Information Infrastructure, Development, and the World Bank

Washington May, 2000
Topics

- Information Infrastructure & Development
- Strategic Information Systems Portfolio
- NII Strategy
- The Policy and Legal Agenda
- Managing the Strategic Systems Portfolio
Technology Induced Explosions

- Computing power
- Information
- Bandwidth
- Networking
- Global competition
The Battle for the Future

- Expertise
- Speed
- Customization
- Flexibility
- Global Mindset
Information Infrastructure Affects Development in Material, Dramatic Ways

Global Networking

Government
- Streamlined fiscal mgmt.
- National registries (people property, movables)
- Public Information
- Govt. efficiency accountability

Learning and Knowledge Dissemination
- School, science networks
- Knowledge base, libraries
- Training, certification
- School Administration

Private Sector
- Integration into global economy
- Protection of supply chains
- Competitiveness
- Efficient payments & finance
- Trade facilitation

Social Protection
- Health care
- Social Security
- Justice Admin.
- Employment

Environment and natural resource management
- Disaster Prevention
- Natural resource mgmt.
- Environmental monitoring and control.

How Is Value Derived From Information Technology?

THROUGH INFORMATION SYSTEMS:  information-based capabilities of production or performance that encompass a full context of people, institutions, policies, processes, incentives, data, technology, and capital.
What is then National Information Infrastructure?

- Telecom & Data Networks & Services
- Strategic Information Systems
- Policy and Legal Framework
Strategic Information Systems: The Promise

• A new, “Soft” Infrastructure for Development
• A Key Instrument for Comprehensive Development
• The Connection to the Global Economy and Defense against loss of competitiveness.
Infrastructure: Economic Characteristics

- Large Economies of Scale
- Large Fixed Costs
- Large Externalities: Underpinning of Economic Development
THE "HARD" INFRASTRUCTURE OF DEVELOPMENT

- TRANSPORT
- WATER
- SEWAGE
- TELECOM
- POWER
NII: THE “SOFT” INFRASTRUCTURE OF DEVELOPMENT

Infrastructure

Governance

Trade, Finance, & Commerce

Global Networking

Telecom

Social Protection

Environmental Protection

Education & Knowledge
SOCIAL PROTECTION

- Pension/disability contributions, payments
- Population & Health data health supply chain transactions service payments
- Labor market stats. Job vacancies Unemployment comp. payments
- Judicial database queries
TRADE, FINANCE & COMMERCE

Public registry data

Import, export & ecommerce transactions

Payments/Securities Clearance/Settlement transactions

Fin. Institutions oversight data
EDUCATION & KNOWLEDGE

School networking information flows

Science & Technology networking information flows

Electronic library information flows

Education utility information flows
ENVIRONMENTAL PROTECTION

- Digital mapping data
- Environmental monitoring data
- Inspection & enforcement data
NII Strategy

- vision and goals
- policy and legal agenda
- deployment of Strategic Systems Portfolio
- development of specialized human resources
- overall implementation plan
Strategy Formulation Steps (1)

- **Top-down look at the economy and mapping to NII opportunities**
- **Assess the current strategic information systems.**
- **Formulate goals and vision for the NII**
- **Define the strategic investments to achieve NII goals**
Strategy Formulation Steps (2)

- Agree on policy, legal, regulatory, or institutional reforms
- Assess skill and knowledge gaps and formulate HR Strategy
- Develop project implementation profiles
- Determine responsibilities for implementation and oversight of the NII strategy
Managing the Strategic Systems Portfolio

- Take stock of strategic systems projects
- Increase Visibility
- Increase Accountability
- Upgrade System Design
- Improve Project Design & Management
- Reassess Resource Requirements
## The Policy & Legal Agenda

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<th>Supply Side</th>
<th>Demand Side</th>
<th>Market Regulation</th>
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| • Trade incentives  
• Fiscal incentives  
• Directed credit?  
• Export Facilitation  
• TA  
• Training subsidies  
• Educational reform | • Fiscal incentives  
• trade fairs, demo projects  
• Local component requirements for public contracts  
• Private procurement of Govt. IT & services.  
• Quality, Audit, Safety, & Mgmt. Stdrs. for strategic systems portfolio | • Certification standards  
• Technical, safety stdrs.  
• Quality Standards  
• Public information  
• Consumer protection  
• IPR legislation, protection  
• Electronic signatures  
• Privacy, confidentiality  
• Jurisdiction, taxation of e-commerce |
Define Bottomline SIS Portfolio Rules

- **Security & Confidentiality**
- **Reliability & Disaster Recovery**
- **Technology standards**
- **Accessibility & Disclosure**
Job Description for NII Management

Establish NII Administration Standards

- Technology
- Security and Confidentiality
- Financing
- Audit
- Management
Job Description for NII Management

Operate NII Support System

- Promotion & Sharing
- Procurement Support
- Audit and Certification
- NII Education & Training
- Disaster Recovery
Job Description for NII Management

NII Expert Cadres

- Change Managers
- Technology Gurus
- IT Systems Auditors
- IT Procurement Advisors
- Crisis Managers
NII Strategy: Bridging the Connectivity Gap

- Political Will for Policies & Legal Reform
- Leapfrogging in connectivity despite Public and Market failures
- If NII is integral to development, solution must involve the whole economy.
Informatics: Why should the World Bank Care?

Information Infrastructure is now essential for economic development. Thus, NII is the business of The World Bank.