

private sector

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Sustainable Telecenters

A Guide for Government Policy

For at least a decade governments and nonprofit organizations, often supported by bilateral aid, have experimented with telecenters as a means to extend access to computers, the Internet, and other information and communication services to rural and low-income urban areas of developing countries. Results have been mixed. This Note proposes a guide for government policy on telecenters conceived as private businesses—though with development functions—that are commercially sustainable beyond initial public support.

Telecenters provide public access to information and communication services and technologies that are expected to contribute to development. Widespread rollout of telecenters, however, can be achieved only by mobilizing private sector entrepreneurship and investment. Yet relying solely on the profit drive of private providers is unlikely to fully achieve the desired development outcomes. Extending access to the 3 billion people living in the developing world's rural areas requires some initiative and help from the government. But not all telecenters are worth supporting. Limited government resources should go to projects that yield high returns to the economy as a whole. Telecenters may not be able to achieve commercial sustainability beyond initial public support in localities with very low incomes, with low population densities, or without access to good-quality, competitively priced telecommunications infrastructure. Minimum education lev-

els, social and economic links, other infrastructure, and familiarity with modern technology—all probably correlated with income—are needed for demand to build up and for telecenters to contribute to development.

What is a telecenter?

Ranging in size from one-person microbusinesses to enterprises or cooperatives employing 10 or more people, telecenters can be adapted to a variety of local needs and circumstances and evolve from one form to another in response to changes in technology, business practice, and the economy. The simplest telecenters have one or two telephone lines, a personal computer with dial-up Internet access, software for several functions, and a combined printer, copier, scanner, and fax machine. Examples include privately run telephone shops (Senegal), a telephone company's public

calling offices (Argentina), add-ons to fast food restaurants (McDonald's in Brazil and Israel), and cybercafés set up by small entrepreneurs in countries at all income levels.

One step up the size range, standard telecenters are small businesses with more equipment, more sophisticated technology, dedicated Internet and facsimile lines, and a meeting room. At the high end of the range, multipurpose community telecenters provide more space, staff, and equipment to support a wide range of uses, perhaps including facilities for local radio broadcasting, distance education and health services, government information, and electronic commerce. Large telecenters may eventually extend connections to homes and businesses in the neighborhood or to smaller communities nearby.

What services do telecenters provide?

Telecenters provide the public with access to and training on basic information and communication technologies at affordable prices. These services are typically delivered using a common network infrastructure and software platform, such as the public telephone network, and may be subsidized for development purposes. They allow people to:

- Make and receive telephone calls and send and receive faxes and voice mail.
- Use the Internet for email and Web browsing.
- Use computers for a range of applications, such as word processing, spreadsheets, small-business tools, CD-ROM searches, and printing.
- Use technical support services, such as printing, photocopying, and desktop publishing.
- Become familiar with the technology through classes, tutorials, and other assistance.

Telecenters also offer more elaborate services on a fully commercial basis, charging fees to cover the costs of local add-ons to the basic network infrastructure and software platform and additional human resources. Public or quasi-public agencies may become important commercial clients or partners of telecenters that can carry out some of the agencies' functions more cost-effectively. Telecenters might also serve as community cultural and enter-

tainment centers, using multimedia services and production to bring people together.

An essential element is access to content relevant to the local community. Language may be critical: the local dialect, not the official language, may be the one used in day-to-day activities and transactions. Content is costly to develop and difficult to keep current. To give users a tool to produce their own material, national or regional content platforms could be developed and made available locally. Besides allowing access to information, telecenters also need to facilitate contact with the organizations that provide it. Portals serving many telecenters can help build networks of communities and provide commercially viable solutions for developing and maintaining formal content.

How are telecenters best managed?

One key to the success of a telecenter is to have it run by a local entrepreneur who has a substantial stake in that success and is capable of developing and implementing a business plan. Local entrepreneurs are best able to identify and respond to the needs of clients, investigate the market, and promote services to a broad population. But all this requires that they be fully in charge of the business, with the authority to determine the best location for the telecenter; to decide on the mix, quality, and prices of services; to manage revenues and expenses; and to address problems with resources within their reach.

Telecenters also benefit from being part of a larger organization that contributes scale and network economies. A network of telecenters under a single management can share experience and best practices and provide quality standards, start-up support, an operating manual, recruitment and training guidelines, name branding, and standard payment vehicles (such as prepaid cards). A franchising company can develop infrastructure networks and undertake bulk procurement of equipment and of software licenses, while leaving delivering services and dealing with clients to the local franchisees. A large organization can also provide technical assistance to communities and entrepreneurs preparing proposals for telecenters and during investment and start-up.

But launching a telecenter is not entirely a private sector endeavor. The initial impetus may come from local officials, volunteers, educators, or other community activists. Local governments may help plan, implement, and sometimes fund a telecenter project. But local governments, as well as grassroots and non-governmental organizations, are generally less effective than private businesses or entrepreneurs in owning and managing telecenters.

What does it take to be commercially viable?

To be sustainable, telecenters must become commercially viable fairly quickly. Telecenters that cannot finance themselves in the long run become a drain on public resources and are continuously at risk of failure. And telecenters not subject to market disciplines lack incentives to perform well and the ability to face competition when it arrives.

Setting up a standard or multimedia telecenter in a secure locality within reach of the public telecommunications network typically costs US\$8,000–18,000, with annual operating and maintenance costs of US\$12,000–21,000. Smaller installations may have much lower investment and running costs, especially if they are housed in existing facilities, such as stores, schools, post offices, or community centers. Telecenters equipped to provide more sophisticated services, such as videoconferencing, soil and water testing, and electrocardiograph and blood analysis, may cost much more.

Even poor people are willing to spend a significant part of their income on information and communication. In some cases telecenter revenue comes mainly from the sale of computer and Internet time; in others, from telephony, photocopying, and entertainment. Other potentially important sources of revenue are providing domestic and international telephone service and retailing phone cards.

Providing multiple services at a single site may strengthen overall commercial viability, but each service must pay its own way, expanding as justified by demand and revenue. If users pay less than the full cost of basic services, government subsidies may be needed to make these services commercially viable. Eventually revenues from all

services must cover operation and maintenance, additions and replacements of equipment, and, ideally, part of the initial investment.

The commercial viability of telecenters depends on connection to data transmission capabilities of reasonable quality, especially Internet access and connectivity to government information networks. Telecenters in many developing countries have been plagued by delays in getting hooked up to the public telecommunications network, limited bandwidth, poor reliability, and high costs for Internet connections because of a lack of local points of presence. Compounding these problems are prices well above cost for domestic and international calls and leased circuits—common under monopoly regimes and early in the transition to competition.

Effective use of the Internet beyond email requires transmission speeds of at least 34 kilobits per second—and preferably much higher. A case may be made for connecting telecenters immediately to broadband networks allowing multimedia services (including television, for which there is often pent-up market demand), then adding voice and Internet access at marginal cost.

Telecenters flourish in competitive environments. Competition among telecenters (if sustained by sufficient demand) and with alternative providers can lead to low prices and to business strategies that encourage use. Competition in prime locations drives small entrepreneurs to serve poorer communities. And competition among telecommunications networks dramatically reduces the prices charged to telecenter operators for data traffic and leased circuits.

What is the role of government?

Telecenters arguably should be run as businesses, which places the main responsibility squarely on the private sector. But since a primary aim is to contribute to development, there are some functions that the government must perform. The government's initiative may be needed to launch the process, establish the legal and institutional framework, start up pilot projects, and develop national or regional support. As the idea proves itself, the government may be able to reduce its role to a support func-

tion and public reporting and regulatory responsibilities. Eventually the support function could be jointly owned and managed by participating telecenters, perhaps through an industry association.

In the early stages of developing a telecenter program the government could:

- Publicize the program.
- Remove regulatory and administrative obstacles to market entry and competition.
- Specify the minimum service requirements to meet development needs.
- Assess the eligibility of telecenter proposals and business plans for public support.
- Facilitate operators' access to information, technology, and infrastructure.
- Provide or channel financial support for investment and start-up if needed.
- Provide training and support services for operators.
- Monitor and evaluate results and disseminate best practices.

Public subsidies may be justified if the services required for economic efficiency or social equity reasons would not be profitable at the prescribed prices and other terms. This situation may arise for several reasons. Scale economies constitute barriers to technological innovation that must be overcome if the new services are to get a fair chance in the market. Measures needed to reach large numbers of low-income people (such as promotion campaigns and training) have high social value but also high costs that private businesses are unprepared to bear alone. Telecenters can help build social capital in the community, but since the benefits do not accrue directly to the telecenters' users and operators, they do not translate into a willingness to pay.

Subsidies should generally be limited to part of the investment and start-up costs. Once initial obstacles are overcome, information and communication services are expected to become sustainable businesses. After all, recurrent costs of rural telephone, electricity, and water services are subsidized only in exceptional cases, and there appears to be no reason to treat access to advanced communication and information technology any differently. Moreover, subsidies should not be used to compensate for

price distortions (such as long-distance call charges above costs) or inefficiencies resulting from lack of competition (such as the high price of leased circuits). Thus they typically can be justified only after a country has undertaken market reforms in telecommunications.

Subsidies are best determined and allocated through the market. Competition for the subsidies should be open to any business model that meets service and other requirements. The amount of subsidy needed will vary considerably among telecenters, depending on service requirements, market size, and other factors. Telecenters within easy reach of the public telecommunications network have reportedly required one-time subsidies ranging from US\$9,000 for a single-computer facility to about US\$30,000 for a telecenter with 3–12 computers.

Conclusion

All these propositions for government policy are consistent with international experience, but they have not yet been fully tested as a package. Moreover, they deal primarily with the supply of services, giving less attention to factors that influence the development of demand and thus affect sustainability. The propositions may not apply to facilities that are part of other programs, such as those providing public access to the Internet in schools, libraries, or health centers, which are subject to different requirements for performance and sustainability.

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