Financing Mechanisms and Incentives to Stimulate Broadband Adoption

Selecting appropriate technology for broadband deployment and financing mechanisms for broadband
ITU workshop on policies and regulatory methods for broadband deployment and broadband access technologies
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LEGAL DISCLAIMERS

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AGENDA

- Funding mechanisms

- Strategies, examples

- Recommendations

KEY SUCCESS FACTORS FOR DIGITAL TRANSFORMATION

- Political support and coordination between different Ministries

- National and regional plans including **financing mechanisms**

- High-speed, High-quality Broadband network and services

- Demand creation programs

- Digital Skills

FINANCING MODELS (SOURCE: PROF. RAUL KATZ)

- **Public-utility Financing Model**

- **Public–Private Financing Model**

- **Central government funding:** government funds through grants, low rate loans from a development banking source, or a Universal Service Fund

- **Operator-funded:** 0perator funds from the capital budget, sometimes complemented by borrowing from lender at a rate reflecting the company's WACC (Weighted Average Cost of Capital) or even issuing of a bond.

PUBLIC-UTILITY FINANCING MODEL

- Borrowed from electric utility industry
- Funding entails a municipality, an investor (e.g. bank, pension fund) and lender
- Municipality provides certain financial and non-financial contributions (e.g. feasibility study, right of way permits, ducts access)
- Investor provides funding for equity
- Lenders require a collateral interest in assets, including rights to receive senior pledge of revenues

PUBLIC-PRIVATE FINANCING MODEL

- A PPP financing model requires investors (construction companies, banks, pension funds, infrastructure funds) and lenders (private sector project finance banks)

- Usually entails creation of a special purpose vehicle (lending is based on the projected income from the project)

- Lenders "ring-fence" revenues and hold collateral against project assets

- Project contracts are critical in mitigating against performance risks of equipment vendors

- Official sector (development banks) contribute to mitigate risk

UNIVERSAL SERVICE FUND

- Universal Service Fund is an opportunity for the funding. Many countries have USFs but not all countries are effectively using them.

Therefore it is important to;

- Develop successful USF projects for Digital Transformation (especially for the use of ICT in Education and broadband/device programs for low income people).

- Use USF Projects as a model for National Scale Projects.

- Consider to impose an upfront USO (Universal Service Obligation) for the licences. 700 MHz is a good opportunity. Germany successfully deployed for LTE 800 MHz (licenced operator can start to offer service in the cities after completing the mobile broadband coverage of predetermined rural areas).

EXAMPLES FOR USF FUNDED PROJECTS

- Saudi Arabia: Rural Area Broadband Connectivity

- Morocco: ICT in Education Projects

- Turkey: ICT in Education

- Costa Rica: Connected Homes

- Senegal: Digital Transformation for Higher Education - Senegal Student PC program

- Rwanda: National ICT projects

- India: National Fibre Network (4 billion US Dollar)

- Colombia: National Connectivity Project (includes free access to the Internet in educational institutions and community access).

- Malaysia: Netbooks to low income family students at underserved areas

GOVERNMENT BUDGETS

How can we increase the percentage of ICT in Government Budgets?

- Educate ministries (including Prime Ministry and Presidency) on the economical/social importance and benefits of Digital Transformation.

- Work very closely with Ministries of Planning, Finance/Economy, Education (and also with other Ministries).

- Provide the inclusion of Digital Transformation projects in government budgets for the ICT projects

SUPPORT FROM PRESIDENT AND PRIME MINISTER

- Get political support from President and Prime Minister

- Deploy pilot applications (important to get political support.)

- Collaborate with the ICT decision makers at the Presidency and Prime Ministry.

FINANCE SUPPORT FROM BANKS

- Develop projects together with World Bank and other Regional Banks such as African Development Bank.

Example Projects

- **World Bank – Pakistan: National Transmission Modernization Project (536 Million US $)**

- World Bank - eGabon Project (57.5 Million US$): Digitization of health services.

- **World Bank –Cote d'Ivoire: E-Agriculture Project (70 Million US$)**

- African Development Bank: Finance support for regional and international backbones and financing ICT in health, education and agriculture projects.

REGIONAL PROJECTS (AFRICAN UNION, ARAB LEAGUE, ITU ETC.)

Prioritize Digital Transformation in the regional programs to secure the budgets

- Arab League

- ITU Regional Initiatives

- African Union Plans, Projects

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MUNICIPALITY PROJECTS

Municipality Budgets (Example: Istanbul's 2018 Budget is 11 Billion US Dollar)

- Smart Cities

- ICT infrastructures

- ICT Demand Programs

- Digitization (e-services)

LICENSES

- Open door for the investors (mobile, fixed and others) and provide licenses

- Assign broadband spectrum to operators. Spectrum is key for the investment

- Consider USO (Universal Service Obligation) in the licenses.

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VERTICAL PROJECTS:

Use vertical projects and their funds as a tool for the inclusion of ICT and Digitization.

- Health Projects (e-health)

- Transportation Projects (smart-transportation)

- Agriculture Projects (e-agriculture)

- Education Projects (e-learning)

- Energy/Industry projects (smart energy/industry)

- Municipality Projects (smart cities etc.)

ATTRACT INVESTORS

- Develop legislations/regulations to accelerate the ICT investments.

- Provide incentives to investors

- Create attractive ecosystem for the investors

- Provide high-speed, high-quality broadband infrastructure

ENABLING ENVIRONMENT

- Attracting investment in ICT depends crucially upon a supportive environment and a level playing field for business as a whole,

- ICT policy and regulatory environment that encompasses open entry, fair competition and market-oriented regulation.

- Broad-based deployment of ICT also depends on a supportive development policy environment particularly the establishment of national e-strategies and the integration of ICT into other national development strategies.

- Policy and regulatory incentives and more open access policies are also needed for private investment

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KOREA EXAMPLE (SOURCE: WORLD BANK)

The government created an Informatization Promotion Fund to finance projects.
> **-**The fund includes contributions from both the government and the private sector, through spectrum licensing fees, revenue-based contributions from operators, and earnings from the operation of the fund, including loans.
> -Between 1993 and 2002 the total value of the Fund was $7.8 billion, almost half of which came from the private   sector. The rest came from the government budget and sources such as spectrum auctions.
> -Money from the fund is used to support ICT-related R&D, develop and encourage standardization in the ICT industry, train ICT human resources, promote broadband network rollout, and promote e-government.

The government invested more than $900 million in the Korea Information Infrastructure project.
> -The project is an excellent example of the government's integrated, ecosystem-oriented approach to broadband.
> -It was initiated in 1995 and included construction of a national high-speed public backbone, development of ICT applications, and promotion of R&D and IT-related pilot projects.
> -The project fostered public-private partnerships, supported network rollout through certification programs, and established an information promotion fund that encouraged private firms for long-term investment.

Much of the funding for Korea's broadband infrastructure projects has come from the private sector rather than the public sector. Whilst the Government invested more than US$900 million in the KII project, this is a small proportion compared to the total investment in KII of US$33 billion overall.

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BROADBAND COMMISSION REPORT

"CREATING A FAVOURABLE ENVIRONMENT FOR ATTRACTING FINANCE AND INVESTMENT IN BROADBAND INFRASTRUCTURE"

- **Area of action 1: Gaining access to low cost finance**

- **Area of action 2: introducing effective policy and regulation for the ICT sector**

- **Area of action 3: Devising appropriate tax policies for the sector**

- **Area of action 4: selecting and implementing other interventions to underpin the investments**

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BB COMMISSION REPORT: "STIMULATE ICT ADOPTION"

http://www.broadbandcommission.org/Documents/publications/WorkingGrouponDemand-2016.pdf

- Costa Rica's Connected Homes Programme Benefits Vulnerable Socioeconomic Groups

- Colombia's Subsidy Programme to Increase Internet Access for Low-Income Households

- Senegal's subsidized personal computers (PCs) and broadband connections to University Students.

- Republic of Korea's Information Network Village (INVIL) Project has Narrowed the Digital Divide and Provided a Basis for Economic Self-Reliance in Rural Regions

- Stimulating Demand for Relevant Online Content in India

- Kenya Establishes Digital Learning Programme to Drive Primary Education

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BB COMMISSION REPORT : "STIMULATE ICT ADOPTION"

Recommendations

- Establish government subsidies for broadband demand, which may be most effective when targeted at certain demographics or vulnerable populations.

- Expand the use of Universal Service Funds for broadband adoption, including subsidies for devices, content and training. Universal Service Obligations (e.g. conditions on spectrum auctions to incentivise adoption by vulnerable demographics) could also be an effective means of reaching vulnerable and underserved populations.

- Subsidies that lead to self-sufficiency by the recipients are more sustainable longer- term. For example, a simultaneous online job training programme, or programmes using e-commerce platforms to broaden the market for agricultural products in farming communities.

- Public-private partnerships can increase the efficiency and sustainability of broadband adoption programmes. However, the private entities need not be limited to network operators and could also include, for example e-learning content or application developers, schools, medical facilities, etc.

- Perform a comprehensive review of broadband and ICT deployment/adoption status and trends, and keep up to date so that progress can be tracked.

- Incentivise the development of relevant Internet content and applications in the local language.

- Study international examples, such as the case studies in this report. While programmes with a long history can be valuable for conveying lessons learned and programme execution processes, even newly-initiated programmes can provide insight into innovative new approaches and methods.

- Increase awareness of what can be done with online content, applications, and services, through public awareness campaigns. This can include getting people comfortable with e-commerce, e-banking (or mobile payment) transactions, and e-government services.

- Provide training classes for basic online usage skills (e.g. using a search engine) and digital literacy. This can be especially important for adults with a fear of technology. For children, these skills can be part of school curriculum (keeping in mind that the adult teachers often need such training upfront).

- Ensure that schools have sufficient broadband capacity and ICT equipment in classrooms for each student. Make the equipment available after hours for adults to partake in training classes.

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ITU GSR11 BEST PRACTICE GUIDELINES

Funding mechanisms for promoting the deployment of broadband infrastructure

- *Leverage partnerships*
- *Modernize universal service programmes and funds*

Fostering private investment in broadband through incentive regulation

- *Provide overall direction through a national policy*
- *Rationalize licensing regimes*
- *Make spectrum available for mobile broadband*
- *Remove barriers to broadband build-out and access to broadband networks*
- *Granting tax incentives*

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Recommendations

- Get political support from country/regional leaders

- Consider different financing mechanisms (including Universal Service Fund) and benefit from successful models from other regions/countries.

- Provide effective use of Universal Service Funds (especially ICT in Education and programs for low income people).

- Consider to impose an upfront USO (Universal Service Obligation) for the licences

- Accelerate high-speed, high-quality broadband networks and develop broadband supply/demand programs.

- Develop national and regional Digital Transformation Plans including financing mechanisms .

- Support public-private partnership projects/programs.

- Implement right polies/regulations and incentives for the investors.

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BACKUP SLIDES

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"CREATING A FAVOURABLE ENVIRONMENT FOR ATTRACTING FINANCE AND INVESTMENT IN BROADBAND INFRASTRUCTURE"

Gaining Access to Capital Infrastructure funds

- **Sovereign wealth funds**

- **Bilateral and multilateral development banks**

- **The role of credit ratings**

- **What will help attract these sources...**

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Creating the right telecoms regulatory environment for private investment

- The stability and transparency of the regulatory framework

- Avoiding of regulatory capture

- Dealing with market power

- Access to spectrum

- Minimising obstacles, such as roll out difficulties (planning permissions etc.)

BROADBAND COMMISSION REPORT

"CREATING A FAVOURABLE ENVIRONMENT FOR ATTRACTING FINANCE AND INVESTMENT IN BROADBAND INFRASTRUCTURE"

Tax and other payments to the Government by mobile operators
- Taxes & spectrum charges

Intervention tools
- Roll-out requirements in spectrum auctions
- Universal Service Funds (USFs)
- Public/private partnerships (ppps)
- Input or infrastructure sharing
- Innovation
- Demand management

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DEMAND-SIDE PROGRAMS

A wide array of demand-side programs should be considered for inclusion in national plans, with the final choices dependent on local and regional needs. Plans could, for instance, include demand side programs that encourage and facilitate:

- Low-interest financing and/or subsidies to support ICT and broadband purchases

- Affordable computer and broadband programs for low income families, students etc.

- Tax reductions on ICT devices and broadband.

- Effective usage of Universal Service Fund for broadband demand programs.

- Loans to build broadband networks in rural and remote areas

- ICT skill development and digital literacy programs

- E-commerce to increase broadband adoption by businesses

- E-learning programs targeting underserved groups (elderly, disabled, etc.)

- ICT infrastructure and broadband access in all schools

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PILOT PROJECTS

- Develop a pilot project together with relevant Ministries and departments.

- Launch pilot project with a media activity.

- Invite President/Prime Minister and other relevant Ministers to show the benefits and get their support.