

# WORLD BANK GROUP

## IT STRATEGY



**WORLD BANK GROUP**

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## EXECUTIVE SUMMARY

ICTs have the potential to boost economic development in many ways, including: improved services to citizens through e-government projects, job creation in the creative and high-tech industries, additional trade flows, and opportunities for small producers from developing countries to link up to global value chains. Broadening digital access will bring even greater benefits for innovation, entrepreneurship, and job creation. Effective IT policy reform can trigger greater private investment in broadband infrastructure and make internet access more affordable. Governments can also ensure fair taxation for the telecom industry, and use universal service funds to focus on broadband rollout, in partnership with others and under open access principles to develop healthy competition. These efforts will ultimately enable poverty reduction and shared prosperity.

Information and communication technologies (ICTs) have enabled reduction of poverty, increase in productivity, fostered economic growth, and improvement in accountability and governance. Most of the population in the developing countries now use mobile phones and have access to the internet. By providing access to information, equalizing opportunities in rural areas, and contributing to pro-poor market developments such as microfinance and mobile money, ICTs offer new tools to tackle poverty. By contributing to growth, the IT sector—infrastructure, networks, IT service industries, and media—also indirectly reduces poverty.

The World Bank Group (WBG) has worked with its clients as they have pursued these opportunities—and has supported sector reforms through technical assistance and lending operations. The WBG has been most successful in fostering IT sector reform and attracting private investment in mobile communications. Over the past few years, World Bank's support for IT sector reforms helped attract large investment for mobile network infrastructure in International Development Association countries.

WBG support for IT applications has grown rapidly over the past decade. More than 1,300 active Bank investment projects have IT components (74 percent of the Bank's 1,700-project portfolio) to modernize internal processes and upgrade service delivery. Results have been mixed, with only 59 percent of Bank project components for IT applications achieving or likely to achieve their objectives fully or substantially. Considering that the World Bank intervenes mostly in challenging environments and developing countries, its performance compares reasonably well with the 50–70 percent success reported for private and public IT projects in both developed and developing countries. In this high risk–high reward field co-investment in technology must be tied to institutional reforms, change management, and IT project management capacity.

The Bank's knowledge strategy has three pillars<sup>1</sup>:

First, making effective use of knowledge to support the quality of our operations:

The Bank has established Thematic Groups (TGs), which are charged with capturing the information the Bank and other institutions have acquired in their areas of specialty, and processing this information into useful knowledge. Advisory Services (Ask Us) which are available to Bank staff as well as partners and clients, and provide quick responses to questions.

Second, sharing knowledge with our clients and partners:

The Comprehensive Development Framework (CDF) and the Poverty Reduction Strategy Papers (PRSP) have put this new way of working on the map. Increasingly, the Bank is supplementing this with a range of new technology-based programs which greatly enhance our knowledge sharing capacity.

Third, helping clients enhance their capacity to generate, access and use knowledge from all sources: Ultimately, the success of national development efforts depends on the trained human resources and institutional arrangements available to carry them out. Supporting countries to enhance their development capacity is therefore central to the Bank's mission of poverty reduction.

## Vision

Creating, sharing, and applying knowledge to assist its member countries to promote growth and reduce poverty.



## Mission

The World Bank Group has two ambitious goals:

End extreme poverty within a generation and boost shared prosperity.

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<sup>1</sup> <ftp://public.dhe.ibm.com/services/us/qbs/bus/hcm/rbtt/worldbankinnov.pdf>

## INTRODUCTION

The World Bank is a vital source of financial and technical assistance to developing countries around the world. Established in 1944, the World Bank Group is headquartered in Washington, D.C. We have more than 10,000 employees in more than 120 offices worldwide. We are not a bank in the ordinary sense but a unique partnership to reduce poverty and support development. The World Bank Group comprises five institutions-The International Bank for Reconstruction and Development, The International Development Association, The International Finance Corporation, The Multilateral Investment Guarantee Agency, The International Centre for Settlement of Investment Disputes managed by their member countries.

The World Bank Group has set two goals for the world to achieve by 2030:

- End extreme poverty by decreasing the percentage of people living on less than \$1.90 a day to no more than 3%
- Promote shared prosperity by fostering the income growth of the bottom 40% for every country

Key priorities include delivering measurable results, improving how we work and offer a growing range of free, easy-to-access tools, research, and knowledge to help people address the world's development challenges.

The World Bank sees Information and Communication Technologies (ICT) as a game-changing opportunity for sustainable development. To help client countries harness the benefits of digital technologies, the IT plan for the immediate future aims to -

- Expand digital connectivity, with a focus on scaling up affordable access to broadband for all – including for women, persons with disabilities, disadvantaged communities, and people living in remote and rural areas.
- Develop digital platforms and solutions that can improve public service delivery and make governments more open, effective, and accountable.

## IT VISION AND MISSION

### **Vision**

To foster its member countries to harness Information technology for growth and reduce poverty.

### **Mission**

To accelerate the development and application of Information Technology in support of sustainable socio-economic growth and development in developing countries.

## GUIDING PRINCIPLES

- Client centered
- Working in partnership
- Accountable for quality results
- Dedicated to financial integrity and cost-effectiveness
- Inspired and Innovative

## CORE VALUES

- Excellence  
Quest for the highest level of performance through continuous improvement of our skills and business practices
- Team Spirit  
Working together in a spirit of creativity and mutual respect to achieve common objectives
- Integrity  
Observing the highest standards of ethics, honesty, and accountability always
- Professionalism  
Delivering the best quality service to our clients with utmost rigor and efficiency
- Transparency  
Acting with clarity, equity, and objectivity in designing, interpreting and applying Bank policies and procedures.

## SWOT ANALYSIS

### Strengths

- An innovative culture helps World Bank to produce unique products and services that meet their customer's needs.
- An excellent blend of experienced and competent staff who have a good understanding of both the business and the technology
- Economies of scale is the cost advantage that World Bank obtains due to size. The greater the volume, the greater the advantages.
- A strong brand name is a major strength of World Bank. The openness and willingness to keep up with the latest advancements in technology.

### Weaknesses

- A high debt burden increases the risk that World Bank goes bankrupt, hence giving lower priority to IT projects within the company.
- A lack of proprietary technology and patents can hurt World Bank's ability to compete against rivals.
- A weak tech support can lead to current customers to move to competitors.
- A weak supply chain can delay the arrival of products to World Bank's customers.

### Opportunities

- More in-house development, support and maintenance of IT applications and services.
- New technology helps World Bank to better meet their customer's needs with new and improved products and services. Technology also builds competitive barriers against rivals.
- Ownership and development of clients.

### Threats

- Limited IT awareness or lack of skills to learn and understand new technologies.
- Resistance to change or adapt to an improved IT infrastructure.
- Breach of information security/data privacy.
- Intense completion can lower World Bank's profits, because competitors can entice consumers away with superior products.
- Lack of documentation of IT procedures or under preparedness for disasters.

## GOALS AND OBJECTIVES

Goal	Objective
Goal 1: Transparent and accountable development	a. Increase government accountability by promoting open development movement.
	b. Encourage citizens and local business to co-create applications with central governments.
	c. IT- enabled crowdsourcing.
	d. Social media's role in public empowerment
Goal 2: Transformation of service delivery	a. Provide solutions for effective information management in shared databases accessible to all government agencies.
	b. Mobile phones can function as a service delivery platform.
	c. Automate back-end systems
	d. Ensuring information security and user privacy
Goal 3: Developing competitive IT-based service industries	a. Organize production or develop new market with help of IT
	b. Promote technology diffusion across the economy
	c. Expand geographically by nurturing talents at new locations
Goal 4: Promoting IT-based entrepreneurship	a. Grow entrepreneurs to have game-changing products and services, transforming the way millions of people interact.
	b. Create business incubation ecosystems
Goal 5: Scaling up affordable access to broadband	a. Close gaps in access for rural poor
	b. High-speed internet at affordable costs for all developing countries.
	c. Upgrading government infrastructure
Goal 6: Focusing on IT skills development in World Bank	a. Skill development across networks by raising awareness, investing in training staff, and using strategic staffing plans.
	b. Open Development Technology Alliance to guide its Knowledge and Learning activities.



## ACHIEVING THE VISION

### Goal 1: Transparent and accountable development

The near presence of mobile technology and the conception of social networks create new ways for citizens to express demands and take initiatives—and for governments to respond through data-driven policymaking. Increase the transparency of government activities and leverage citizen participation: encourage applications such as revenue watch, procurement watch, and open budget—and use anticorruption hotlines, utility misuse reporting, and participatory budgeting. Open and publish disclosable government-collected data on public services, infrastructure, and national statistical information, enabling civil society and entrepreneurs to create services and applications with the data. Adapt institutional arrangements, legal and regulatory frameworks (open government directives, freedom of information legislation, information security and privacy), and in many cases information technology infrastructure (open standards, interoperability frameworks, information security and privacy) to make these initiatives sustainable.

#### 1a. Increase government accountability by promoting open development movement.

Under the proposed strategy, the World Bank will promote engagement between government and citizens through mobile phone and mobile Internet applications. The World Bank will focus on an enabling environment and applications that help monitor development results and facilitate citizen feedback on service delivery to government and service providers. It will also focus on using IT to increase transparency (including national and local budget transparency), and to open opportunities through platforms of open government data, for private sector and civil society to access information and develop innovative services. It will focus on media applications and content as well as social media ventures to produce higher quality, relevant, local content that generates jobs, extends the reach of knowledge, and gives easy access to the information that people in emerging economies need to expand their opportunities.

#### 1b. Encourage citizen and local businesses to co-create applications with central governments.

All developing economies—large and small, low income and middle income—will use IT to develop competitive industries, accelerate growth, and promote job creation, notably for women and youth. To enhance competitiveness in these areas, governments are strengthening business environments, building the skills of their talent pools, facilitating industry access to finance and entrepreneurial support, and ensuring adequate urban infrastructure to create attractive locations for industry and knowledge workers. Under the new strategy, the World Bank will focus on policy enablers and the development of IT skills. From programming marathons to solve critical development challenges (known as hackathons), to competitions to build applications from existing datasets (app contests), governments will be able to find in citizens and technologists a pool of creativity with the power to improve the public services, closing a —service gap that many governments did not even know existed.

#### 1c. Achieve IT-enabled crowdsourcing

Mobile phones and the Internet will enable end-users to identify challenges, produce information, and share ideas through online exchanges and other crowdsourcing mechanisms. IT will play a large role in all stages of disaster risk management, including risk identification through remote sensing, crowdsourcing, and data repositories; risk mitigation through mobile applications; preparedness through advanced early warning systems; disaster response and early recovery through remote sensing technology and GIS situational awareness tools; and reconstruction through interactive mapping and data sharing. IT will help collect and visualize hazard and exposure data, provide tools to reach the most vulnerable, and promote transparency by monitoring relief and reconstruction.

#### 1d. Enable public empowerment using social media

The IT will focus on media applications and content. It will establish ways to support the production of higher quality, relevant, local content that generates jobs, extends the reach of knowledge, and provides easy access to meaningful information that people in emerging economies need to expand their opportunities. Also, it will look for opportunities to invest in social media, focusing on mobile and Internet-based applications that support user-generated content beyond social communication, such as e-health, e-learning, and e-commerce applications. Thus, social media will be leveraged across society for collaboration and collective action.

### **Goal 2: Transformation of service delivery**

2a. Provide solutions for effective information management in shared databases accessible to all government agencies.

IT will offer an opportunity to revolutionize public service management by capturing information efficiently in shared databases accessible to all government agencies (such as a national database of electronic identification of citizens). This will help governments to simplify administrative procedures and share services (such as citizen authentication and payment systems). And governments will be able to pool resources, reduce costs, adopt common standards for information exchanges, and perform government functions more efficiently (with faster response time and fewer errors).

2b. Mobile phones can function as a service delivery platform.

More than 90 percent of adults in most countries have access to a mobile phone. This penetration creates opportunities to use mobile phones as a service delivery platform for both public and private services. The deep penetration of mobile phone networks, combined with the advent of text messaging and Internet-enabled mobile networks and devices, will create opportunities for entrepreneurs and governments to interact directly with households and businesses—and to deliver services with much greater reach and efficiency than before. These networks will allow citizens to give feedback on how governments and public officials are performing and whether services are reaching their intended recipients, thus holding governments more accountable. WBG will increase support to IT applications, focusing on mobile banking, other payment systems, health, e-commerce, and e-government. The World Bank will help governments frame sector issues and define specific development challenges

that mobile applications can address. And the World Bank will work with government ministries and agencies to reform institutions to take advantage of new opportunities and business models around mobile applications.

#### 2c. Automate backend systems

Upgrading economic management and public administration back-end functions through IT systems will continue to be a core activity of public sector reform, mostly through public management information systems. These typically include customs and taxation, electronic procurement, human resource management (including payroll), financial management (accounting, budgeting, control, and treasury functions), and social security management. Such activities will no longer need heavy software development because many best-practice applications already exist in the market. In the open source market and the software-as-a-service space, governments can buy IT services rather than produce and manage IT services themselves. Governments may, however, need to develop capacity to manage the transition. WBG will also assist the governments to use IT applications to transform back-end finance and public administration functions, for instance to modernize and integrate tax, customs, and financial management systems.

#### 2d. Ensuring information security and user privacy

IT will focus on creating enabling policy, legal, and regulatory frameworks for authentication, electronic transactions, cyber-security, critical infrastructure protection, data and privacy protection, consumer protection, cyber-crime, freedom of expression and freedom of information, intellectual property, and information security. Building awareness and having a clear strategy and capacity to implement these policies, laws, and regulations will be of utmost priority. Having a robust capacity for response and recovery to withstand IT disruptions and cyber-attacks, incorporating recognized international standards in these areas where such exist will be the extremely important.

### **Goal 3: Developing competitive IT-based service industries**

WBG will foster competitive IT-based service industries, help several countries develop skilled workforces in partnership with the private sector—and work to improve the business environment. It will advance to improve competitiveness and accelerate innovation across the economy and target skills development for IT-related jobs to improve productivity. And it will scale up its support for policy reforms and private and public-private ventures to catalyze investment in broadband infrastructure and expand access to broadband services. All developing economies—large and small, low income and middle income—will be able to use IT to develop competitive industries, accelerate growth, and promote job creation, notably for women and youth.

#### **3a. Organize production or develop new market with help of IT**

World Bank Group (WBG) will support its clients in using IT innovation as a source of competitiveness across the economy and in harnessing economic opportunities in the growing IT-based services industry. This will help in the revitalization of private sector activities through provision of business development technical assistance to support private firms' initiatives to gain market knowledge, improve product quality and processing technologies, and increase their presence in both domestic and export markets.

#### **3b. Promote technology diffusion across the economy**

WBG will assist countries build policies with the following four aims. First, policies should speed up broadband infrastructure and services that help connect poor users and extend competition to all market segments—whether delivered directly by the state or in partnerships with the private sector. Second, the policies should strengthen skills and competencies among the domestic population to help build —absorptive capacity at the subnational and national levels—and to strengthen dissemination channels within the countries. Third, they should use tax incentives to promote technology transfer through increased foreign direct investment. Fourth, the policies should develop shared infrastructure (cloud-computing platforms, render farms) that could support and stimulate technology diffusion, particularly among SMEs that have scarce resources to fund their own infrastructure.

#### **3c. Expand geographically by nurturing talents at new locations**

WBG will provide its member countries the instruments needed to support the skills and competencies of applied research constituencies in tertiary education and vocational training institutions. Instruments such as national technology programs, open cooperation platforms, and innovation funds can help in developing higher-end skills and technological competencies. It will also enable governments to support human capacities to create digital content (the public sector can have a major role simply by opening its data or commissioning content creation in close collaboration with universities, the private sector, and civil society).

## Goal 4: Promoting IT-based entrepreneurship

New technologies, services, and service delivery models can reach out to marginalized populations in the global economy. The ability of individuals and entrepreneurs to innovate, with the right incentives, is critical to success. While incubation and business acceleration are attractive, it is not easy to foster local entrepreneurship in countries with low capacity, a weak culture of entrepreneurship, and a lack of mechanisms to facilitate the learning and sharing of ideas among stakeholders.

4a. Grow entrepreneurs to have game-changing products and services, transforming the way millions of people interact.

Creating a class of IT entrepreneurs will help developing countries capture the high value added of home-grown enterprises. Entrepreneurship also requires access to global talent to work on cutting-edge technologies and processes. Creating capacity-building intermediaries to help entrepreneurs turn business ideas into reality and to modernize and improve company's competitiveness through IT. New models that demonstrate and prototype activities—borrowing western intellectual property rights for local application development—has to be explored with international industry leaders. Creating open innovation forums to engage start-ups and small firms in cooperation with other innovation actors to evaluate concepts and develop prototypes in real-life settings with real users.

4b. Create business incubation ecosystems

WBG will indulge in clustering IT-based businesses to link SMEs and local research institutions to economic activities. This will help start-ups and SMEs exploit new technologies and catch market opportunities through cooperation with leading research institutions. WFG must leverage the lower value-chain segments of the IT-based service industry to incubate decentralized SMEs at scale. Local business incubators—providing business services, training, mentoring, and reasonably priced space, connections to industry and academia, and introductions to potential investors—remain weak, with poor links to global markets. To mitigate these challenges WBG will help to connect technology teams in developing countries with technology firms in developed markets. With this model technology companies in developed countries gain access to high-quality talent in developing countries at low initial cost, growing their businesses across borders.

## **Goal 5: Scaling up affordable access to broadband**

### **5a. Close gaps in access for rural poor**

In most countries mobile phone companies are rapidly upgrading their networks to offer broadband wireless data. More than 150 countries already offer third-generation (3G) mobile services. Despite this positive trend, gaps in access—caused by coverage and costs—remain for the rural poor, in terms of both coverage and affordability. World Bank group will scale its engagement even though other development partners are engaging in this sector.

WBG will work along with the government to offer rights of way and support easy access to passive facilities to reduce the cost of investments for deploying network coverage. The infrastructure sharing option will reduce the cost of infrastructure development and facilitate extending networks, which will help close the gaps in access for rural poor.

### **5b. High-speed internet at affordable costs for developing countries.**

As the networks evolve from low-speed to high speed Internet services, WBG will help in the introduction of new types of policy and regulatory frameworks which will be necessary to make broadband available to most citizens at affordable prices and avoid a second digital divide. World Bank will assist the developing countries to continuously improve their policy and regulatory frameworks to remain current with rapidly changing industry structures and business models. Alongside the government, WBG will promote open access and market mechanisms, such as spectrum trading, which allows for price setting, and the secondary use of spectrum. Reallocating spectrum allows for the use of new, more spectrum-efficient technologies, and efficient use of spectrum makes maximizing economic benefits possible.

### **5c. Upgrading government infrastructure**

Governments need to invest in connectivity infrastructure for government systems. WBG will work alongside the governments to install high-bandwidth–low-cost networks; extend government networks and services to unconnected institutions, provinces, and universities; establish emergency communications; and minimize the risks of information-security and privacy breaches. Emphasis will be given to shared infrastructure platforms (i.e. data centres) that are sustainable, cost-efficient, and energy-efficient and that can be applied across all government institutions, information security infrastructure, media infrastructure, and energy-efficient shared infrastructure for data storing and processing.

## **Goal 6: Focusing on IT skills development in World Bank**

6a. Skill development across networks by raising awareness, investing in training staff, and using strategic staffing plans.

To be a leader in the field, the WBG will need to hire IT specialists across the sector families. And it will have to focus more on continuously training staff—IT and non-IT specialists working in operations—on IT issues. World Bank sectors that wish to use IT for greater development impact need to skill up and build expertise.

6b. Open Development Technology Alliance to guide its Knowledge and Learning activities.

The WBG's IT sector operates an active Knowledge and Learning program. As part of this program, the IT Sector Unit has delivered many learning and global knowledge-sharing events in recent years. WBG will hold the program to talk about topics as government clouds, online security, mobile applications, open government, and mobile financial services. These events can use live Internet streaming, videoconferencing, and social media, allowing staff from the field to take part. WBG will integrate the Knowledge and Learning programs with the Open Development Technology so with a focus on IT for accountability and service delivery we can develop methods for other strategic priority issues.

## KEY INITIATIVES

The Bank must concentrate on direct financing of broadband infrastructure of regional and national foundations. Subsequently, the Bank will work towards stimulation of the demand for IT networks and services by promoting e-government and connectivity to schools, universities, health institutions and through customized response to the needs of Low and Middle Income Countries.

The Bank Group operations in the IT sector will utilize existing financing instruments, and enhanced collaboration and selective partnerships will be necessary. The activities under the IT strategy will be implemented within the broader regional and national development agendas and Bank's priorities.

Some of the key initiatives will include -

- Improve IT governance
- Improve IT infrastructure
- Support decentralization
- Greening bank via IT
- Improve accountability
- Efficient resource management
- Knowledge management



## IT ALIGNMENT

WBG's work in the IT sector targets to give power to people economically, socially, and politically to reduce poverty and increase shared prosperity. With the help of the goals and objectives mentioned above, efforts in the right direction by WBG will enable easy mobile and internet access, heighten job prospects, and improve government effectiveness and transparency.

With transparent budget information and with creative visualizations, governments can aim to reduce corruption and increase accountability. Through the right governing environment, foreign investment will be an attraction and will help develop the domestic IT industry and thereby create skilled jobs. In conjunction with improved broadband services, countries will enable more schools, households, SMEs to connect better with the world.

Easy information exchange will bring about the development of entrepreneurs which will enhance the IT industry in the country. The World Bank will need to team up with other partners to increase support to developing countries on these goals. By bringing in the private sector for help, WBG will be able to help the country reap digital dividends.

## CONCLUSION

IT is the enabler for economic growth because of their crosscutting nature thus affecting all sectors. Adoption and proper utilization of IT will lead, among others, to increased yields and quality production of goods and services. IT industry can be resourced, properly managed and mainstreamed into a significant contributor. WBG will use IT to bring value to its *mission* by improving the autonomy of workers and potentially increasing their labour productivity; enhance the quality of production inputs; enhance organizational and management quality; facilitate technological and non-technological innovation.

Better evaluations will also help increase the impact and value of investments in IT projects – which is especially critical due to increasing urbanization across the globe. By 2050, at least 70 percent of the world's population is expected to live in cities, emphasizing the need for new and revitalized infrastructure. Virtual connectivity – including broadband and Internet access – are crucial drivers of economic growth and sustainable development.

A stronger commitment to impact evaluations, with better systematic analysis and intellectual rigor, will give donors and governments added confidence about their current interventions. It can also help encourage future investments, which are crucial to closing infrastructure gaps, especially in developing countries.