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# Enabling Business Strategy with IT at the World Bank

In the spring of 2003, CIO Mohamed Muhsin prepared for his annual review of IT strategy and performance with the Management Committee of the World Bank. The group of Managing Directors chaired by the President of the World Bank, James D. Wolfensohn, had set aside the day to discuss how IT could further enable the Bank's business.

As Muhsin contemplated the key topics for discussion, he gazed through the glass walls of his office at a 50-inch plasma display on the lobby wall. The screen flickered a steady stream of color-coded, real-time information relaying the status of all activities of their global IT infrastructure — clear evidence of the organization's reliance on 24x7 support for videoconferencing, enterprise applications, and web services around the globe. Muhsin began to shape his presentation around the two key questions he would be addressing: Now that we have the foundation in place, how can IT help the core business serve our clients better? How do we measure and communicate the value that IT contributes to the business?

## The CEO's Vision

When Wolfensohn arrived from the private sector as the new President of the World Bank Group in 1995, he took time to listen to staff, analyze the Bank's business, and especially to travel extensively visiting the Bank's clients. Within two years, he made a Strategic Compact with his Board of Directors to implement broad reforms based on what he observed to be two powerful trends:

> The development business is undergoing dramatic change: surging private capital flows and declining support for official aid; greatly diversified sources of advice and technical assistance; and recognition of a broader development paradigm — with greater emphasis on local capacity and social, environmental and governance dimensions.

> At the same time, a powerful technological revolution is facilitating access to knowledge, a crucial factor for development. It is also having profound effects on how all organizations do business: more competitive, faster, flatter in their structures; more networked and eager to partner; and more learning-oriented, with knowledge recognized as a key driver of effectiveness.[1]

Wolfensohn's assessment was translated into a business strategy leveraging IT.

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[1] The Strategic Compact: Renewing the Bank's Effectiveness to Fight Poverty, February 13, 1997.

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*The IT Mission*

Two fundamental shifts in business strategy took place:

1. *Decentralization*: Moving the Bank's business operations closer to the clients by decentralizing staff and decision-making to local offices in more than 100 client countries

2. *Creation of a Knowledge Bank*: Delivering more comprehensive and integrated (and therefore more effective) development solutions by increasing collaboration, consultation, and knowledge-sharing both within the organization and with partners and stakeholders at all points in the development process—especially in the design stages to ensure buy-in and capacity for successful implementation.

Wolfensohn turned to his newly appointed CIO, Mohamed V. Muhsin, and told him to revamp the information systems and build a global network. IT staff from around the Bank were consolidated into Muhsin's group. Their goal was to achieve two competing objectives:

1. enable a global decentralized organization close to the customer, and

2. provide the collaborative tools and global development knowledge that would help the far-flung Bank staff and stakeholders work more closely and effectively than ever before to scale up the impact of the Bank's work

Muhsin's responsibilities spanned the globe (See **Exhibit 1** for a view of the Bank's global communications network.) Wolfensohn then announced to his shareholders and the public:

> My goal is to make the World Bank the first port of call when people need knowledge about development. By the year 2000, we will have in place a global communications system with computer links, videoconferencing, and interactive classrooms, affording our clients all around the world full access to our information bases—the end of geography as we at the Bank have known it.[2]

Muhsin's organization, shown in **Exhibit 2,** was named the **Information Solutions Group** (ISG). By 2003, ISG had a staff of 415 individuals. Muhsin worked closely with individuals throughout the World Bank—see **Exhibit 3** for biographies of a few of these senior leaders—establishing IT plans and strategies.

## The Business of International Economic Development[3]

The World Bank Group includes the International Bank for Reconstruction and Development (IBRD) the International Development Association (IDA), the International Finance Corporation (IFC), the Multilateral Investment Guarantee Agency (MIGA), and the International Centre for Settlement of Investment Disputes (ICSID). Together, IBRD and IDA are referred to as "the Bank." (See **Exhibit 4**—Five Agencies, One Group.)

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[2] James D. Wolfensohn, World Bank Group President, Annual Meeting Address 1997

[3] Descriptive information for the World Bank is adapted from <www.worldbank.org>—an exhaustive website providing detailed and multimedia information about Bank projects throughout the world.

This was no ordinary bank, as seen from its mission statement:

- Our dream is a world free of poverty

- To fight poverty with passion and professionalism for lasting results.

- To help people help themselves and their environment by providing resources, sharing knowledge, building capacity, and forging partnerships in the public and private sectors.

- To be an excellent institution able to attract, excite, and nurture diverse and committed staff with exceptional skills who know how to listen and learn.

The Bank is owned, financed, and run by 184 member countries (all of whom are also members of the United Nations.) As one of the world's largest sources of development assistance, the Bank supports efforts including: building schools and health centers; providing water and electricity, fighting disease, protecting the environment, and helping to create a better investment climate and more efficient public sector. In 2003, the Bank financed 240 projects in 92 countries divided between

- $7.3 billion for 141 projects as **assistance** to 55 low-income countries unable to borrow money in open markets. Low-income countries are eligible to receive interest-free loans, and technical assistance from the World Bank. Countries have 35–40 years to repay loans, with a 10-year grace period.

- $11.2 billion in 99 projects as **loans** to 37 middle-income developing countries. Some of these countries could borrow from commercial sources, but generally only at very high interest rates. They receive loans from the IBRD at more favorable terms than from a commercial bank—15 to 20 years with a three-to-five-year grace period before the repayment of principal begins. Loans can be used for specific programs related to poverty reduction, social services, environmental protection, and economic growth.

In addition to financing, knowledge services have grown in importance—including policy advice; poverty reduction strategy; aid coordination; project design; supervision; technical assistance; and capacity building through training programs for public officials. Known originally as a funder of large infrastructure projects, the Bank now finances many more projects in the social sectors. For example, the Bank committed more than $1.6 billion in the last few years to combat the spread of HIV/AIDS around the world as one of the largest financial supporters of HIV/AIDS programs in developing countries.

## Transforming the Bank's Business

In March 1997 the Bank's Executive Board voted in favor of the Strategic Compact—"to lower the institution's costs, raise productivity, and improve the quality of the projects and programs it supports."[4] Part of this initiative included a major information systems renewal effort to streamline administrative and operational processes including Y2K compatibility. Key objectives of the Strategic Compact included:

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[4] From Web site <ww.worldbank.org> accessed September 15, 2003.

## Decentralization

A key objective was to move the Bank's operations and activities closer to clients to improve responsiveness and strengthen collaboration and country ownership of development programs. Before decentralization, about 38% of front-line staff were located in field offices, afterwards about 50% are located in full service country offices. About one-third of the Bank's staff members work from one of the 110 country offices around the globe. This entailed a radical rethinking of the Bank's systems to become more effective delivering programs for achieving the basic mission of reducing poverty.

## Creation of the Knowledge Bank

Wolfensohn envisioned a "Knowledge Bank." To that end, a specific objective in the Strategic Compact was the establishment of a robust knowledge management system. This required "a sound knowledge base to support non-lending (as well as lending) activities" of the Bank.[5]

By 2003, this vision became reality as client countries wanted to work with the Bank as much for its *development knowledge* (e.g., the expertise of specialized staff skills and ability to transfer learning and experience from projects in one part of the world to another) as for its *money and financing*. In 1980, 21% of the Bank's lending went towards the construction of power projects. By 2003, that had fallen closer to 7%. In the same period, social services lending (health, nutrition, social safety nets) grew from 5% to 22%. Knowledge was becoming more critical than physical development.

## A Matrix of Regions and Networks

Guided by the Strategic Compact, the Bank reorganized from a hierarchical organization (with staff organized primarily around Regional geography) to a matrix of Networks and Regions (with emphasis on professional networks of staff from related areas of expertise.) These Networks were created to encourage greater knowledge sharing and collaboration across Regions. Various thematic groups[6] emerged around development issues like gender, poverty monitoring, and government decentralization. More and more Bank projects have taken on multi-sectoral dimensions, working across old "stovepipes" of specialization. IT was considered a key enabler of the matrix.

Country managers negotiated overall assistance strategy for a country "contract"; specialists from various Networks would work on specific projects. The largest networks are Human Development; Environmentally and Socially Sustainable Development; Finance, Private Sector and Infrastructure; and Poverty Reduction and Economic Management.[7]

One example of how the organization operates in practice is evident in a project with the Government of Nigeria. Initially, Nigeria requested assistance developing a global best practice for

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[5] The Strategic Compact was described in the 1997 Annual Report, from Web site, <http://www.worldbank.org/html/extpb/annrep97/overview.htm>, accessed September 11, 2003.

[6] "Thematic Groups (TGs), also known as communities of practice, are groups of people who are passionate about a common subject. Leadership and membership in any Thematic Group is voluntary and open to all staff. TGs also have external partners, and knowledge sharing becomes seamless across the group through the email distribution lists and websites." From www.worldbank.org, accessed November 4, 2003:

[7] Learning and knowledge sharing were the two primary objectives of thematic groups. The Bank established and fully supported 80 different "thematic groups."

their Transport Sector Strategy. The Bank's Task Team Leader (TTL) was located in the matrix at the intersection of the Infrastructure sector and Africa Region (see **Exhibit 5**). The TTL sent e-mail to the 170-person Transport Sector Thematic Network (a thematic group within Infrastructure Network) seeking help with best practice examples. The first response came within minutes from a Bank staff member in Beirut. Eleven country examples were obtained and the most relevant replies were shared with the Government of Nigeria.

Leveraging the World Bank's knowledge expertise, the Nigerian Government was able to save significantly on technical assistance costs and improve the timeliness of its own transport sector strategy. Bank staff concluded, "Thematic networks, combined with modern communication tools, make knowledge sharing an efficient new tool for improving the quality of Bank assistance. Knowledge sharing and learning are two sides of the same coin—everybody within a thematic group stands to gain through such exchanges."

Bank projects addressed numerous challenging global issues (see **Exhibit 6**) and relied on groups operating increasingly in multi-sectoral ways. For example, the TTL might also consult with other groups, such as Environmental and Socially Sustained Development for environmental impact input.

Knowledge sharing through networks was viewed as more effective in meeting client needs than had been possible in a hierarchy organized primarily around geography. In addition, these networks also helped address one of the biggest knowledge sharing challenges the Bank faced: knowledge retention. Typical Bank projects took years, if not decades, to complete. Even with loyal long-term staff, it was difficult to sustain continuity of knowledge throughout the life of a project. These networks helped sustain the knowledge of the project teams through the years as increased efforts were being made in assessing the long-term effectiveness across the entire life of the project.

Wolfensohn views IT as "the central nervous system of the institution" and has consistently supported the budget for IT. "We're not spending in a profligate way but rather in a measured way, as rational investment to generate organizational leverage." He believed in the linkage between a global communications network and the intensive consultations and knowledge sharing inherent in the Bank's new business strategy. Wolfensohn connected the role of IT to the Bank's overall strategy in his speech at the 1996 World Bank Annual Meeting:

> We have been in the business of researching and disseminating the lessons of development for a long time. But the revolution in information technology increases the potential value of these efforts by vastly extending their reach. To capture this potential, we need to invest in the necessary systems in Washington and worldwide, that enhance our ability to gather development information and experience, and share it with our clients. We need to become, in effect, the Knowledge Bank.[8]

## Aligning IT to Enable the Bank's New Business Strategy

When Muhsin became CIO, high priority IT issues included Y2K, delivering round-the-clock global support, and building a foundation for global knowledge sharing. To meet a temporary increase in budgetary needs, additional funds were provided during a five-year period (See **Exhibit 7**—IT Expenditures.)

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[8] World Bank internal correspondence.

The funding mechanisms were an impenetrably complex mix of individual service chargebacks with rebates and nontransparent rate-setting combined with direct administrative budgets for some systems units and oversight of dedicated overhead accounts for things like the central libraries. In the last five years, Muhsin substantially simplified the funding and strengthened the governance process so that it became more transparent. There is clearer accountability for the IT function for service delivery and clear accountability for the governance groups as they make investment decisions with long term impacts.

There are now three main categories of IT services available to all Bank offices:

1. **Basic Service package**—These are fixed cost, standard underlying network infrastructure services which provide the platform that all users need to access information—enterprise desktop software, email, workgroup file storage, all local and global network connectivity, and well as the standard intranet platform and the global support center. This shared services model recognizes that adding or removing even 100 users to the network doesn't alter the cost of the underlying infrastructure. These investments are essentially a step function where an email server cluster, for example, is added or removed only if there is a swing of 1400 users. The Basic Package is generally viewed as a "common good." In FY 04, the *Information Technology Services Board* (ITSB)—which oversees the IT chargeback system—proposed to the *Information Policy Council* (IPC[9]) that network links to all country offices should be rolled into the Basic package rather than paid locally by each country office. This was the last step in creating a truly *Global Master Service Level Agreement* where all staff no matter where they are located get the same package at the same per capita cost. The total cost for providing these services is shared among all units proportional to their headcount.

2. **Corporate Information Services**—These services provide systems and applications infrastructure to support enterprise functions such as financial and human resource management, front line operations and backroom administration. Each year, the IPC looks at the investment plan for supporting corporate systems. The cost for these services is centrally budgeted and not charged back—allocations are part of the annual budgeting process.

3. **Optional IT services**—This includes the purchase of standard and notebook PCs, videoconferencing activity, remote access, wireless devices, and long distance telephone calls. (Point to point calls within World Bank are carried on their private network over the internet protocol; external calls were handled by common carriers.) The ITSB reviews and approves rates for these services and any new services each year. These services are charged back to operating groups based upon usage.

## IT Framework 1996–2002

With strong support from senior management, ISG established a "Five-Point Program" as the Bank's IT Strategy (see **Figure A.**) As the foundation of this strategy, global connectivity—built on standards—would provide a global customer base a high degree of reliability and service. To provide a reliable and cost-effective foundation, Muhsin's team standardized and integrated the IT infrastructure, including desktop and laptop computers and software; along with workgroup, storage

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[9] The council represents operations (e.g., end-users in Regions and Network Vice-Presidencies) and owners of systems and processes (e.g., the Controller represents Controls and Finance, the Director of Resource Management represents the budgeting process, etc.).

and database servers. A robust information management architecture was created to provide a solid foundation for the next generation of Web services and portal applications.

**Figure A** IT Framework 1996–2002: Building the Reliable IT Foundation
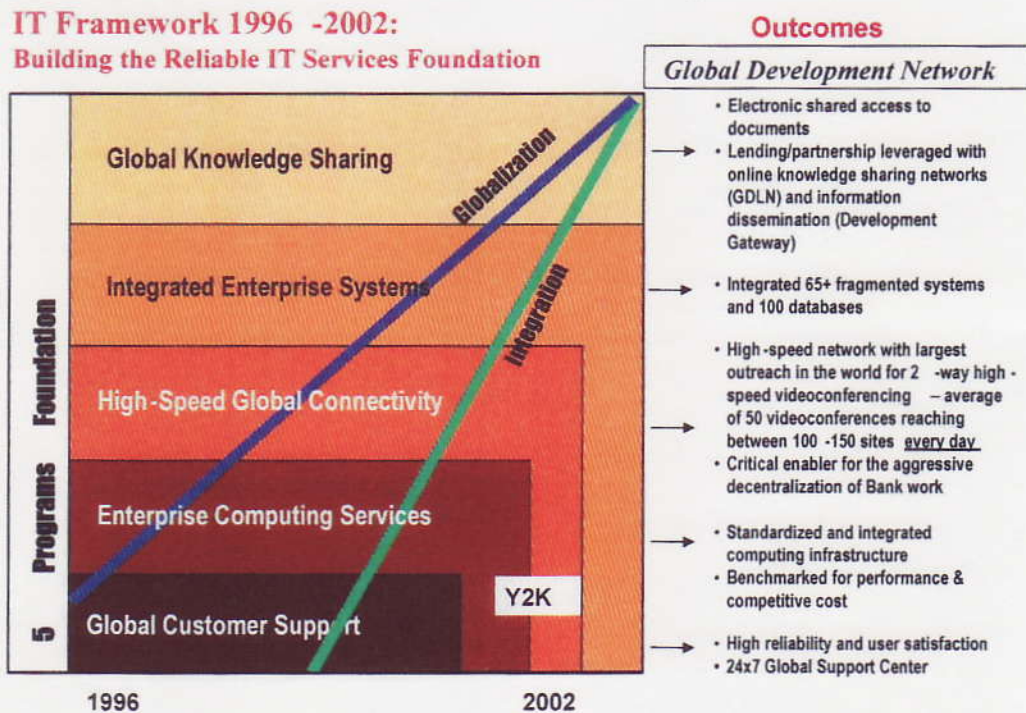


Source: World Bank

**Exhibit 8** contrasts IT before the 5-Point Program was implemented and after. The IT group accomplished a great deal over six years and, with senior management support, they are pushing the frontiers of how information technology can help the Bank achieve itsmission.

## A Unique Network Solution

Although all aspects of the Five-Point program became critical to delivering on the President's vision, the Global Communications Network is clearly the essential highway on which everything else rides. As such, it continues to be a critical lever in transforming the organization. Upgrading of the network is an ongoing process with annual investments to improve performance, reliability, and coverage.

The Bank is able to provide voice, data, and videoconferencing services to country staff and clients from 110 country offices and related distance learning centers, many where local telecommunications infrastructure was not reliable or available. The network is monitored real-time in a modern control room (built in 1999) staffed with 30 support personnel.

Country offices vary considerably in size and design but an average office environment has from 20 to 50 staff members. Offices are typically free-standing buildings, though they might also be a few

floors in a shared office building. Power generators are located nearby, and relied on regularly. An Uninterruptible Power Supply (UPS) safeguards the office intranet and network servers. Staff offices have PCs.

Videoconferencing facilities were available and increasingly utilized, as described in the sidebar. Additional office space with PCs is available for anyone visiting on a "mission" from the Bank. Clients visit Country offices about as often as staff members visit the Client offices.

In some countries a distance-learning center is co-located with the Bank office. In those cases, a second videoconference facility shares network infrastructure with the office but has its own dedicated bandwidth. (Most office locations now operate on highly reliable service at 786 kbps—kilobits per second.)

About three-fifths of the country offices are connected by geo-stationary satellite—a dish sits on the roof or out in the yard. The remaining two-fifths of the country offices are connected with fiber optic cables. The World Bank partners with IntelSat as well as various private sector vendors for satellite services and link maintenance, but given the challenges of local conditions, the mesh network connecting the 110 offices is managed as a private global network.

Over the years, many vendors have suggested the Bank could outsource its

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**A Day in the Life
of the Videoconferencing Service**

On a Thursday in October 2003, the Bank conducted 67 videoconferences reaching a total of 215 sites worldwide. The conferences started at a little after midnight Washington time and ran throughout the next 24 hours. Conferences included distance learning sessions, project coordination meetings, conferences of government officials from different countries with shared issues and concerns, regular staff meetings and team meetings of teams that gather virtually as they are located all over the world. A sample listing of the topics for the day includes:

- Strategies to Alleviate Rural Poverty
- Religion and Health
- Lebanon Hydrocarbon Study
- Uganda Poverty Strategy Credits
- Indonesia Catchment Protection
- Tajikistan Public Expenditure Review
- Judicial Reform Improving Governance in Kenya
- UNICEF / UNDP Partners Meeting
- Argentina Country Assistance Strategy
- Peru Decentralization Adjustment Loan
- HR Issues consultation with the Indonesia Office
- Decentralization in Madagascar
- Ghana Urban Water
- Consultative Group on Agriculture

**Source:** World Bank

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global network. As the Bank evaluated these offers, a routine question was asked: "Do you provide network service in Ouagadougou?[10] Do you know where it is? We need to enter transactions from virtually any place in the world, including Ouagadougou." For many vendors, "global" means Pacific Rim, Europe, and North and South America. Muhsin says with a smile, "we sometimes refer to this as the Ouagadougou Factor."

Network connections to the country offices enable Bank staff members to speed consultation and decision making, to share knowledge and experience, to process transactions, and to conduct business via videoconferencing as well as email and other network-based applications. In some cases, the offices are able to communicate over equally modern communication infrastructure with their clients, but just as often that is not possible. Virtually all countries are looking to advance their information technology infrastructure at a rapid rate.

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[10] Ouagadougou (pronounced Wah-ga-do-goo) is located in Burkina Faso, a country located in West Africa north of Ghana, The country gained independence from France in 1960.

## Network Architecture

The Bank's network integrates capacity from three satellites that—together with a few dedicated terrestrial links—cover all World Bank offices worldwide. The network makes use of a number of different technologies to optimize utilization: Demand Assigned Multiple Access (DAMA) allowed flexible allocation of bandwidth among sites; Single Channel Per Carrier (SCPC) allowed dynamic sharing between voice, data, and video services; and Time Division Multiplexing/Time Division Multiplexing Assigned (TDM/TDMA) allowed sharing of satellite capacity.

In 2003, the Bank completed conversion of its full network—voice, video, and data—to run over a single protocol, IP. Working closely with cutting edge technology, the Bank was one of the first in the world to optimize all its traffic across a single protocol data stream further increasing the efficiency of utilization of the total network bandwidth and further standardizing the technology to enhance reliability and support new functionality.

The Bank's network dynamically allocates satellite resources gaining time-zone efficiencies; it automatically distributes capacity between voice, data, and video services to maximize utilization of bandwidth. Not only is the same standard quality of service available to every office, it is easily scalable, upgradeable, and can be re-engineered as business requirements evolve. (See **Table A.**).

**Table A**   Technical Attributes of the Global Communication Network at the World Bank

|  | Latin America, Africa and Middle East Network | Eastern Europe Network | Asia Network |
|---|---|---|---|
| Number of nodes | 64 | 19 | 26 |
| Satellite bandwidth | 96Mhz | 16Mhz | 36Mhz |
| Satellite bandwidth provider | Intelsat | Orion | Intelsat |
| Satellite | 342 degrees Global Beam—C band | Orion 3 Hemi Beam Ku-Band | 64 degrees Hemi Beam—C band |
| Number of simultaneous voice channels | 320 | 114 | 130 |
| Number of simultaneous video channels (256kbps) | 64 | 19 | 26 |
| Data handling capacity | 50Mbps | 14Mbps | 20Mbps |
| Data handling capacity per office | 768kbps | 768kbps | 768kbps |

**Source:** World Bank

## Network Costs

As a critical lever in transforming the organization, the implementation and upgrading of the network became an ongoing process with annual investments to improve performance, reliability, and coverage. The Bank invested $4M a year since 1997 on development and upgrades to the Global Communications Network. **Table B** details the annual operating cost of $12.3 million:

Table B . World Bank IT Operating Costs for their Global Network

| | |
|---|---|
| Labor (Management Fee) | $1.393 million |
| Satellite Bandwidth + Satellite Equipment Maintenance | $10.295 million |
| Network and Video Equipment Maintenance | $0.604 million |

Source: World Bank

One assessment of the Global Communications Network by industry analysts found that World Bank unit costs per gigabyte of data transmission were lower than all comparison organizations in their database; cost efficiency normalized for workload was about twice as good as the peer average. Business Benefits of the Global Network:

The global network achieved many of the benefits envisioned by Wolfensohn. The rest of the 5-program strategy improved the cost effectiveness and productivity of the Bank. **Table C** captures the scope and scale of IT-enabled business changes between 1996 and 2002.

Table C    IT-enabled Business Changes Between 1996 and 2002

| | 1996 | 2000 | 2002 |
|---|---|---|---|
| **1.  Decentralized Global Organization** | | | |
| Country Directors in the field | 0% | 48% | 66% |
| Regional staff in the field (out of 4,700 total) | 38% | 45% | 50% |
| Projects involving civil society | 50% | | 70% |
| Travel (in number of trips) | 37,000 | | 35,800 |
| Travel (in days) | 405,000 | | 354,800 |
| Video conference with country offices | None | | 9,678 |
| **2.  Standardized and Streamlined Business Processes** | | | |
| Project preparation time | 24 months | 15 months | 15 months |
| Cycle time for project approval | 9 months | 5 months | 5 months |
| Satisfactory project outcomes | 66% | 77% | 68% |
| Projects at Risk | 29% | 15% | 15% |
| **3.  Capacity Building and Development Knowledge-Sharing** | | | |
| Distance learning centers | 0 | 16 | 37 |
| Distance learning conferences | 0 | | 875 |
| Communities of practice | 30 | 110 | 110 |

Source: World Bank

The network has multiple benefits, according to Vinod Thomas, formerly Vice-President of the World Bank Institute and presently Country Director, Brazil:

The use of technology in the country offices not only provides connectivity among the staff and gives the vital link to headquarters, but also as an instrument for dialogue with the clients. Indeed, technology initiatives in the Brazil Office are designed to allow seamless interactions among country-based and headquarters staff and government authorities. Through the use of high-speed satellite links to country offices, regional staff has real time access to key information and maintain close collaboration with headquarters colleagues.

Videoconferences take place on a daily basis, often connecting several sites simultaneously, and allow broad participation among staff and government authorities. Decision-making abilities by the Country Director, Sector Leaders and Task Managers, an increasing number of whom are in the field, have been strengthened by the close contact with HQ-based senior managers. For example, key meetings for the *Country Assistance Strategy* are now conducted across Brazil and the US, with decisions made and implemented more swiftly than before. Also staff are increasingly able to improve efficiencies in their responsibilities and in their interaction with clients—be it in procurement, disbursement, or economic and sector work.

The chief knowledge officer for the Latin America and Caribbean Region, David Gray, recounts the following example of improved performance as a direct result of leveraging the Bank's network to do business differently:

As well as being home to over 50% of Brazil's poor, the Northeast of Brazil is characterized by large wealth inequalities (human, physical, and social) among its states and its people. The World Bank has been working with these states for over three decades both supplying loans and technical assistance. A review found that the Bank's traditional approach was both failing to deliver timely advice and that the capacity to absorb and apply this advice was generally lacking. Based on this, a new approach has been developed, based on the use of a videoconference network. By working with partners, the Bank has convened stakeholders from across the region through NÓS - The North and Northeast Network for Social Inclusion and Poverty Reduction. The network, which can connect many hundreds of participants over nine states, has extended participation to areas and groups normally excluded from dialogue and allowed open and transparent policy debate between actors, including the federal government, local government, the international community and civil society. This is resulting in new levels of trust and cooperation and renewed hope in the fight against poverty.

## Standardized and Streamlined Global Business Processes

Prior to the deployment of the Global Communications Network each local office was a disconnected island with its own standalone information system and custom business processes. World Bank staff in the field were cut off from the rest of the World Bank, and managers often felt they were 'flying blind' because they did not have access to information they needed to manage the country office work program. Project team leaders could not collaborate with team members in the Washington office and with other country offices. Budget information was centralized and country teams had no access with the result that budget management was very difficult. The business strategy of decentralizing World Bank staff and decision making to the field was not feasible under these conditions.

With the deployment of the Global Communications Network, the Bank was able also to standardize and centralize the World Bank's information systems, which also brought standardized business processes to each country office and reduced the World Bank's cost of doing business. Some examples include:

1. The SAP system consolidated 65 disparate business systems into one, and standardized the processes for project cycle work, reducing cycle time with electronic approval of project steps.

2. Real-time project status reports from field-based project staff, central to the analysis of project portfolio risk and proactive project management of risky projects, became accessible to team leaders in the country offices. This included information on project and country budgets—no matter where the expense is incurred and booked. Budget management and forecasting improved to making the Bank better able to deploy resources to high priority areas.

3. The World Bank's knowledge systems and documents are readily searched and accessed on the intranet from any access point in the Global Communications Network, by users with appropriate access and secured connections.

4. Global payroll operations and standardized HR processes helped the Bank deal with complex retroactive payroll adjustments, benefit processing and learning programs, and protected the Bank from consequences of inconsistent application of complex policies in each office.

5. Electronic workflow approvals can be accessed from any remote location, improving processing cycle time for project work as well as administrative and budgetary approvals.

Standardized processes in country offices helped the World Bank ensure better fiduciary controls in remote offices and to use staff more productively for value added work instead of struggling with idiosyncratic processes invented by each office. For example, the country office procurement process is now identical to that used by the Washington Headquarters office, allowing transparency in procurement contracting, reduced cycle time of procurement and, more importantly, fungibility of staff between Washington and country offices.

The Global Communications Network and systems enabled the World Bank to make its decentralization strategy work—enabling improved client responsiveness and improved project success indicators. "As elegant as all this may seem now, getting to this point and getting people to accept standardization was like a real battle," Muhsin quipped.

## Offshoring

A review by external consultants determined that indeed there was a strong business case for locating work in different parts of the world and leveraging highly skilled staff and providing better client service while being cost effective.

The World Bank established an accounting office in Chennai, India for all account related back-office processing. Invoices are scanned in Washington and processed overnight in the Chennai office. Payroll operations, travel accounting, loan accounting and disbursement functions are other processes moving to the Chennai office. Helpdesk 24x7 support of worldwide operations is becoming a viable proposition. Experts were added through contractors working on new systems requested by the owners of various business processes—budgeting, accounting, human resources, etc. With a global model and standardized business processes and systems, transactions no longer needed to be

processed at Headquarters but could be positioned at any location that offers comparative advantage over Washington.

The offshore model provides rapid delivery of business systems leveraging a cadre of highly skilled resources, quick project ramp up and taking advantage of a 24-hour development cycle—all enabled by the World Bank's Global Communications Network. Muhsin supplements his staff of 415 full-time World Bank Employees with between 150 and 250 contractors depending on current projects about half of which are located offshore. A few Bank IT staff located offshore to facilitate the contract management.

As a result of offshoring, World Bank improved client services with highly qualified staff. This sourcing strategy helped the Bank reduce costs and deliver on its IT strategy.

## Responding in a Crisis

Not surprisingly, the global network proved indispensable immediately after the events of September 11, 2001. Restrictions on staff travel made reliance on the voice, data, and video traffic over the network critical to continued operations. Again during the SARS crisis, key members of a project team were unable to travel to China to negotiate a huge and critical agreement. Instead of just canceling everything and stopping the negotiation until a team could be sent, the Bank suggested—and China representatives agreed—to negotiate by videoconference. Local IT staff from the China country office arranged for a network connection to be established in the Finance Minister's offices and the meetings went on—often at night for one of the parties, given the 12-hour time difference.

Frannie A. Léautier, the newly appointed Vice President of the *World Bank Institute* (WBI), was involved in the negotiation with China: "Even though we weren't able to sit down and look at each other in the eyes, in a face-to-face sense, the technology let you zoom in and read someone's body language. People felt quite comfortable by the second day of negotiations, and by the third day they were actually more efficient than if people had been face-to-face."

## Spurring the Knowledge Revolution in Developing Countries

WBI had a strong outreach program, increasingly relying on technology leverage to accomplish its goals. WBI's overall vision is to "spur the knowledge revolution in developing countries to be a global catalyst for creating, sharing, and applying cutting-edge knowledge necessary for poverty reduction and economic development."

WBI is a 160-person organization responsible for learning and knowledge programs supporting a wide range of areas: poverty reduction, environmentally and socially sustainable development, financial and private sector development, human development, and infrastructure.

WBI faced a number of IT challenges. First, there were many *global differences* in connectivity, affordability, and access to technology. Another challenge was the nature of *tacit knowledge*—unique knowledge in the heads of the individual experts and professionals who delivered services throughout the world. Tacit knowledge was immensely difficult to document and share. (One example of tacit knowledge is how to approach a tough negotiation—a common activity for World Bank staff members, and an especially important area of learning for new staff members.) It was widely recognized by WBI and others at the Bank that technology alone would not be sufficient. The power of IT can be best leveraged when other non-technical issues are addressed at the same time, such as management support, staff behavior, incentives, etc.

WBI and regional vice presidents became active in a project called "tacit downloading." A manager returning from an important mission (i.e., a trip to a client country) is debriefed in a journalist-styled interview. A few key questions are asked: (1) What was the most important element of this mission? (2) What did you learn? (3) What were the challenges? The "tacit downloading" session is videotaped, digitized, and immediately made available over the Bank's intranet for use by other staff members. The on-line video is linked to related project documents, project evaluations, and client feedback to aid future projects.

WBI runs 500–600 learning programs for clients annually.  They work with 48,000 client participants in more than 150 countries.  WBI arranged formal partnerships with more than 115 organizations, and informally with 250 more. The Global Development Learning Network (GDLN) – a network of some 60 distance learning centers – leverages the World Bank's Global network

The launch in November 2002 of the GDLN along with the Municipalities Network (MUNINET) was marked by the participation of World Bank President, James D. Wolfensohn from Brasilia. Eleven interactive sites (including Washington DC) plus points distributed in some 2,300 municipalities in the country were connected through the GDLN Network bridge, allowing Wolfensohn to interact with over 2,000 mayors.

Léautier described a fundamental shift made possible by communication technologies:

> By 2003, country directors were responsible for creating the three-year country assistance strategy.[11] Previously, a staff member in Washington, D.C. prepared this. The world changed: we moved toward having much more inclusiveness in the decision-making at the country level. Improving client service required putting together a strategy with much more teamwork between the professionals in the Bank and the country team.

## Lessons Learned

Muhsin's experiences since becoming CIO were many.  He had been through numerous change programs utilizing IT as a key business lever – and in each case the technology interacted with changes in business processes, systems, and applications. Several important lessons stood out:

*Keep the business leaders fully engaged on major change initiatives leveraged with IT*

The information technology platform moved from custom applications to a $50 million systems renewal effort relying on commercial off-the-shelf software (e.g., PeopleSoft, SAP). This happened despite a commonly held belief that the Bank's operations were unique and could only be administered with proprietary systems.  To make this transformation successful, Muhshin reached out to other leaders in the organization to help.

Muhsin asked Jean-Louis Sarbib, who was Vice-President of the Africa Region at the time (and presently Senior Vice President and Head of the Human Development Network) to chair a "Systems Renewal Steering Committee" where business users could bring their "questions, doubts, nagging

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[11] The Poverty Reduction Strategy Plan (PRSP) is the country's overall plan for progress. The Bank's role is defined in the Country Assistance Strategy. The Comprehensive Development Framework (CDF), as described in **Exhibit 6**, is the overall approach the World Bank advocates for helping countries reduce poverty.

feelings, and problems." Sarbib set forth with an objective to get project concerns out on the table for discussion, with the ultimate goal being to create consensus around the project. Sarbib recalled,

> The decision was made to go for the "big bang" approach; this would totally revamp all the systems. It would also require different behavior and much more ownership-taking by people for their transactions. As with any effort of this magnitude, it generated a lot of advocates and a lot of antibodies. Mohamed decided to create the Systems Renewal Steering Committee, which was a way for all the stakeholders to come together on a regular basis, to be made aware of the progress and also to have a way of managing the political economy of the transformation.

Muhsin reports to Shengman Zhang, one of the Bank's Managing Directors. At one point, the "systems renewal project" was coming under fire for costing too much. Zhang, who reported directly to President Wolfensohn, protected the IT organization from "getting too many arrows." According to Zhang:

> We start out saying "These projects will save us money." But, the fact of the matter is the savings they generate are mostly indirect and difficult to capture — they make work easier and better, but they don't generate savings directly. This (Systems Renewal Project) enables us to do work faster, better, and more efficiently.

Another area Zhang helped with was implementation. Systems renewal created dramatic change; even basic processes like expense reporting and new hire reference checking changed. This led to considerable resistance and nearly derailed the implementation. ISG established a "war room" to deal with complaints and confusion. Zhang helped here as well:

> First and foremost "I was in a position to tell them, when they complained, that the decision has been made. Their job is to help get it done!" Another key was making timely decisions when issues did arise: we would analyze, assess, and decide on them quickly. Initially, we met in the war room on a daily basis, relaxing that to weekly and eventually monthly as the systems were installed.

## Managing expectations can save your program

Major initiatives like the Five Point Program IT strategy implemented by the Bank inevitably resulted in a huge challenge for managing change. Staff and clients are asked to change the way they do business and often to use new interfaces and systems. Even if there are clear benefits to the new services, there is a period of adjustment that cannot be avoided and should not be underestimated.

For Muhsin, one of the most useful pieces of advice he got during the last few years of intensive implementation was from Michael Hammer, who warned of the need to manage the "emotional timeline" during the system driven changes that were being made. Hammer described the emotion of participants in these changing systems as moving from *shock and disbelief* at the time of the system going live to more general *skepticism* and eventual *acceptance*. It often took a long time after the initial implementation for staff to recognize the *true power* and *benefit* of transformative business systems.

Muhsin's experience confirmed Hammer's advice: right at the time of "go live", IT people were relieved and excited to be on the home stretch while end users were being pushed to the limits of their capacity for change. "It is important to be out there talking with your clients and sponsors about what to expect and warning your staff that there will be push-back," says Muhsin. "We referred to it

as *the Dip*. You actually go down in productivity right after go live before you really begin to get the benefits."

### Sustained support from the top makes all the difference

Muhsin attributes the IT group's success to several key factors, but most critical was strong support of the World Bank Group's top management. One meeting with Wolfensohn is most memorable. In 1997, shortly after Muhsin became CIO, implementation delays, scope changes, and training demands increased projected costs of the ERP SAP system by $10 million over the original budget. Wolfensohn was upset. Muhsin brought in Ken Thornton—General Manager of IBM's Global Public Sector Practice and strategic partner in the ERP implementation—to discuss the problem. Thornton assured Wolfensohn that overruns occur in 80% of ERP implementations. Wolfensohn made it clear he wanted to be in the other 20%! As the meeting came to a close, Thornton implored Wolfensohn not to lose faith and to keep pressing on with the project. As he left the meeting, his parting message to Wolfensohn was a simple one: "Don't blink." Later that day, Muhsin ran into Wolfensohn at the elevator. "Don't worry," Wolfensohn said, "I won't blink!"

Muhsin notes, "As the Bank has gone through many stages of IT-enabled transformation with their attendant trials and tribulations, Wolfensohn has not blinked." Indeed, Wolfensohn has kept his eyes on the progress. "My biggest worry," says Wolfensohn, "is to maintain the pace of IT systems development—which has been quite extraordinary." A deeper worry is utilization.

According to Wolfensohn:

> We are ahead of our culture's willingness and ability to utilize and absorb the technology. Although we are way ahead of any other international development organizations, we still have a gap in adoption. The gaps between availability and usage are major. How do we close that gap?

> At my level, you have to keep talking it up. Using it. Talking about it intelligently. These are not just toys but knowledge tools enabling a change in scale and effectiveness in our efforts. I believe in a knowledge-based organization. Knowledge can drive organizational direction—if you present people with information I think they will act rationally.

Wolfensohn viewed communication technology as the key to scale, not just for internal use but also for reaching outside the organization. To fully benefit from this, widespread usage was key.

### Assemble a First-Rate IT Team

Muhsin came from the business side of Bank to take over leadership of the IT function. His business perspective helped to get the IT function a seat at the table. But Muhsin is the first to point out that you need world-class IT talent and an IT senior leadership team with unquestioned commitment to deliver. He explained, "At every opportunity I told the President about the quality of my staff and their long hours and dedication. The President always made time for us. When we had meetings of the IT function, he could be counted on to stop by and show his appreciation. It made a huge difference."

## IT Framework 2002 – 2006

*Building on the foundation and meeting the new challenges*

By 2003, the basic IT foundation was in place to support 7,000 staff members in Washington, 3,000 more staff members located in country offices, including 16,000 desktop and laptop PCs. Managers throughout the Bank could look at the same data—whether from Washington headquarters or as a Country Director in South Africa.

In planning for the future, Muhsin and his staff consulted with various stakeholders throughout the areas of operations, regions, and networks. The consensus was that over the next three to four years, the IT function needs to leverage the investments in the technology and systems platforms described in the 2002 – 2006 plan to enable key Bank business strategies. (See **Figure B**: IT Framework 2002-2006.)

**Figure B**    IT Framework 2002 – 2006: Enabling the Business Strategy
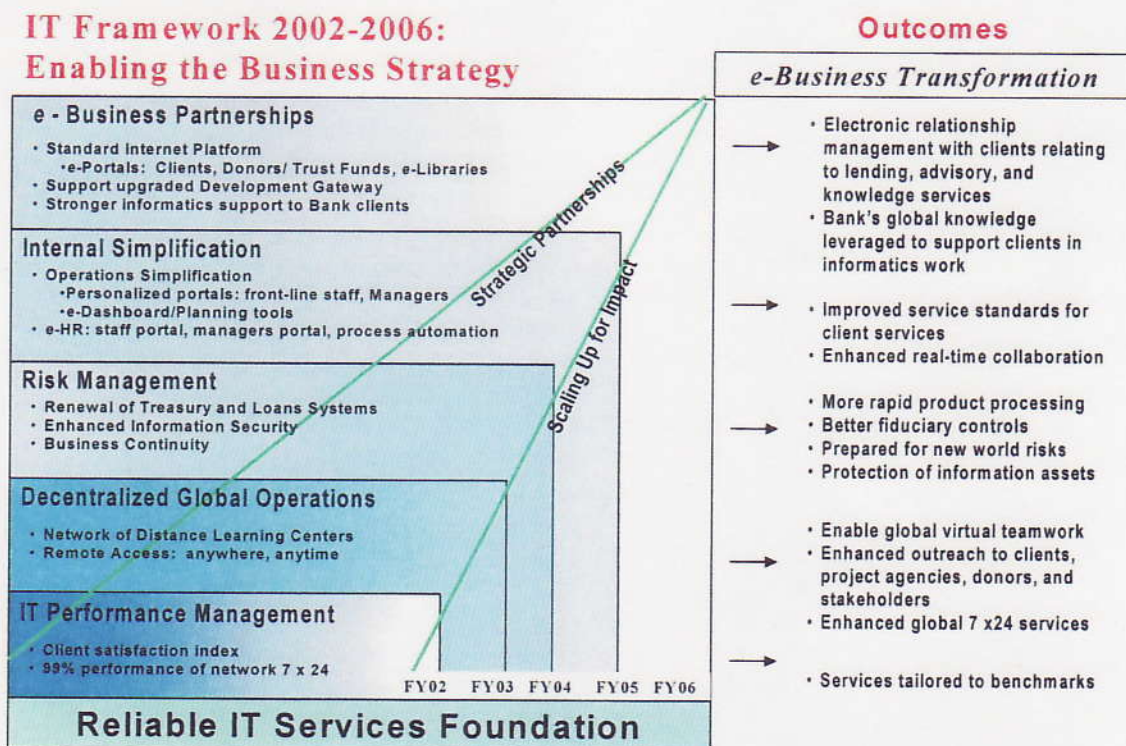


**Source:** World Bank

*Strategy for Customer Relationship Management Portals*

Web portals are increasingly being used to convey information (e.g., project status, expenses, cash flows, and financial/loan agreements) to clients in developing countries, train new staff, help share

information between projects and connect staff experts across areas of expertise, and also contribute to lifelong learning (constant learning is needed and having access to the information and expertise is key; in addition the convenience of online learning is important.) Progress on portals is being made quickly (the overall architecture is shown in **Exhibit 9**—Internet Services Program Architecture).



Source: World Bank

In many ways, the Client Connection is emblematic of the implementation of Wolfensohn's vision. Wolfensohn had been pushing for systems investments to go beyond internal processes and really deliver value to the Bank's clients. "Why." he asked, "shouldn't it be possible for clients of the Bank to see and manage their relationship with the Bank on line just like customers of, say, Citibank? We need to give them a card that gives them access to their disbursement information, their lending activities, whatever we are engaged in providing them."

Wolfensohn says he frequently provides these ideas to the Bank's IT team. IT and the business units they work in partnership with figure out how to do it and often come back with something even better. At the 2003 Bank Annual Meetings in Dubai, Wolfensohn announced the Client Connection as a key element in the overall strategy to increase e-business partnerships. The Client Connection is a new secure website offering government officials and project implementing agencies quicker access to information related to their lending activities as well as the Bank's country analytic work. The main objectives of the Client Connection are to support better-informed decision-making and to simplify the process of doing business with the Bank.

The Client Connection gives clients access to confidential information about their projects and loan portfolio including:

-
- The status of individual loans, credits, grants, and trust funds
- Disbursements, loan charges, debt service and bills
- Related legal agreements and project documents
- Model forms for financial transactions
- Details of procurement transactions

World Bank knowledge resources including:

- Country-specific research, statistical data, economic and sector studies
- World Bank lending instruments and financial products
- World Bank news, reports, publications, policies, procedures, forms and templates
- World Bank-supported projects and programs

Client Connection is the World Bank's answer to online portfolio management. The new website is fully integrated with the Bank's business systems. "Clients want to make well-informed business decisions," says Jan Wright, Loan Department Director. "By providing accurate, up-to-the minute information online, Client Connection will help clients plan and manage better; and it will also be a place where they can initiate financial transactions with the Bank online and track their status."

Consultations and testing sessions were held with clients and staff during the development phase. A high level of attention was paid to security and access. The Client Connection was scheduled to launch in 10 countries beginning in October 2003. A full-scale roll out is planned beginning January

2004. Over the next several months, a communications and training campaign will help designated Bank staff become versed in the Client Connection so that they can help clients begin using this powerful new tool.

## IT and the Frontline Business

Muhsin saw the need to refocus IT investment from modernization of internal back-room business functions to delivering information to the front line business process, and out into the field in support of client interactions. One way of doing this is through information portals improving work efficiency and effectiveness for managers and teams while also improving services for clients and partners. At the same time, it was critical to maintain seamless integration of the diverse portals to make the user experience—external to the Bank as well as internal—as productive as possible.

One unanticipated result of the Bank's experience with the use of IT in its transformation has been that governmental organizations in clients countries are now looking to the Bank for direct assistance and advice on IT components of their development projects. The Bank's experience in implementing its own comprehensive IT strategy has given it substantial credibility with clients in this arena.

They are especially interested in the Bank's implementation experiences. The Information Solutions Group now includes Informatics Services to provide expertise to clients through the Bank's front line country programs as they attempt to address the digital divide.

For example, as Afghanistan emerged from the war, one of the first things Wolfensohn did when he met with President Karzai, was to offer to set up a global communications capacity with a distance learning center. Karzi recognized immediately the power and the potential of information communications technology. The satellite based distance learning and video conferencing center in Kabul now connects Afghans, helps them share ideas, and transact business globally. It provides them with their first-ever robust government e-mail system. At the beginning, money for the banking system had to transported in suitcases under escort to Dubai. Now, their connectivity provides them an electronic money transfer system.



Source: Freeplay Foundation

It's not only global scale and connectivity to bridge the digital divide that interests Wolfensohn. He is continually pushing the envelope for the application of appropriate technology in international development. One of his favorite examples is a blue plastic hand-cranked and solar powered radio on display in his office. It costs $40, is simple to use, indestructible and reliable in widely varying environments. Given the excellent sound quality, 40 people can hear it clearly, making it a cost effective tool. Two minutes of cranking powers the radio for two hours—fully charged the radio plays non-stop for 24 hours—expensive batteries aren't needed. Language instruction, education, and medical information can be delivered via radio throughout developing nations. Without these kinds of simple devices, "When the batteries die, learning stops" says Freeplay Foundation (www.freeplayfoundation.org), creator of the Lifeline radio (shown here[12].) Inspired by this example, Wolfensohn asks, "Why not a hand-cranked PC?"

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[12] See www.freeplayfoundation.org for more information on the Freeplay organization, whose "sole mission is to enable sustained delivery of radio information and education to the most vulnerable populations via self-powered radios."

## Conclusion

The expectations placed on the Bank's IT function have steadily expanded in the five years since the function was consolidated and resources aligned to business needs. Indeed, Muhsin reported that when he goes to conferences with other CIOs, most complain that their main problem is lack of support from the top management. Muhsin recalls, "My problem is somewhat different. I have more support from top management than I know what to do with. My problem is managing expectations!"

Managing Director Zhang believes that business strategy and IT strategy are intertwined and he commented:

Decentralization continues. Internally we are working on building capability and capacity. We are also focusing more on the client side to make it easier to become integrated with clients (for disbursements, payments, and status of project implementation.) A key part of our client relationship is knowledge sharing. Sometimes knowledge is embedded in the relationship. Sometimes it comes in the form of a loan. Other times it is in the form of a study or simply a conversation. A challenge is how to capture, package, and disseminate this to all parties.

We continue to look for ways to link costs to benefits. The benefits of the technology are constantly changing: we started with the ability to have a video conference between two people, and that expanded to five. Before you know it, you'll be able to have a videoconference with the whole world. The question is, "Where do you cut off?" Where does the cost vs. benefit make the most sense?

Information Technology is very important to our strategy. These days we can't work without it. By enabling speed of communication and parallel operations and global finance, IT innovation allows us to build in support for our work, including transparency of the organization.

Muhsin thought to himself about Wolfensohn's view that, "IT is the key to scale: our clients and especially the world's poor are depending on us to scale up our impact." As Mushsin prepared for the annual IT review discussion with Wolfensohn and the management committee, he challenged himself to think of new and innovative ways the Bank could increase the leverage of IT. Muhsin believed that the creative and productive utilization of IT by staff presented numerous opportunities to support clients and directly assist developing countries in using IT to accelerate development.

**Exhibit 1**    The World Bank's Global Communications Network
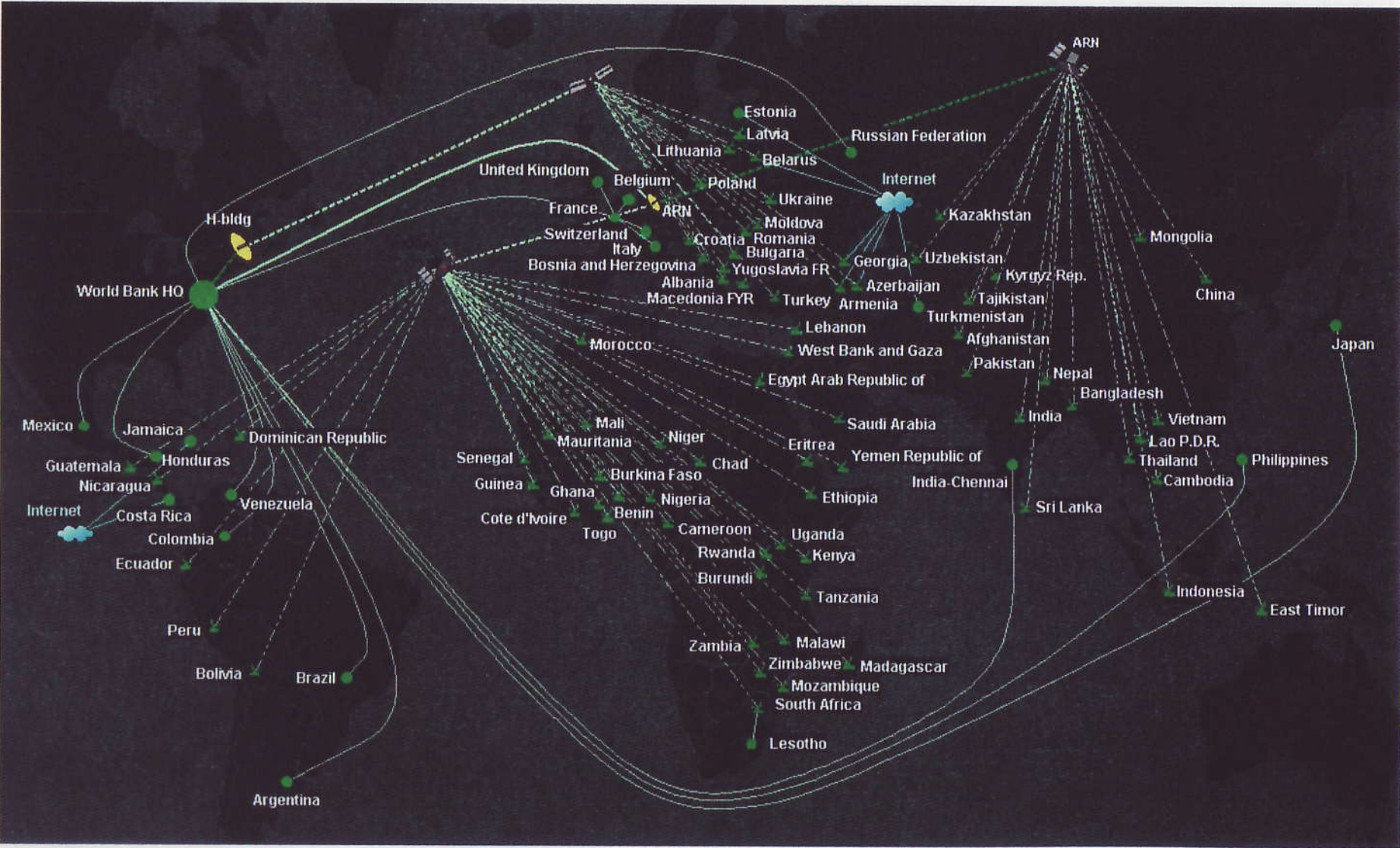


Source:    World Bank.

**Exhibit 2**   Organizational Structure of the Information Solutions Group at the World Bank

**Position of IT Function in the World Bank Organization**

```
                                    Board of Governors
                                          │
                                    Executive Directors
                                          │
                                       President
            Chief ──────────────── James D. Wolfensohn ──────────── General
          Economist                                                 Counsel
```

| Managing Director<br>Mamphela Ramphele | Managing Director<br>Shengman Zhang | Managing Director<br>Jeffrey Goldstein | Managing Director<br>Peter Woicke |
|---|---|---|---|

**External Relations**

**World Bank Institute**

**Regional Vice-Presidencies**
Africa
East Asia
Europe & Central Asia
Latin America & Caribbean
Middle East & North Africa
South Asia

**Human Resources**

**Network Vice-Presidencies**
Environmentally & Socially Sustainable Development
Human Development
Infrastructure
Poverty Reduction & Economic Mgmt.

Operational Policy & Country Services

Information Solutions Group

Strategy, Finance & Risk Mgmt.

Controller

Treasury

Financial Services Network

Concessional Finance and Global Partnerships

Private Sector Development Network

Vice-President & Chief Information Officer
Mohamed Muhsin

| Corporate Information Services | Global Communications & Support | Enterprise Computing | e-Development & Informatics Services |
|---|---|---|---|
| •Enterprise Applications<br>•Internet Services<br>•Information Mgmt.<br>•Data Management<br>•Libraries and Archives | •Global Network<br>•Support Center<br>•Videoconferencing<br>•Remote Access | •Electronic Mail & Messaging<br>•Data Center<br>•Server Mgmt.<br>•Database Mgmt.<br>•Product Engineering | |

Source:   World Bank.

Exhibit 3    World Bank Biographies

## James D. Wolfensohn, President, The World Bank Group

James D. Wolfensohn, the World Bank Group's ninth president, established his career as an international investment banker with a parallel involvement in development issues and the global environment. He was appointed as President of the World Bank in 1995.

Since becoming president, he has traveled to more than 100 countries to gain first-hand experience of the challenges facing the World Bank, and its 184 member countries. He has provided the leadership of a major transformation of the Bank's strategy, its management culture, and client relationships emphasizing partnerships and inclusion, a comprehensive approach to development, and the key role of knowledge services and information technology in building client capacity. He has championed the focus on good governance and the involvement of youth as the next generation of development advocates and practitioners.

## Mr. Shengman Zhang, Managing Director of the World Bank Group

Mr. Zhang oversees the six Operational regions of the Bank and the Operations Policy and Country Strategy Vice Presidency. He also oversees four of the Bank's Sector/Thematic Networks: Poverty Reduction and Economic Management, Human Development, Infrastructure, and Environmentally and Socially Sustainable Development. In addition, Mr. Zhang oversees the Information Solutions Group, Human Resources, and Quality Assurance.

Mr. Zhang was Vice President and Secretary of the World Bank from 1995 to 1997; and Executive Director for China from 1994 to 1995. Earlier, Mr. Zhang held senior positions at the Ministry of Finance in China.

## Mohamed V. Muhsin, Vice President and Chief Information Officer

Mohamed Muhsin oversees the development and implementation of IT strategy and services. He joined the Bank in 1988 as Senior Country Officer for the Eastern Africa Department. He has been Principal Country Officer and Chief Administrative Officer in the Africa Regional Office, and Deputy Director of the Organization & Business Practices Department. He was appointed Vice-President and CIO in 1997.

Prior to joining the Bank, Mr. Muhsin served as an Advisor on State Enterprise Reform to the President of Zambia and as Financial Director of the Zambia Industrial and Mining Corporation. Earlier, Mr. Mushin held senior positions in the private sector in Sri Lanka.

## Jean-Louis Sarbib, Senior Vice President, Human Development Network

Mr. Sarbib oversees the Bank's human development strategy and programs globally and advises client countries on innovative and integrated approaches to improving health, education, and social protection with a view to helping meet the Millenium Development Goals (MDGs).

Mr. Sarbib was appointed Vice President of the Africa Region in 1996 and then Vice-President of the Middle East and North Africa Region in 2000. He has pioneered new business models for combining knowledge and lending services to diverse clients, emphasizing teamwork and multi-sectoral approaches. He draws on the experience of many front-line Operational positions since joining the Bank in 1980

### Vinod Thomas, Country Director for Brazil

Mr. Thomas manages the relationship between the Bank and the government of Brazil and is responsible for country assistance strategy and implementation. Until 2001, he was Vice President of the World Bank Institute (WBI), where he sharpened the Institute's focus and quality, expanded its mandate and impact, and developed its knowledge services.

He joined the Bank in 1976. He has held senior academic appointments and is the author of a dozen books and numerous journal articles.

### Frannie A. Leautier, Vice President, World Bank Institute

Frannie A. Leautier, is the Vice President of the World Bank Institute. She was appointed to this position in December 2001. Prior to that, Ms. Leautier was the Chief of Staff for the President of the World Bank Group where she was responsible for providing oversight and guidance to the staff of the President's office in all aspects of their work as well as helping to enhance coordination of the President's Office with other units throughout the Bank. Prior to this, Ms. Leautier held senior positions in the Bank's Operational Vice-Presidencies.

Source:    World Bank.

**Exhibit 5**   Matrix at the Intersection of the Infrastructure Sector and Africa Region

# World Bank Organizational Matrix

# Regions
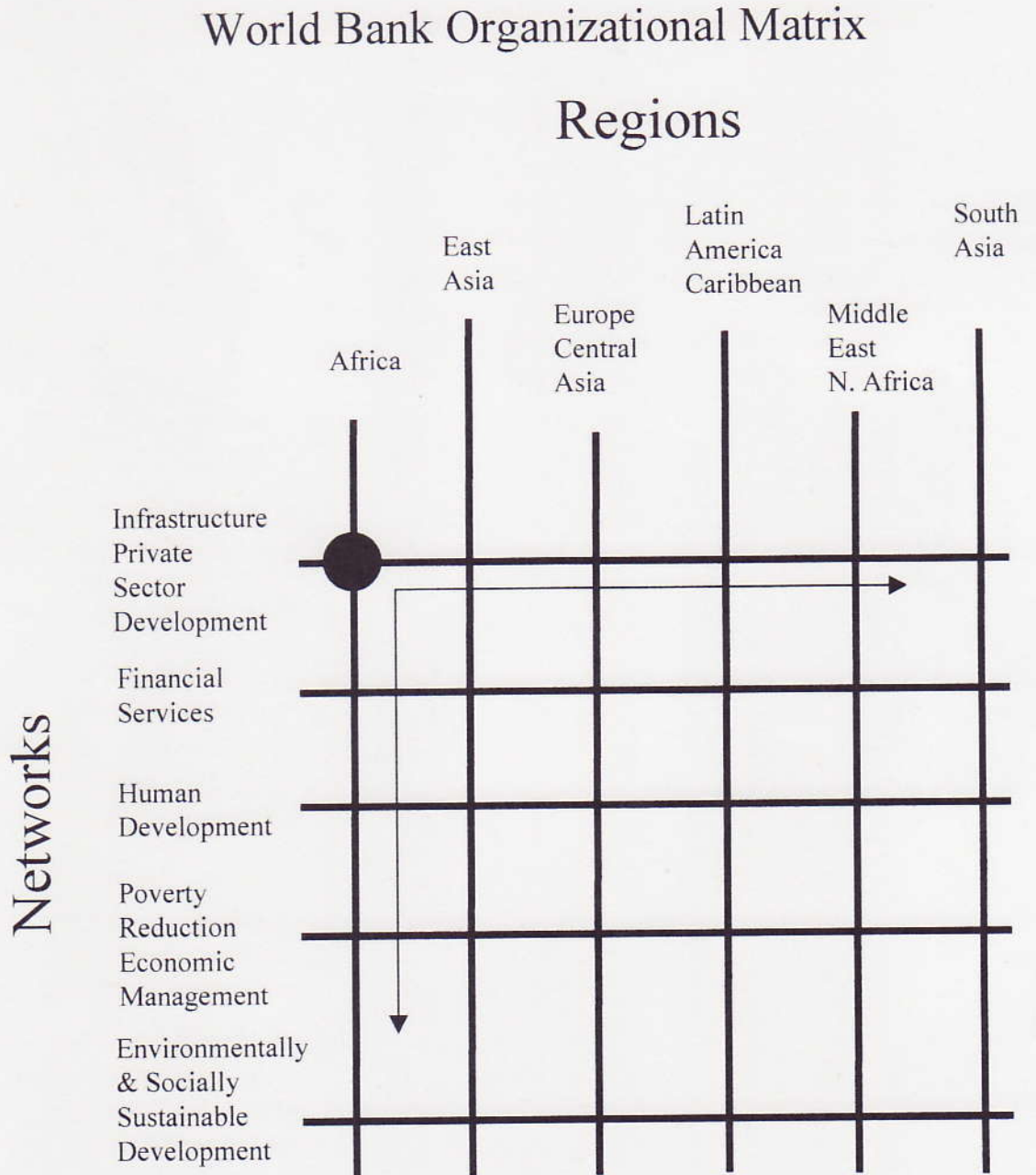
**Exhibit 6**    Global Challenges for the World Bank

*Most often, poverty is a situation people want to escape. So poverty is a call to action — for the poor and the wealthy alike — a call to change the world so that many more may have enough to eat, adequate shelter, access to education and health, protection from violence, and a voice in what happens in their communities.*

— www.worldbank.org

- 2.8 billion people — more than half the people in developing countries — live on less than $2 a day.  Of these, 1.2 billion live on less than $1 a day.

- 33,000 children die daily in developing countries . . . each minute more than one woman dies during childbirth. Poverty keeps more than 100 million children, mostly girls, out of school.

- The average income for the richest twenty countries in the world was 15 times the average for the poorest twenty countries in 1960.  It is now 30 times that average.

- The world population is forecast to increase by about 1 billion between the years 2000 and 2015.  Of that increase, 97% will take place in developing countries

- In the United States, between 1990 and 1998, 8 women died for every 100,000 live births.  In Eritrea and the Central African Republic 1,000 women died.

- In 2000, 36 million people were living with HIV/AIDS: over 95% of them lived in developing countries

- Of 3.4 billion adults in the developing world in 1998, 870 million (one in four) were illiterate

- 90% of urban sewage in the developing world is discharged without any treatment

Projects supported by the World Bank are designed to carry out national poverty-reduction strategies. The **Comprehensive Development Framework** spells out four principles, all of which mark significant shifts in thinking about development since the 1990s:

*Development strategies should be comprehensive and shaped by a long-term vision.* In the past, development strategies emphasized short-term macroeconomic stabilization and balance-of-payment corrections. The CDF stresses longer-term structural and social considerations.

*Each country should devise and direct its own development agenda based on citizen participation.* The CDF view is when countries "own" reforms, governments and their citizens are more committed to them.

*Governments, donors, civil society, the private sector and other stakeholders should work together in partnership led by recipient countries to carry out development strategies.* Partnerships built on transparency, mutual trust and consultation can increase the efficiency and effectiveness of aid.
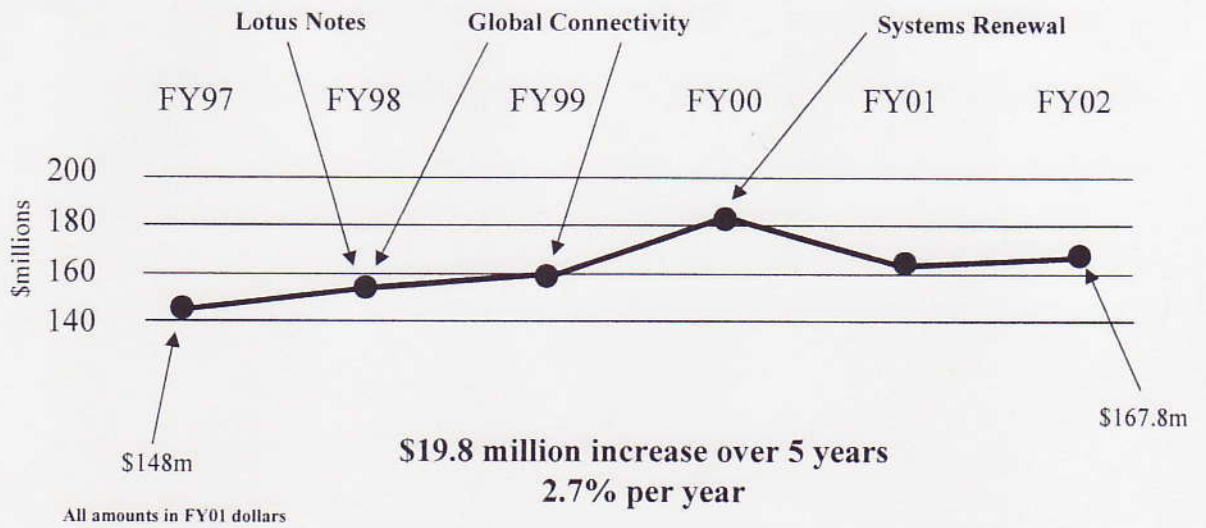
*Development performance should be evaluated on the basis of measurable results.* Traditionally, the Bank tended to concentrate on disbursement levels and project inputs in evaluating development efforts, an approach that measured only resource allocation and consumption.

Source:    Adapted from www.worldbank.org, accessed on Web September 8, 2003.

Exhibit 7    IT Expenditures

| | LAST FOUR YEARS | | | | NEXT THREE YEARS | | |
|---|---|---|---|---|---|---|---|
| | FY99 | FY00 | FY01 | FY02 | FY03 | FY04 | FY05 |
| Total Bank Admin. Expenses[1] | 1,532.0 | 1,587.0 | 1,575.0 | 1,686.8 | 1,686.8 | 1,686.8 | 1,686.8 |
| Total Bank IT Expenses | 160.1 | 182.0 | 162.8 | 168.4 | 180.2 | 187.8 | 187.0 |
| **Percent of Total for IT** | **10.5%** | **11.5%** | **10.3%** | **10.0%** | **10.7%** | **11.1%** | **11.1%** |
| **Work Bank Estimates for Comparison** | | | | | | | |
| Industry Average of 500 Companies | 5.8% | 5.6% | 5.6% | | | | |
| Federal Government | 10.1% | 10.0% | 12.0% | | | | |
| Investment Banking | 10.2% | 11.8% | 12.0% | | | | |

## 5-Year Trend in Bank IT Expenditures



Lotus Notes    Global Connectivity    Systems Renewal

FY97    FY98    FY99    FY00    FY01    FY02

$millions

200
180
160
140

$148m

$167.8m

**$19.8 million increase over 5 years**
**2.7% per year**

All amounts in FY01 dollars

Source:    World Bank.

**Exhibit 8    IT Before the 5-Point Program was Implemented (1996) and After (2003)**

| THEN – 1996 | NOW – 2003 |
| --- | --- |
| **Computing Infrastructure** | |
| ▪ No two computers setup exactly the same<br>▪ Daily problems with freeze-up and re-boot<br>▪ Helpdesk is 6 people, phone #, 1 shift<br>▪ Viruses emerging as a major problem<br>▪ Every change required a visit to the PC<br>▪ Unnecessary complexity driving costs | ▪ Standard Enterprise Desktop Package<br>▪ High reliability and user satisfaction<br>▪ 24x7 Global Support Center<br>▪ Enterprise virus control program<br>▪ Remote install and management of service<br>▪ Benchmarked standardization and competitive cost |
| **Connectivity** | |
| ▪ Email is weak substitute for actual network<br>▪ Separate voice and data, no video<br>▪ Connectivity slow and capacity low<br>▪ Only 3 country offices connected to HQ network<br>▪ No technology for decentralized Operations<br>▪ Satellite licensing is a major barrier | ▪ Global enterprise network with 109 sites<br>▪ Integrated voice, data, and videoconferencing<br>▪ HQ LAN speed increased by a factor of 1000<br>▪ Global link capacity increased by a factor of 15<br>▪ 84 videoconference (VC) equipped rooms<br>▪ Average 50 VCs/day with 120 country links |
| **Systems and Data** | |
| ▪ 100 irreconcilable databases<br>▪ 65+ fragmented systems<br>▪ Massive duplicate data entry<br>▪ Most systems are "home-grown"<br>▪ IS units all over of the Bank<br>▪ Country offices rely on local systems<br>▪ Risk exposure for controls is high<br>▪ Basic Treasury Operation | ▪ Consolidated corporate data store<br>▪ Commercial integrated software packages<br>▪ Control risks reduced (also Y2K compliance)<br>▪ Executive financial management tools<br>▪ Foundation in place for web services<br>▪ Off-shoring of some development costs<br>▪ Single resource mgmt. system for all offices<br>▪ Sophisticated Treasury products—global bonds, hedging products |
| **Information Management and Sharing** | |
| ▪ Almost entirely paper-based<br>▪ Large gaps in official business records<br>▪ Information only in people's heads<br>▪ Photocopying is a major industry<br>▪ Libraries—traditional services only<br>▪ No concept of knowledge management<br>▪ Manual updating of the few electronic documents<br>▪ No Bank Reports delivered online<br>▪ Primitive intranet and Bank web page<br>▪ Hardcopy publications only for clients<br>▪ No collaborative information solutions | ▪ Electronic capture, storage and retrieval<br>▪ Business records captured in electronic form<br>▪ Enterprise electronic information warehouse<br>▪ Electronic shared access to documents<br>▪ Electronic library sources widely available<br>▪ Knowledge communities developed<br>▪ Central cataloguing of all kinds of information<br>▪ 43,000 Bank Reports online<br>▪ Lending /partnership leveraged with online knowledge sharing networks (GDLN) and information dissemination (Development Gateway)<br>▪ External web; 16 million page views per month; 2800 visits per hour; 120,000 content pages |

Source:    World Bank.

**Exhibit 9**  Internet Services Program Architecture

**www.worldbank.org**
Newsletters * Projects * Editorials *
Languages * Search * Development Data

**Staff Connections (Intranet)**
* Services * News * Directory
* Reports * Research * People

| Donors Portal | Client Connection | Exec. Director's Portal | Projects Portal | Team Lead's Portal | Manager's Portal |
|---|---|---|---|---|---|
| • My Funds<br>• Trust Fund<br>• Reports<br>• Bills | • My Loans & Projects<br>• Borrower Procurement<br>• Bills on the web<br>• Policies | • CAS<br>• Country Reports<br>• Country Projects View<br>• Visitors to Country | • Project Information<br>• Project Teams<br>• Project Documents<br>• Procedures | • Projects Portfolio<br>• Projects Information<br>• Alerts<br>• Project Teams<br>• Documents | • Budget Reports<br>• OPEs, Leave<br>• Staff – resumes, lists<br>• Contract Renewals<br>• List of Approvals |

**Core Common Features**  * Workflow  * View Calendar * View eMail * Alerts * Reports * News

## Personalized Information Delivery

**CORE SERVICES (ISP)**

| | |
|---|---|
| Security | → Netegrity |
| Messaging | → MQ Series |
| Transformation | → XML/XSL |
| Web Statistics | → Website Analyzer |
| Transaction Services | |
| Application Servers | → IBM WebSphere |
| Web Servers | → iPlanet |
| User Management | → Netegrity Identity Manager |
| Profiles & Subscriptions | |

**CONTENT MANAGEMENT**

| | |
|---|---|
| Web Publishing | → ePublish |
| Document Management | → IRIS |
| Metadata | → Info. Warehouse |
| Collaboration | → Team Workplace |
| Portal Services | → IBM Portal Server |

**BUSINESS INTELLIGENCE**

| | |
|---|---|
| MIS Warehousing | → SAP Business Warehouse |
| Management Reports | → Corporate Dashboard |

Tight Integration (API, MQ, MLI, 3rd-Party Connectors)

## Application Integration Services

Loose Integration (HTML/HTTP, XML/HTTP, MLI, 3rd-Party)

R/3   People Soft   Loans DB   Other DB   BW   IW

**Structured Content**

Documents IRIS   Lotus DB   Intranet Websites

**Unstructured Content**

Source:   World Bank.