support was concentrated during the evaluation period.

The World Bank, IFC, and MIGA had clearly defined roles and largely attended to their respective areas of comparative advantage. By volume of operations, most of the Bank Group funding has focused on fostering private sector investment in ICT and ICT applications (figure 6).

In the ICT sector, World Bank support ($875 million in lending, excluding Development Policy Operations, and nonlending technical assistance) focused on deepening ICT sector and institutional reform, designing and implementing universal service policies to ensure access to the underserved. Capacity building and support for privatization and for providing physical infrastructure declined over the period. World Bank support included 410 nonlending activities for ICT sector reform and capacity building in 91 countries, an important instrument to support ICT sector reform. Nonlending activities were concentrated in International Development Association (IDA) countries, with the largest number in Africa, and they supported institution building or informed policy.
IFC (with investments of $2.3 billion in the telecommunications sector) and MIGA (with political risk guarantees of $600 million) supported private investments for the rollout of infrastructure and operation of mobile service providers. IFC’s support grew over the period, and, like MIGA’s, has increasingly been concentrated in IDA countries, where both institutions had a strong role. In addition to telecommunications projects, IFC also supported IT companies ($407 million of investments).

ICT applications play a significant role in World Bank operations. Approximately 74 percent of all World Bank projects approved between fiscal years 2003 and 2010 included ICT components (equivalent to about 1,300 projects). Most projects supporting public sector governance, education, agriculture, financial and private sector development, health, social protection, urban development, transport, water, and energy and mining included ICT. Despite the importance of ICT in operations in these sectors, only a few Bank Group sector strategies systematically included ICT as a tool to support development objectives. IFC has recently begun to support ICT application projects in mobile banking, e-commerce, and education ($119 million in investments).

Effectiveness in Promoting ICT Reforms and Access

The Bank Group has supported basic connectivity through advice for reforms in regulatory and policy frameworks and by helping catalyze private investment.

Regulatory and policy framework
World Bank lending in support of regulatory and sector reforms in ICT was relevant for countries, and 60 percent of operations achieved their objectives of creating more efficient and competitive sectors and enabling enhanced access to ICT services. Projects where reforms have been successful have generated positive impact in terms of increased competition and enhanced access—the speed of mobile telephone penetration was greater in countries with Bank Group support than in...
those without it. This finding points to a contribution of the Bank Group in ICT sector reform and in stimulating investment.

The relatively large proportion of lending operations for sector reform that fell short of expectations reflects, to a significant extent, that World Bank efforts have focused on the relatively more challenging environments and types of reforms where there was considerable resistance to reform. As a result, policy and institutional reforms in these environments have been difficult, requiring strong government commitment to be successful, as in the case of reforms in Armenia supported by the World Bank. There, the Bank supported the establishment of a new regulatory framework under the telecommunications law of 2005 and enhanced competition through licensing of additional operators. These reforms led to very fast growth in ICT services—mobile penetration grew from 10 percent in 2005 to 85 percent in 2009 (box 1).

With respect to World Bank nonlending activities, technical assistance activities performed strongly. A large majority of technical assistance activities reported that they achieved key objectives such as developing or strengthening institutions and assisting client policy. The performance of analytical products (economic and sector work) was somewhat lower, with the most prevalent objective—informing government policy—being met by just over half of the activities. Overall, where there was significant government commitment to change, the Bank made an effective contribution to sector reforms.

Promoting access

Fostering private sector investment in mobile telecommunications is the most successful area of Bank Group ICT support. IFC telecommunications projects achieved strong results in IDA and conflict-affected countries, where it had a strong role. For instance, IFC played a significant role in Africa, the Caribbean, and the Pacific Islands, where it often promoted access by backing unknown entrepreneurs in the telecommunications sector, some of whom subsequently became major mobile telephone operators (box 1).

Three-quarters of IFC telecommunications projects achieved their development objectives, including increased

**BOX 1  SUPPORT FOR PRIVATIZATION OF TELECOMMUNICATIONS OPERATORS**

The World Bank first supported the privatization of Benin Telecom in the early 2000s under the Benin Private Sector Development Project (P039882-FY00–08). However, the government failed to strengthen the institutional framework for privatization to ensure a process that was technically sound and transparent, and the government Privatization Unit had neither the independence nor the capacity to implement the privatization. Despite this, the government decided to use its own resources to pursue the privatization. By 2005, the government had failed to privatize Benin Telecom and realized the importance of swift privatization because the company was incurring huge losses. The World Bank has supported Benin’s privatization effort since 2005 with two technical assistance loans and two Development Policy Operations. Privatization was finally achieved six years after the beginning of World Bank support.

IFC provided advisory services to facilitate the privatization of state-owned telecommunications operators in several countries. Through its corporate advisory services, IFC assisted governments in the privatization and restructuring of telecommunications companies, acting as a transaction advisor. In Kenya, IFC advised the government on divesting a majority stake (51 percent) in Telkom Kenya Limited to a strategic investor.

IFC’s assistance was relevant and effective, helping to implement the restructuring and partial divestment of telecommunications operators, which had been attempted unsuccessfully earlier. The objectives of IFC assistance were to enhance competition and availability of telecommunications services. Although the bidding and divestment processes were considered largely transparent, they have not been free of controversy. But stakeholders were highly satisfied with IFC’s work. The positive outcome was likely facilitated by strong government commitment to privatization and the perception of IFC as a neutral party in a highly politicized environment. Given the difficult issues surrounding the privatization and unbundling of telecommunications companies, and considering that previous privatization attempts failed, there was a strong role for IFC. Notwithstanding their successful outcomes, the transactions raise an issue regarding IFC’s comparative advantage as a transaction advisor compared with other providers of such services (as well as a need to more clearly define IFC’s role and rules of engagement).

**Sources:** World Bank Group project evaluations.
access, geographic coverage, reduced prices, and enhanced competition. Notable examples include IFC telecom investments in Bangladesh and Nigeria (box 2). But beyond higher-risk countries, IFC’s additionality was more limited. Overall, it made unique contributions in 60 percent of projects. IFC additionality was stronger in its perceived capacity to mitigate political and regulatory risks than through its financial contributions.

Similarly, a majority of reviewed MIGA projects improved access to ICT. Three MIGA projects encountered disputes between investors and host governments, indicating the importance of MIGA’s role and the level of political risk associated with investment in the ICT sector.

Regarding efforts to promote universal access, targeted World Bank ICT projects with the objective to directly promote access for the underserved and the poor had limited success; only 30 percent have achieved their objectives of implementing universal access policies or increasing ICT access for the poor or to underserved areas. Bank operations to promote universal access often were slow to get off the ground and were superseded by the rollout of mobile phone networks by the private sector, in some cases supported by Bank sector reform, as in the case of Bangladesh.

In Bangladesh, the World Bank, focused on sector reforms, capacity building, and establishment of key regulations and of spectrum management and monitoring systems and tools through nonlending technical assistance and IDA investment and Development Policy Operations. These contributed to an increase of mobile penetration from less than 1 percent to 46 percent in 2010. The IDA investment operation included a component for the development of a universal access strategy, needed legal and regulatory arrangements, and a funding strategy, but because of the rapid growth in penetration of telecommunications, this component was cancelled.

Equity and inclusion objectives were better served by Bank-supported policy and sector reform operations and IFC investments in telecommunications providers, which contributed to increased access to previously underserved segments of the population. The Bank and IFC were less effective in projects that specifically sought to promote access to marginalized groups, beyond what commercial providers were willing to do on their own once an adequate regulatory environment was in place. ICT investments are expected to make positive contributions to economic growth, given their high economic rates of return. It is therefore likely that projects supporting private investments in mobile phone operators have impacts on poorer segments of society through the creation of jobs, opportunities for entrepreneurship, and access to services. Some indications of the positive impact of ICT investment on the poor are emerging, but this evidence is more often anecdotal, and systematic monitoring of impacts is lacking.

IFC has provided financial and technical support to a few telecommunications operators with inclusive business models, as it did in Brazil and Madagascar, but it has played a

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**BOX 2 IFC SUPPORT TO A MOBILE PHONE OPERATOR ADOPTING A MASS MARKET STRATEGY**

This company was the first to adopt a mass market, low-tariff strategy to connect poorer segments of the population, which made it the market leader in its country. The project aimed to expand phone access to districts not yet covered by the network and to provide women an opportunity to earn income. As an innovative feature, it established a Village Phone Program, which permitted rural women to use microcredit to buy specially designed cell phone kits and airtime at wholesale prices. Using the kits, these village phone operators (VPOs) then set up shop in the rural villages where they lived, charging a small commission for people to make calls. The program provided access to phone services to millions of people in poor, rural areas who would otherwise not have had access.

The company has performed successfully, increasing the number of subscribers from 1.1 million in 2003 to 23 million in 2009, while prices for three-minute local calls fell from $0.08 to $0.01. Mobile subscription in the country—not attributable to the company alone—increased from 0.2 percent to 28 percent (2008). The pioneer Village Phone Program is estimated to have covered 55,000 villages and provided opportunities to 416,000 people.

*Source:* IEG 2011.
limited role in the design, implementation, and scaling up of such models. For instance, IFC supported village phone operators in several countries through its advisory service, with the objective of extending services to the underserved. While the program was successful in expanding access, use declined over time, which was attributed to the lack of innovation and spread of mobile coverage to more remote regions. A significant number of IFC’s projects aimed at achieving impact at the sector level, but projects did not track sector-specific, higher-level, and distributional objectives such as enhanced coverage of rural or poorer households that had been articulated as a rationale for IFC’s support.

**Effectiveness in Supporting ICT Applications**

ICT applications represent the area from which most development benefits are expected to be derived. The World Bank Group has supported the diffusion and use of ICT through supply-side, demand, and—to a limited extent—skills-development interventions.

**Supply-side interventions**

The Bank Group has supported the local development of ICT applications through direct investment and business incubators in the IT sector. Most of this investment has been through IFC. On a project-by-project basis, IFC support to IT projects has not been successful: only one-quarter of projects achieved their stated objectives of developing local IT industries, fostering innovation, and providing value-adding services.

This pattern of performance reflects the sector’s riskiness. Considering these projects on a portfolio basis, which is appropriate given the venture capital model used, IFC’s returns have been positive and consistent with private equity/venture capital industry benchmarks for these types of investments. IFC has supported some highly successful companies that play transformative roles in their countries’ IT industries, as in the case of a company often described as “Russia’s Google.”

Given IFC’s current system of incentives and tradition of project finance, it has been challenging for IFC to support small, innovative, and higher-risk projects. But IFC’s experience in the IT sector suggests the potential viability and promise of IFC’s venture capital approach. The support to IT companies can generate high development impact by helping to diffuse IT services and solutions to local economies for enhanced efficiency and to foster innovation more generally, and IFC needs to strengthen its business model to support this sector.

**Demand-side interventions**

ICT is a key input in a significant proportion of World Bank projects across different sectors. This includes financing of information management systems, computer and telecommunications equipment, software, and related technical assistance in projects in practically every sector. For IFC, support to projects focusing on delivering services through mobile applications is a relatively new area.

ICT played a major role in Bank projects to enhance public sector governance and support more effective and efficient government. In projects where ICT components supported the delivery of services to the public, ICT has not always been important to the achievement of project development objectives.

ICT applications tend to have a high-risk/high-reward profile. Nearly 60 percent of the ICT components in World Bank projects supporting enhanced governance and more effective government or the delivery of services to the public have achieved (or are expected to achieve) their intended results. However, in more than 70 percent of projects supporting public sector governance, the ICT components were modified (this includes cancellation of this component) or substantially delayed.

Benchmarking the World Bank’s performance against ICT projects implemented by the public or the private sector shows similarly high failure rates, pointing to the complexity and riskiness of these projects.
Quality of design is key for overall project performance, but this was lacking in many projects. Almost half of the assessed projects have had design shortcomings that could affect outcomes. These shortcomings related to excessive complexity and number of components, poor ownership and commitment, inappropriate capacity building, and lack of attention to change-management processes. Other design issues affecting project success include the absence of a clear ICT strategy and policy, procurement delays, and insufficient readiness of the client for implementation. Conversely, strong government commitment and a champion for reform and project implementation are key enablers of successful implementation of ICT components in Bank projects.

Modest results are also partly caused by failing to take a holistic view of linkages between sector and IT components; neglecting the country, social, economic, and cultural context, local capabilities, and needs (supply-driven rather than demand-driven solutions); limited World Bank IT sector skills; and cumbersome processes and procurement in a rapidly evolving sector. But well-implemented ICT application projects can deliver significant development benefits, as the Nicaragua Public Sector Technical Assistance and the Bulgaria Revenue Administration Reform Projects illustrate.

IFC’s experience suggests that it has yet to find its niche in ICT applications. Thus far, projects in m-banking and m-health have fallen short of their objectives. They have encountered risks related to technologies, sponsor quality and quality of partner financial institutions, regulatory uncertainties, and competition from other providers. This record underscores the high-risk nature of IT projects. Notwithstanding this limited and fairly recent experience, some projects implemented by the private sector (such as M-Pesa, the pioneering mobile phone–based money transfer system offered by Safaricom in Kenya) have shown the viability and potential benefits of such models to the underserved.

**ICT skills development**

World Bank support for ICT-related skill development has played a small role with limited results. Of the World Bank IT and education sector projects that supported skills development, two have been completed. The Russia E-Learning Support Project is a good practice example for the development of ICT skills, illustrating the potential for broader impact in this critical area (box 3). The small number of nonlending technical assistance exercises supporting skills development (six countries) reported strong performance.

**Delivery Structure and Instruments for Bank Group Support to ICT**

The 2002 ICT Strategy devised a clear division of responsibilities among World Bank Group institutions to address issues of coordination noted in a previous (2001) IEG evaluation. The existence of a joint Global ICT (GICT) Department between 2000 and 2010, comprising staff from the World Bank and IFC, facilitated coordination and dialogue on policy and investment among staff. Coordination between the public and private sector units of the GICT improved during this period.

But the department had no clear mandate to lead the ICT agenda across the Bank Group. While it took the lead in IFC investment operations, its role in World Bank projects and with respect to the coordination of the ICT agenda of sector and country units was more ambiguous, affecting effective collaboration and leadership. Staff also perceived a lack of sufficient support from the relatively small group of ICT specialists.

The dissolution of the joint GICT Department in 2010 has a risk of making dialogue more difficult and puts a premium
on maintaining strong working relationships between investment and policy staff. Increased decentralization and fragmentation of IFC investment staff also poses risks to maintaining a critical mass of a global knowledge base and expertise in the ICT sector.

With respect to monitoring and evaluation (M&E) capacity for ICT projects, some progress was made in improving the implementation of a robust M&E system for ICT outcomes, but this has remained a major weakness across the Bank Group. In addition, the rapid evolution of the sector warrants more refined metrics to measure usage, outcomes, and the distributional effects of projects, rather than tracking solely access to basic communication services.

Furthermore, the almost ubiquitous global mobile network presents opportunities for real-time data collection and more effective M&E of development assistance projects, including through open-source mobile software applications, readily available georeferencing tools such as Google Earth, and widespread use of social media in the developing world.

Recommendations

The World Bank Group ought to retain a role in ICT, but with important shifts in priorities. Progress in reforms suggests a role for the Bank in this area related to (i) updating the regulatory frameworks to support broadband and Internet access and (ii) preserving competition in the face of consolidation and convergence in the sector. Gaps in broadband and Internet access, but in the context of overall expansion of coverage, argue for a selective role in supporting private investments in difficult environments. Expanding access beyond what market players would provide on a commercial basis (by using public-private partnership approaches, for instance) needs to remain a priority for the Bank Group. Building on the significant progress in basic connectivity and the opportunities this offers for development, ICT applications should become the main focus of Bank Group support, including through ICT skills development. Finally, the creation of a global mobile network presents enormous challenges and opportunities for the way the Bank Group delivers its services.

Reform and Access

Recommendation 1. Continue the current shift in World Bank Group support toward broadband and Internet access while incorporating lessons from experience. In regulatory reform, the World Bank ought to (i) maintain the focus on competition combined with promoting stability and predictability of the regulatory environment and (ii) update its advice and technical assistance related to enabling policy makers and regulators to deal with next-generation policy and regulatory issues, new business models, and convergence of technologies. In access, the World Bank, IFC, and MIGA ought to (iii) support catalytic public-private partnership investments to accelerate the rollout of regional and national backbone infrastructure and (iv) identify and support effective approaches to promote access to the underserved, building on their experience with targeted interventions in other areas.

Applications

Recommendation 2. Strengthen the capacity of the Bank Group to respond to client demands for ICT applications by (i) building greater ICT expertise and awareness across the networks and the Regions regarding the potential applications of ICT, including more consistently capturing ICT aspects in country and sector strategies; (ii) building incentives mechanisms for collaboration, coordination, and joint approaches for innovation between Bank Group units, reflecting the thematic nature of ICT; and (iii) transforming the ICT unit to enable it to act as a connector between internal/client demands and outside expertise from the public and private sectors.

Recommendation 3. Design and implement World Bank Group ICT application projects, consistently taking into account (i) local context and capabilities, country readiness, complementary investments in infrastructure and training, and project-specific change-management challenges; (ii) the need to support cross-sectoral enablers, including the development of policies and standards that would apply across agencies, and apex institutions to effectively lead the ICT agenda across sectors; (iii) the benefits of shared infrastructure and services so that applications and services may be shared across government agencies wherever feasible, which is critical to avoid waste and to ensure coherence across government.

Recommendation 4. Strengthen World Bank and IFC support for skills development (including ICT skills development) in client countries to promote the use and production of ICT applications.
Delivery systems

**Recommendation 5.** Given the recent dissolution of the joint GICT Department, ensure that the World Bank Group’s organizational structure for ICT enables effective strategy formulation and coordinated delivery, and that it articulates an effective division of labor among the World Bank, IFC, and MIGA.

**Recommendation 6.** Systematically review the implications of the global IT platform for how the World Bank Group delivers and assesses the impact of its interventions. In particular, the Bank Group can build on the extensive global mobile network to support real-time data collection and M&E for ICT and other interventions in client countries.

**Recommendation 7.** Improve the World Bank’s procurement outcomes in ICT projects and ICT components by (i) building ICT expertise and knowledge among procurement specialists; (ii) adapting procurement rules to reflect sector specificity and the growing use of public-private partnership type approaches; and (iii) ensuring the design of consistent procurement procedures to facilitate effective collaboration between technical staff and procurement specialists, including by upstream engagement of procurement specialists during project preparation.
Introduction

Management welcomes this evaluation of World Bank Group activities in information and communication technologies (ICT) by the Independent Evaluation Group (IEG). This evaluation is timely, as the World Bank Group is preparing a new ICT Strategy (for discussion with CODE in fiscal year 2012) and in view of the growing size of the ICT sector in World Bank Group's overall portfolio. Given the tremendous changes that have taken place in the ICT sector and as the sector continues to evolve, the role of the World Bank Group in this sector needs to evolve as well. Management will use this evaluation to inform the new ICT Strategy.

IEG’s review demonstrates that ICTs have transformational potential and that appropriately designed and executed World Bank Group ICT interventions can help provide solutions to development problems. The evaluation shows that the World Bank Group, including the World Bank, the International Finance Corporation (IFC), and the Multilateral Investment Guarantee Agency (MIGA), has engaged in International Bank for Reconstruction and Development, and particularly in IDA, countries across a wide range of ICT issues: deepening ICT sector and institutional reform; designing and implementing universal service policies, supporting private investment for the rollout; expansion and operation of infrastructure for mobile telephony; investing in information technology (IT) companies; financing ICT applications in 74 percent of all Bank investment projects; and supporting ICT skills development and capacity building.

Management welcomes the evaluation’s key findings on sector reform and access. Specifically, the evaluation finds that:
(a) the "World Bank Group has been a catalytic player in the global ICT market;” (b) “the share of Bank Group support relative to global investment in ICT reflects the Bank Group’s strategic decision to focus on policy reform to enable private sector investment in network operators [and yet the] Bank Group has been the largest multilateral financier in developing countries in the ICT sector” (c) the “Bank Group’s most notable contributions have been in sector reforms and in private investments for mobile telephony in difficult environments and in the poorest countries, where most of its activities have been;” (d) "Bank efforts have focused on the relatively more challenging environments and types of reform;” (e) “countries with Bank Group support for policy reform and investments have increased competition and access faster than countries without such support;” and (f) the need for the Bank Group and client countries to continue and accelerate its shift towards broadband and high-speed Internet by supporting next-generation reforms and catalytic public-private partnership investments.

As part of the preparatory work for the forthcoming ICT Sector Strategy, the Bank’s ICT unit in the Sustainable Development Network carried out its own assessment of the nonlending technical assistance to assist countries’ efforts to reform their ICT sectors. The assessment found meaningful and substantial contributions to sector reform objectives, consistent with the IEG evaluation. During the period under review by IEG, the Bank provided direct policy and regulatory assistance to more than 100 developing countries. The Bank’s assessment looked at 60 countries where the Bank has had long-term engagement in supporting efforts at promoting competition, opening markets, strengthening regulatory development, and institutional capacity building. The Bank Group has been at the forefront among development agencies in advising developing countries on the ICT reform agenda and, through its nonlending technical assistance activities, has been able to play multiple roles—as aggregator of global best practice, as convener of disparate actors in the sector, and as “honest-broker.” The Bank’s efforts in the sector have had profound demonstration and domino effects in all developing regions. ICT is a sector where the Bank has helped produce concrete results in terms of sector reforms and associated impact on growth and poverty reduction.

Management also agrees with the overall conclusions of the IEG evaluation on ICT applications and skills development: (i) IFC performance in IT applications investments is at least as good as that achieved by the private sector, but these projects entail a higher degree of risk than normally tolerated by IFC; (ii) the Bank’s ICT applications project components are inherently risky, as shown by the global experience of the private and public sectors, but can have high rewards that justify the risks; (iii) necessary success factors from the Bank’s ICT applications project components include government commitment to implementing reforms beyond investing in technology, implementation agency capacity, and change management considerations; and, finally, (iv) internally, the Bank business model to support ICT
applications across sectors requires adapting—continuing the shift to becoming a “connector” between clients and Bank teams working on specific development challenges, and external sources of innovations—as well as strengthening the internal coordination mechanisms and incentives for effective cross-sector work in this area.

As part of its effort to rethink the Bank's approach to ICT applications, the Bank's ICT unit is already piloting the “connector” role with a number of innovative partnerships with country governments, development partners, and the private sector to leverage external sources of knowledge and expertise. For instance, the Bank has helped structure a partnership between the governments of Moldova and Singapore whereby Singapore technical assistance is used to help design Moldova’s e-government efforts and underpins the related Bank-financed project. The Bank has also assembled a high-level community of practice of “Leaders for Transformation” (including the government-wide Chief Information Officers from the Republic of Korea, Singapore, United Kingdom, the United States, Canada, and the European Commission) to connect policy makers and experts for issues relevant to developing national ICT strategies and ICT applications in their countries. The Bank’s Knowledge Council recently approved a new “Knowledge Platform” on ICT (with an initial focus on applications that promote accountability in service delivery), precisely focusing on “connecting” clients and staff with external sources of knowledge and expertise. This Knowledge Platform is a joint initiative of the Bank’s ICT unit and the World Bank Institute. Several other ongoing initiatives are worth noting, as part of existing shifts in the Bank’s approach to ICT applications, including the infoDev Mobile Applications Labs or “mLabs” (to support the development of mobile technology content and applications by local entrepreneurs in developing countries in collaboration with Finland), the World Bank Institute’s “Applications for Development” (to encourage external developers to create applications around the use of Bank Group data, in collaboration with the Development Economics Department) and the Institute’s “Mapping for Results” (to visualize on country maps the location of the Bank’s projects with links to project-specific information).

Management also agrees with the guidance from the External Expert Panel that the Bank Group’s limited resources should focus on areas that offer the greatest development benefits. In this context, we note the rapidly growing demand for World Bank Group support for broadband policy development, for structuring and financing catalytic public-private partnership investment programs aimed at increasing access to high-speed Internet, and for ICT applications that improve government efficiency, service delivery, accountability and transparency—areas of high development impact. Management also notes the recommendation from the Panel to strengthen ICT policy and project coordination with national governments and development partners.

Management would also like to clarify its views in instances where there may be differences with the IEG methodology and conclusions. Management’s specific response to IEG’s recommendations, with which it generally agrees, is noted in the attached Management Action Record.

Management Comments

**Conclusion on targeted subsidy programs**

The sector has been going through rapid evolution and will continue to have a fast-evolving, unpredictable nature. For example, very few observers were able to foresee the impact that market reforms have had in driving growth in mobile phone penetration and in reducing prices to levels affordable to the people at the “bottom of the pyramid.” The section of the evaluation that assesses targeted subsidy programs does not sufficiently recognize that this unexpected market response has made many universal access subsidy programs obsolete even before they were operational. The evaluation cites the fact that 11 out of 24 operations have not achieved their development objectives and that some project components were cancelled as evidence of limited Bank Group effectiveness. In management’s view, the project components were in many cases cancelled not because of effectiveness limitations, but because the market moved faster than expected, at a pace that was not foreseen by most market players, rendering the subsidy schemes no longer needed. As countries shift the focus of their Universal Access Programs toward Internet and broadband, management however agrees with IEG that it is timely to draw lessons from past experience and rethink Bank interventions in this area.

**Bank performance in ICT applications**

Bank work on ICT applications has grown rapidly over the last decade, with more than 1,300 Bank investment projects across sectors now including ICT components, or 74 percent of the portfolio. This is the area within the ICT sector where the most important benefits can be expected. At the same time, this is a high risk/high reward area that requires taking a continuous learning approach. The Bank’s success rate is consistent with the global experience of project implementation of ICT applications in both the private and public sectors, where the success rate is 50–70 percent. Bank performance has been mixed, but compares with the performance of the private and public sectors in activities not supported by the Bank Group (59 percent of Bank ICT applications project components have achieved or are likely to achieve their objectives fully or substantially). Active engagement of the Bank in ICT applications across sectors will be essential to the relevance of the institution at a time when services are increasingly delivered using ICT.
Management is also of the view that both the Bank and IFC should continue to make investments in innovative approaches (for example, in cloud computing) and tolerate some degree of risk (and higher failure rates) to help countries/clients achieve the high rewards and enhanced development outcomes from successful projects in this area.

IEG Recommendations

Relevance of some of the ICT applications recommendations

ICT applications in the Bank portfolio are evolving from being mainly about back-office, government-managed IT systems and applications, to increasingly being about citizen-facing applications (increasingly through mobile devices) and private sector–led. Key challenges going forward will include how to form appropriate public-private partnerships, how to create the necessary enabling environment, and how governments can reorient their processes and integrate private sector–led applications into public service processes. The evaluation was not able to cover in detail these new trends, or to elaborate on the potential of open government data initiatives and using ICT applications to strengthen accountability. Management believes that the evaluation could have further analyzed recent external and internal trends related to this evolution and provided relevant recommendations for the Bank Group to meet challenges in this high-impact area going forward.

Except for this omission in the evaluation, all IEG’s recommendations for the way forward closely align with management’s own strategic directions, as expressed in the Approach Paper for the new ICT Sector Strategy, which CODE reviewed in March 2010 (World Bank Group 2010). The analysis in the evaluation report will be useful to add to the diagnostics and background work being carried out for the strategy. Management’s draft responses to IEG’s recommendations are attached. A detailed Action Plan will be proposed in the context of the CODE discussion of the new ICT Sector Strategy.
### Management Action Record

#### IEG Findings and Conclusions
- Going forward, the Bank Group should retain a role in ICT, but with important shifts in priorities. First, progress in reforms suggests a role for the Bank in this area related to (i) updating the regulatory frameworks to support broadband and Internet access and (ii) preserving competition in the face of consolidation and convergence in the sector.
- Operating in increasingly saturated markets with lower margins and potentially higher risk to business performance will require selectivity for telecommunications projects and increased scrutiny of clients' business models and investment strategies. IFC's focus may shift from voice telephony to supporting private investment in higher-speed broadband infrastructure to enable access to data and commercial uses of the Internet. Market trends, such as convergence of technologies and consolidation of market players in the ICT sector, may open new opportunities for IFC assistance.
- Overall, the evidence points to an effective Bank Group contribution to reforms in the sector. Reforms have progressed rapidly, and this has facilitated innovation, entry, and growth in penetration rates.
- In countries where the World Bank or IFC supported the ICT sector—through regulatory reform or fostering investments—the speed of mobile telephone penetration was greater than in countries without support, controlling for other factors.
- Countries with World Bank support for ICT institutional and sector reforms and IFC investments have increased competition faster than those countries without World Bank Group support.
- Over the past decade, developing countries have made strides in reforming their ICT sectors, but the reform agenda is not yet complete. Substantial gains could be achieved by countries that have lagged behind in reforming their ICT sectors.
- As technologies and markets continue to evolve rapidly, policy makers and regulators in developing countries face new sets of issues.
- Effective competition and early adoption of a focus on a mass market, low-price business model have emerged as factors in successfully providing access to wider segments of the population, increasingly including low-income households and the poor.
- Regional communications infrastructure and backbone projects have been highly complex and have suffered delays. As the World Bank continues to extend this type of project, it should continue to draw lessons from the implementation of these programs and incorporate these lessons into the design of any future operations.
- Targeted efforts to increase access beyond what was commercially viable have largely been unsuccessful.
- Gaps in broadband and Internet access, in the context of overall expansion of coverage, argue for a selective role in supporting private investments in difficult environments. Expanding access beyond what market players would provide on a commercial basis (for example, by using public-private partnership approaches) should remain an important priority.

#### IEG Recommendations

##### I. Reform and Access
1. Continue the current shift in Bank Group support toward broadband and Internet access while incorporating lessons from experience.
   - In regulatory reform, the World Bank ought to:
     (i) Maintain the focus on competition combined with promoting stability and predictability of the regulatory environment.
     (ii) Update its advice and technical assistance related to enabling policy makers and regulators to deal with next-generation policy and regulatory issues, new business models, and convergence of technologies.
   - In access, the World Bank, IFC, and MIGA ought to:
     (iii) Support catalytic public-private partnership investments to accelerate the rollout of regional and national backbone infrastructure.
     (iv) Identify and support effective approaches to promote access to the underserved, building on their experience with targeted interventions in other areas.
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<td>Agree</td>
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II. Applications

2. Strengthen the capacity of the Bank Group to respond to client demands for ICT applications by:
   (i) Building greater ICT expertise and awareness across the networks and the Regions regarding the potential applications of ICT, including more consistently capturing ICT aspects in country and sector strategies
   (ii) Building incentives mechanisms for collaboration, coordination, and joint approaches for innovation between Bank Group units, reflecting the thematic nature of ICT
   (iii) Transforming the ICT unit to enable it to act as a connector between internal/client demands, and outside expertise from the public and private sectors.

3. Design and implement World Bank Group ICT application projects, consistently taking into account:
   (i) Local context and capabilities, country readiness, complementary investments in infrastructure and training, and project-specific change management challenges
   (ii) The need to support cross-sectoral enablers, including the development of policies and standards that would apply across agencies and apex
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<tr>
<td>Agree</td>
<td>Management agrees that implementation of this recommendation is crucial to the Bank’s effectiveness in the ICT applications area. The Bank’s involvement in this area is key to the relevance of the institution, at a time when all types of services are increasingly delivered using ICT. As part of the ICT Sector Strategy formulation, most other sectors are developing approaches and specific plans to mainstream ICT within their sector—this will be captured in a companion piece to the upcoming ICT Strategy. The Bank has already initiated the transformation of the ICT unit in the Sustainable Development Network of the Bank (the Bank’s ICT unit) to add a function of “connector” and is piloting a number of innovative partnerships with various sources of external expertise, including country governments, other development agencies, and the private sector. To strengthen collaboration and joint approaches among Bank Group units, management will (a) consider introducing a Bank-wide cross-sector ICT practice and ICT practice leadership, including representation from IFC and MIGA; (b) encourage networks and Regions to reassess and further develop their ICT skill mix as part of the yearly strategic staffing exercise; (c) leverage the Bank’s new Knowledge Platform on ICT for Accountability and Service Delivery to connect clients and staff with external sources of knowledge and expertise; (d) continue to make use of networks’ training and knowledge-sharing activities to raise awareness across sectors; (e) pursue trust fund sources to strengthen the “connector” function in a constrained budget environment; and (f) develop a pool of external experts to provide support on various ICT project design issues, including technical and procurement. IFC will continue to support companies that develop new IT applications or use them in new business models.</td>
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<td>Agree</td>
<td>Management agrees with the recommendation, which is at the core of the new Sector Strategy under development. The Bank’s ICT unit will formulate a concise guidance note for use by task team leaders designing ICT project components.</td>
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### IEG Findings and Conclusions

1. Integration of IT systems in projects with ICT components requires strong government implementation capacity.
2. Change management needs to be incorporated in the implementation of ICT components in large projects.
3. The benefits of shared infrastructure and services so that applications and services may be shared across government agencies wherever feasible, which is critical to avoid waste and ensure coherence across government.

### IEG Recommendations

1. Institutions to effectively lead the ICT agenda across sectors
2. The benefits of shared infrastructure and services so that applications and services may be shared across government agencies wherever feasible, which is critical to avoid waste and ensure coherence across government.

### III. Delivery Systems

5. Given the recent dissolution of the joint GICT Department, ensure that the World Bank Group’s organizational structure for ICT enables effective strategy formulation and coordinated delivery, and that it articulates an effective division of labor among the World Bank, IFC, and MIGA.

6. Systematically review the implications of the global IT platform for how the Bank Group delivers and assesses the impact of its interventions. In particular, the Bank Group can build on the extensive global mobile network to support real-time data collection and M&E for ICT and other interventions in client countries.

7. Improve the World Bank’s procurement outcomes in ICT projects and ICT components by (i) building ICT expertise and knowledge among procurement specialists; (ii) adapting procurement rules to reflect sector specificity and the growing use of public-private partnership-type approaches; and (iii) ensuring the design of consistent procurement procedures to facilitate effective collaboration between technical professionals.
### Management Action Record (continued)

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<td><strong>Agree</strong></td>
<td>A World Bank initiative to scale up support to ICT skills development has been set up in the Africa Region: the New Economy Skills for Africa Program with a focus on ICT. The initiative is a joint effort of the ICT sector unit, the Africa education sector unit, and Africa finance and private sector development units. Possibilities will be explored to include other Regions in the initiative. It is important to note that the objective of ICT skills development includes promoting the use and production of ICT applications, as well as increasing competitiveness of local ICT industries. IFC will increase its efforts to invest in ICT companies that support the creation, use, and development of ICT skills.</td>
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<td><strong>Agree</strong></td>
<td>Specific measures for coordinated strategy formulation and delivery among the World Bank, IFC, and MIGA are already in development. These measures will be presented as an annex of the Draft ICT Sector Strategy.</td>
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<td><strong>Agree</strong></td>
<td>IT-based communication networks (including, in particular, the networks enabling mobile connectivity) provide new opportunities to enhance delivery and assessment of Bank interventions. In the context of this recommendation, management proposes to broaden the opportunity to also include public services more broadly, beyond Bank interventions. New opportunities include real-time data collection, greater citizen and stakeholder participation in service delivery, and in holding government and service providers accountable, as well as enabling greater transparency. The upcoming ICT Sector Strategy will propose specific strategic directions to exploit this opportunity, including with respect to monitoring of results under P4R lending. In addition, the Operations Policy and Country Strategy Results Secretariat, the ICT sector unit, and the World Bank Institute will carry out a joint analysis of the opportunity during the first half of FY12 and propose a specific action plan.</td>
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<td><strong>Agree</strong></td>
<td>Management agrees with the overall objective of improving procurement outcomes in ICT projects and components. Improving ICT implementation bottlenecks needs a simultaneous focus on enhancing client capacity, early discussion on procurement and contract management risks, and making available requisite technical skills and procurement expertise within the Bank task teams. The Bank is exploring opportunities to simplify procurement and technical procedures and to identify and address resource gaps, if any. The Procurement Guidelines were revised in January 2011 to include ICT-specific approaches (e.g., framework contracts) and procurement methods to reflect the complexi-</td>
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which usually require combined procurement because of the change management that accompanies adoption of IT.

• World Bank task team leaders expressed the view that the Bank’s approach to procurement has been inconsistent, in both substance and process: different departments provided different advice to the same government. The process is complex and long: Bank procurement requirements take an average of 27 months to complete, and this is coupled with the lack of capacity in countries to use procurement contracts.

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<th>IEG Findings and Conclusions</th>
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<td>staff and procurement specialists, including by up-stream engagement of procurement specialists during project preparation.</td>
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<td>ties of ICT system design and development (e.g., use of brand names, nonprice factors for bid evaluation). The provisions related to public-private partnerships have been amended to provide flexibility to accommodate public-private partnership procedures, and are supported by guidance notes to help staff apply the flexible interpretation.</td>
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<td>To better support the needs of ICT projects, an ICT procurement working group has been formed and is updating training materials for procurement staff to focus on ICT procurement risk management, and is also reviewing and updating the ICT-specific standard bidding documents and staff guidance. The Bank leads a dedicated multilateral development bank working group on ICT procurement that has achieved significant results in recent years, including harmonization of bidding documents and guidance notes. The reviews of large and complex ICT procurement contracts (where most issues are present) are channeled through the most experienced procurement officers (the Regional procurement office and Operational Procurement Review Committee).</td>
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<td>With respect to coordination among Bank units, management recognizes the importance of providing consistent advice to clients in relation to technical and procurement aspects and of engaging technical and procurement expertise early in the design discussions. This will be emphasized in the task team leader guidelines referred earlier.</td>
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On June 27, 2011, the Informal Subcommittee of the Committee on Development Effectiveness (CODE) considered the report entitled “Capturing Technology for Development: An Evaluation of World Bank Group Activities in Information and Communication Technologies” prepared by the Independent Evaluation Group (IEG) and the Draft Management Response. The ICT External Expert Panel Statement was also circulated as a background document.

Summary

The Subcommittee welcomed the timely evaluation as management of the World Bank Group is preparing the new ICT strategy. The Subcommittee appreciated IEG’s comprehensive report and its opening comments on the context, motivation, and follow-up of this evaluation as well as the pilot implementation of the reform in the Management Action Record (MAR). The Subcommittee also appreciated management’s opening remarks and commended its broad agreement with IEG’s recommendations. Members agreed that there are many challenges ahead for the World Bank Group’s support to its clients in this field, given the dynamic nature and vitality of this sector, including in mobile telephony, high-speed Internet access, and broadband connectivity. In this regard, there were comments on the importance of expanding universal access of affordable ICT to the underserved, while taking into account the interrelation with other key sectors such as energy and education.

For the new ICT strategy, members suggested to: draw lessons from the implementation of the 2002 Strategy, including identifying main impediments to broadening access; address security concerns in ICT, including systemic technical issues and management of data; manage expectations of what can be delivered by the World Bank Group, taking into account that there are many key players, in particular private sector participants; clarify the issue of attribution of World Bank Group interventions; present clear recommendations on what can facilitate private sector ICT investment, including promotion of public-private partnership investment; building on the IEG analysis, disaggregate data, including the composition of the $4.9 billion World Bank Group ICT portfolio; define suitable indicators to measure the impact of interventions in ICT; consider organizational and resource issues of implementing the ICT agenda across the World Bank Group; and consider shortcomings in procurement and whether there is an impact on the current procurement policy as well as on governance of the public sector.

The relevance of selectivity in World Bank Group interventions in ICT application was highlighted. Further elaboration was sought on how ICT will be integrated in country assistance strategies. Comments were raised on the need to strengthen synergies within the World Bank Group and effective division of labor and coordination among the Bank Group institutions and with external development partners, based on their respective comparative advantages; and enhance monitoring and evaluation and development of suitable indicators. In addition, speakers underlined the importance of focusing on organization, cooperation between Regions and networks, and ICT human capacity and skills development as well as incentives—both internally to the World Bank Group and in client countries—given the high-risk/high-reward profile of ICT applications projects.

Anna Brandt, Chairperson
The external expert panel has reviewed the draft dated April 22, 2011 of the evaluation report "Capturing Technology for Development" and has also been informed of the main comments from the managements of the World Bank Group to that version of the report. The panel discussed on this basis the report on May 19, 2011, and provides the following comments.

The panel welcomes this excellent report on the World Bank Group's activities in information and communication technologies (ICT), which it found to be comprehensive, well structured, and well written, with a good balance in its reporting of Bank Group successes and failures.

The report is also very timely. The panel reflected in its discussion on the tremendous changes that have taken place internationally, including those in developing countries, in the ICT sector over the period covered by the evaluation. We now live in a world with an estimated four billion cell phones in developing countries. The report shows in this regard that the penetration of and access to ICT has grown rapidly in developing countries. Changes in technologies, markets, and policies (toward increased competition) have made possible the advances in access to ICT and set the stage for what the report describes as a “massive ICT revolution,” driven by an explosive growth of private sector participation. The huge increase in mobile penetration, in and of itself a driver of development, can now serve as a platform for expanding the delivery of services.

The panel endorses the conclusions and recommendations in the report, and discussed the implications going forward for the Bank Group, especially in light of the dramatic changes that have already taken place—a fast process of change that is likely to continue. The panel in this regard wishes to underline the conclusion in the report that there would need to be important shifts in Bank Group priorities, driven by development needs and changes in markets and technologies.

The panel focused its discussion on the forward-looking aspects of the evaluation report, in light of its importance for the upcoming new Bank Group ICT Strategy. The panel observed that the Bank Group is a small ICT player in developing countries, and that fast technological and industry developments are driven increasingly by the private sector. In the panel’s view, the Bank Group cannot play a major overall role in ICT; it needs to be very strategic, and must be prepared in important ICT areas, such as where investments can be left to the market, to recognize when it no longer can play a sufficiently important role—in a sense, at times, to declare victory and do something else where its limited resources can be put to better use.

There will likely be areas where the Bank Group can provide important assistance going forward, including through support for regulatory reforms, in particular in continually updating regulatory systems to enable private sector participation (while recognizing that much work has already been done in this regard), and for IFC and MIGA to support private sector investments directly.

The panel also recognized that there can be important roles for governments (often through public-private partnerships) in “going the last mile” in helping to provide access to ICT services for the poorer and/or more isolated population groups, building on the lessons from existing promising efforts. There is a need to have appropriate business models for such activities, and it may be preferable if the regulatory frameworks can encourage the private sector to address such issues.

In the areas of ICT applications, private sector development is astounding. There are, however, areas (such as mobile money) where public-private partnerships may add value above and beyond what the private sector can handle on its own—not to develop new applications, but to ensure that those applied can be used widely. However, it is not therefore clear that there would necessarily be an important role for the Bank (for example, some such public-private partnerships involve the social sector). Other important issues, such as illiteracy, are outside the ICT sector but have important influence over the use of ICT, and would also need to be addressed by the World Bank as a matter of high priority.

The Bank Group should also be reminded to give greater emphasis to M&E inter alia to recognize in a timely manner and learn from successes and failures; this would involve the definition of suitable indicators to measure the impact of ICT projects.

The panel concurred fully with the view that the Bank Group needs to look horizontally to improve its integration of ICT into other sectors and strengthen internal learning. The panel noted in this regard the evaluation finding that many projects supported by the World Bank include ICT
components,\(^1\) but that only a few sector strategies have included ICT, and that only about 50–70 percent of ICT components in World Bank operations in other sectors achieved their objectives.

Finally, touching on an area not addressed in the evaluation, the Panel would like to encourage the Bank Group to strengthen ICT policy and project coordination issues with the national governments and other major multilateral development bank partners. The panel has observed that the situation for at least some governments has been confusing, and would encourage more coordinated multilateral development bank approaches in providing assistance to governments.

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**Notes**

1. World Bank Group commitments in the ICT sector (excluding other funding sources for these projects) have accounted for about 1 percent of total developing country ICT investments.

2. The report found that about 74 percent of Bank-financed investment projects approved during the evaluation period have included ICT as a component, subcomponent, or within components, but that only a few sector strategies have included ICT.
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