



Case Study

Bulgaria

Bulgarian Public Computer and Communications Centers (PC3s)

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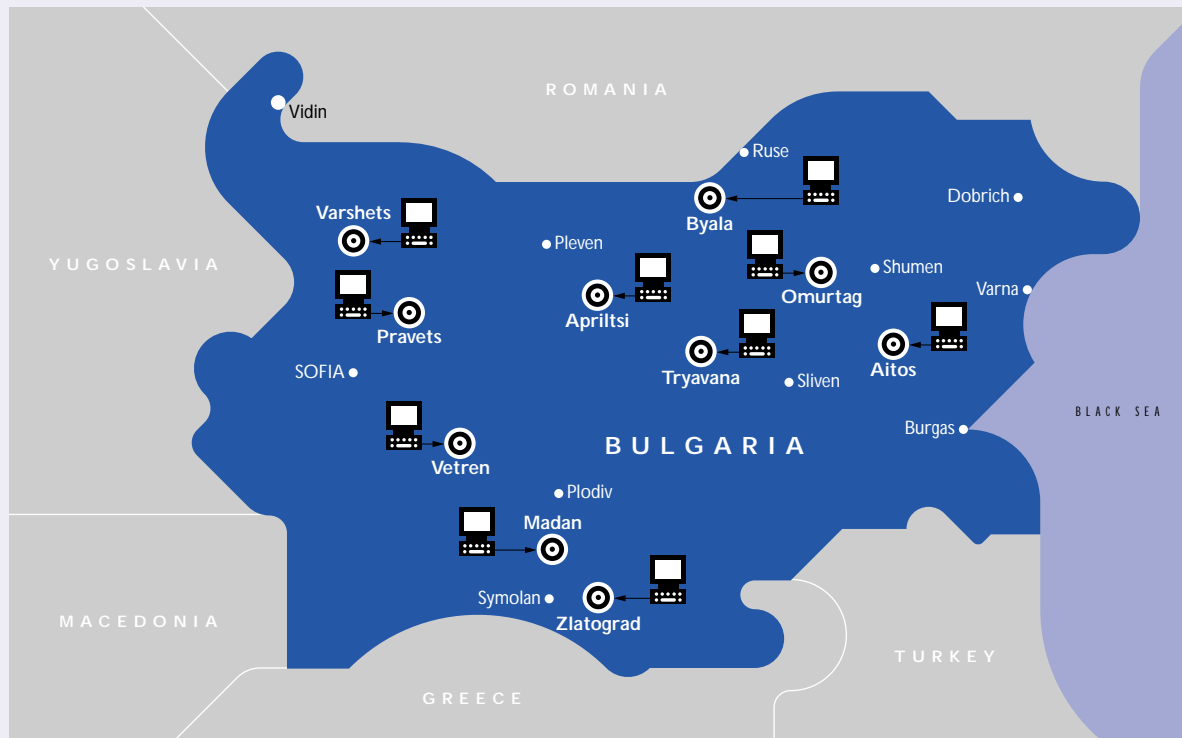
Bulgaria is a southeastern European country¹ situated in the Balkans, on the crossroads from the Middle East and Asia to Europe. In 1989, when the 45 year-long communist regime ended, Bulgaria began instituting democratic changes. With 13 centuries of history behind them, Bulgarians are proud people who traditionally value education and development, and in the modern age, the nation seems to have a special affinity to computers and programming. The Father of computers, John Atanasov, was of Bulgarian origin, and for a while the country was the communist “Silicon Valley,” having its own computer production industry. In addition, the Bulgarian national student teams traditionally score very high in international informatics contests, which bodes well for the future.²

Today, modern information and communication technologies (ICTs) are rapidly penetrating the professional and personal lives of Bulgarian urbanites. However, the situation is quite different outside the more populous cities. While multiple Internet providers compete with one another in the cities, few even operate in the many small towns and rural areas, where there is a growing demand for access to computers, the Internet, and related services.



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The USAID sponsored Public Computer and Communications Centers (PC3) Project³ was designed to address this demand. The project grew out of the recommendations of a 1999 USAID-funded survey of the Internet infrastructure in Bulgaria, conducted under the Presidential Initiative on Internet for Economic Development.⁴ This report suggested telecenters as one means of extending public Internet access and modernizing ICT skills in Bulgaria. As a result, the PC3 project was implemented between September 2000 and May 2002, with funding from USAID's Information Technology team in the Human Capacity Development Center of the Global Bureau and with its administration and implementation delegated to the Academy of Educational Development⁵(AED) in Washington, DC.

The PC3 Project at a Glance

The PC3 project envisioned establishing 3 to 10 pilot telecenters in small, underserved Bulgarian towns with poor or no access to ICTs. The telecenters were to be built in partnership with selected local organizations (public and/or private) using a cost-sharing model and were expected to offer public access to ICT (fee-for-service based), facilitate the economic and social development of the local communities, and to become demand-driven and sustainable. In the long-term, the telecenters were expected to act as catalysts for small, spin-off businesses. The initially planned project duration was 14 months (later extended to 20 months).

Between September 2000 and May 2002, AED/LearnLink implemented the PC3 project in Bulgaria. The project forged public-private partnerships with 10 local partners, selected among 90 qualified applicants, and supported their effort to establish and launch locally operated telecenters in small Bulgarian cities. The operators developed their own initial business plans and shared investments, while the project delivered computer and Internet equipment, subsidies for public ICT use during the initial phase, technical support, and training. Perhaps the most unique PC3 feature was the pre-paid service cards distributed to perspective target users to stimulate their initial use, promote skill enhancement and business development using technology, create a client base, and minimize start-up risks. The project also assisted the development

of Bulgarian-language digital content, especially Internet- and CD-ROM-based information and training resources.

At the end of the project, external evaluators conducted a final evaluation, which concluded that PC3s unmistakably met their goals. At the same time, the evaluation revealed unanticipated actions and impact that proved important and effective, as well as intended effects that did not occur. The evaluators' summary notes that the PC3 experience illustrates that a small ICT business enterprise is a viable model for expanding ICT access and developing human, social, and economic capacity under conditions identified more fully in the following text.

The PC3 Story – A Closer Look

The PC3 Model

Though flexible in design to meet individual community needs, the typical Bulgarian PC3 takes the form of a locally owned and operated enterprise. It serves a small town with 5,000 to 30,000 inhabitants, offering fee-for-use and, to a limited extent, subsidized access to Internet and computer services, ICT training, and business support services. More specifically, noteworthy characteristics of the PC3 model include the following:

- **Public-private partnership.** Local partners included eight small private companies and two local NGOs.
- **Shared-cost model.** Local partners made their own contribution (up to 50% of the total cost), which was a commitment of spirit as well as money. The local contributions varied from PC3 to PC3 but typically included rent for the telecenter location, salaries for the local staff, furniture, some hardware and software, and consumables for telecenter's everyday operation.
- **Case-specific project contribution.** The size and the kind of the project's contribution to each PC3 varied from one center to another based on the operator's own contribution, local needs, and characteristics of the town.
- **Business and social objectives.** On the one hand, the project aimed at facilitating the emergence of sustainable ICT private enterprises, while, on the other, it expected the operators and centers to offer some "public-good" services, thus extending the benefits of the ICTs to those with a great need but very limited access.

- **Pre-paid cards.** One of the instruments used to achieve both business and social objectives was the pre-paid card, a system of vouchers with a twofold goal:
 1. The PC3 operators would offer a limited number of free introductory services to desirable user groups for “common good” purposes. Upon submission of used, certified coupons, the operators then could claim reimbursement from project funds for an equal amount.
 2. The pre-paid cards were meant to promote the telecenter’s services and help to develop a client base, thus minimizing the initial business risk for the operators.
- **Focus on sustainability.** To avoid the often-observed closure of donor-supported activities once seed funding has ended, the PC3 model addresses critical sustainability issues in partnership with local entrepreneurs and involving the provision of for-profit and “public good” services within a sound business plan.
- **Project management.** The PC3 project was implemented by a local project team with a locally hired Country Director (four people all together), acting under the supervision of a Washington-based AED Program Director.

The PC3 Process: Lessons Learned

Designed as a pilot project, the PC3 experience was expected to yield valuable insights into the effectiveness and efficacy of the model. Important design and implementation steps, from which key lessons were derived, included the following:

- Project Initiation
- Selection of PC3 operators
- Subcontracting local partners
- Initial training of PC3 operators
- Establishing information and communication channels within the project
- Hardware procurement
- PC3 equipment installation and set-up
- PC3 pre-paid cards system development
- PC3 official openings
- Further training of PC3 operators and local staff
- Continuing support
- Monitoring and evaluation
- Content development
- Final evaluation
- Publicity and dissemination activities
- Establishing PC3 Association.

Lessons learned from the PC3 process

Project Initiation

A nationwide Request for Proposals (RFP) was distributed through two national and six regional newspapers, the USAID partner’s network, and a specially developed web page. A pre-bid conference was organized to answer potential candidates’ questions. The implementing agency, AED, played a leading role in preparing the RFP and provided significant guidance to the local project team in preparing the “Questions and Answers” document for the pre-bid conference. In response to the RFP, 92 applications from all over the country were received.

The large response to the RFP exceeded the initial expectations of the project team and influenced the next steps. Given the clearly demonstrated demand, and assuming the receipt of proposals of sufficient quality, the project team decided to proceed with the maximum number of telecenters authorized in the contract framework. A total of ten centers would be established.

Lesson: Publicizing the RFP as widely as possible in Bulgaria was important to the project. Aside from ensuring equal opportunity and transparency, widespread RFP distribution ensured a larger pool of potential local partners from which to choose. Careful drafting of the RFP and the additional clarity ensured through the pre-bid conference prevented misconceptions and resulted in well-informed applications. The guidance and support of the US implementing agency, AED, at this early stage of the project was crucial.

Selection of PC3 operators.

A systematic operator selection process followed in three phases. First, AED’s project team used an iterative procedure with a rank scoring method to arrive at the best choices. During the initial phase, the project team in Sofia and Washington carefully reviewed all applications, scoring them according to five selection criteria that were described in the RFP:

1. understanding of the PC3 concept;
2. respondent’s contribution;
3. business plan scenario;
4. characteristics of the town/community; and
5. telecommunication infrastructure.



PC3 homepage, <http://pc3.orbitel.bg>



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Through this process, the initial applicant pool was winnowed down to 25 short-listed candidates. After site visits (the second phase of the process) and interviews in the PC3 office (the third phase), 10 PC operators—including Selected PC3 sites eight small companies and two NGOs—were selected.

Lesson: Though the selection process took several months, its thoroughness paid off. The team was able to select strong candidates who met all project requirements. Also, during the selection and subcontracting process, the operators were introduced to an approach to work that involved careful, precise, succinct, and transparent planning and decision-making, which helped build a mutual trust and positive attitude that proved important for future work. AED introduced the approach, which was fully accepted and utilized throughout the implementation of the project.

Subcontracting the PC3 operators

After negotiation, the project team and operators jointly decided on the mix of subsidies and equipment to be provided to each PC3 telecenter. Based on specific needs, the project contributions were added to the Technical Annex of each subcontract. Thus, some operators may have received more support for Internet connectivity, for example, while others received more computers. The subcontracts were officially signed at the first PC3 operators training, where the group of 10 operators met each other for the first time.

Lesson: The tailor-made project contribution included the optimal mix of inputs for each telecenter. It provided sufficient flexibility for the operators and enabled them to shape their own profile, corresponding to local abilities and needs. For example, if an operator planned to offer a specific ICT training course, he/she requested a relevant software package not necessarily provided to the others. This case-specific approach enabled the operators to assess and address the socio-economic context and technical climate in which they were to work.

Establishing information and communication channels within the project

To enable effective project communication, various channels and related procedures were put in place early on, including: PC3 office telephones, e-mail, fax, and project team mobiles; a regularly updated list with PC3 centers' telephones, addresses and e-mails; the PC3's group e-mail address; a PC3 virtual discussion forum and PC3 Web site; individual meetings with PC3 operators; seminars with all PC3 operators; and PC3 operators' monthly reports.

Lesson: Timely, efficient, and reliable communication within the project was of utmost importance for successful implementation.

Hardware procurement, equipment installation and set-up

The typical PC3 hardware profile included a local network (5 to 24 personal computers), Internet

connectivity equipment, printer(s), a CD writer, scanner, fax, and photocopier. Through a centrally issued Request for Quotes (RFQ), the major hardware and software items were procured, while operators bought Internet connectivity devices and more specific hardware and software items locally through a reimbursement mechanism. Initially, Internet access was achieved mostly through leased lines and dial-up (this was technically possible and reasonable at the time of the start-up), but by the end of the project—due to the penetration of less expensive and more reliable wireless solutions—the Internet connectivity mechanisms changed to primarily wireless (7 PC3s), Ethernet LAN (2 PC3s), and a combination of satellite and dial-up (1 PC3).

Lesson: The strict requirements of the contract for US source and origin of the computer and office equipment caused difficulties in the procurement process and delays in the delivery of the equipment. Pursuing US brands at a reasonable price, for example, led to the purchase of a photocopier that was not a good choice for the particular context in question.

Because the project approached each case individually in terms of Internet connectivity (it did not bind all operators to a pre-selected Internet provider and/or a particular connectivity option), the process allowed more flexibility later on. On the other hand, it soon became apparent that a fast, reliable Internet connection was a significant comparative advantage for PC3s competing against other providers, and some operators wished that more attention had been given to ensuring a more advanced and high quality Internet solution for all at start-up. It might be argued that this circumstance simply reflected rapid changes in Bulgaria during the project period.

AED/Washington's help with the procurement process was significant—they provided the methodology and guided the RFQ preparation and bids evaluation.

PC3 official openings

The 10 PC3 centers officially opened during September–November, 2001. Considerable effort was put into preparing 'grand' openings—the inauguration of the PC3 centers was widely announced in the local communities, and local mayors were invited to cut the ribbon together with important national and international figures and representatives of the donor and implementing agencies.

Lesson: The grand openings played an important role in creating wider publicity and building local prestige for the telecenters.

PC3 project training

The PC3 project team emphasized the training of PC3 managers and local teams, which was considered crucial for PC3 local capacity building and, consequently, for the sustainability of the centers. The initial framework of the PC3 project envisioned two or three trainings, while in practice seven trainings were provided. In the first training, a telecenter expert from the US facilitated, while local trainers were hired for the subsequent five events. The last training was a visit to Hungary, where PC3 staff were able to study the Hungarian telecenter experience.

Lesson: Though operator training was not explicitly emphasized in the project design, a carefully designed sequence of training sessions, directly responding to PC3 operators' and staff training needs, proved to be a critical project input. All sessions focused on practical and timely topics calculated to help the PC3s succeed. They were developed with a view to enhancing not only the operators' skills but also the types of services they could offer if they chose.

The fact that the professional background of three PC3 project team members was related to ICT and business proved beneficial to the project.

Few project-funded trainees voluntarily transferred their newly acquired skills to other PC3 staff, which might have minimized the ripple effect that the training sessions could have had. There are delightful examples that illustrate the opposite effect, however. One PC3 operator reviewed written lesson plans before each training class, for instance, also inviting the students to participate. This resulted in the creation of a student manual based on the lesson plans. Nevertheless in the future, training in small business management might incorporate explicit training in team building and staff development concepts and practices, especially in cultures where these skills tend to be rudimentary or even absent.

PC3 sites training

Perhaps one of the greatest impacts of the PC3 centers has been their enhancement of the ICT literacy level of local communities. Over 4,000 clients received training in a variety of computer uses during the first

“ Lesson: The grand openings played an important role in creating wider publicity and building local prestige for the telecenters. ”



1. The US Ambassador in Bulgaria and the Minister of Transport and Communications opened the 10th PC3; 2. The USAID Administrator Andrew Natsios opened the first PC3 center; 3, 4, 5 and 6. Scenes from PC3 grand openings

six months of PC3s operation. Training was offered in both group and individual modes. The following topics (sorted in a descending order according to the number of trainees on each topic) were covered:

- Introduction to Computers
- Internet
- E-mail
- Computer Applications
- MS Windows
- English Language
- Multimedia for Children
- Business and Communications
- Web design.

Lesson: As PC3 clients value formal certificates, requests have emerged for a PC3 training certification process, which would accord a higher status and employability to those who complete such a process. This is important to consider in the future.

PC3 pre-paid cards system

The project introduced this mechanism to help achieve both social and business project objectives. In addition to providing free access to social change agents—who most need such access yet are the least able to pay for it and the least likely to visit the centers on their own, without an incentive—the cards also helped PC3 operators create a new clientele quickly, thus reducing the initial business risk. Most of the cards allocated to each PC3 were given to the operators when the PC3 opened, with a second card allocation distributed four months later.

The pre-paid cards also were used as a data

collection instrument. To capture demographic and usage data, the layout of the card and the enclosed 10 coupons were designed accordingly.

Though an automated data collection process seemed more natural, the project decided not spend funds on developing a software tool for tracking card usage, primarily because of the short length of the data collection period (according to the initial project duration, the period for using pre-paid cards was no more than 3 months). Consequently, a paper-based system was devised to collect demographic data on the cards and use data on the coupons within.

Though complete and clever, the system and procedures proved to be complex, time-consuming, and labor intensive for both operators and the Sofia office. In short, not automating the data collection process turned out to be a mistake. When the project was extended, the overall time and labor for tracking card usage became significant. The project team tried to resolve the problem by ordering customization of an existing computer club shell to serve coupon tracking and reporting purposes, but for technical reasons the result was not sufficiently effective.

Distribution and management of the pre-paid cards has yielded most of the lessons learned from this project. Originally, AED's Sofia project office was to manage distribution of the pre-paid cards to potential “public good” users, such as teachers, health workers, agricultural agents, NGOs, etc. Since ten PC3s were established, however, the central distribution of cards was not technically possible, and the cards were given to the PC3 operators to distribute according to a set of guidelines. The operators were tutored and encouraged to establish a local Board of Directors to assist in the selection of recipients and the distribution process.

Lesson: Pre-paid cards elicited great interest and were highly appreciated by the local communities. The cards served as an effective tool to create ICT awareness and promote ICT skills enhancement. According to several PC3 operators, the cards also helped overcome the traditional tendency of small town dwellers in Bulgaria to view new initiatives with suspicion.

The operators appreciated the pre-paid cards because they created an immediate income. However, operators also complained about the strict card administration rules and the overall time and effort

Table Training in the 10 PC3 Telecenters (March 2002)

User group	Total number of people trained
Students	3024
Unemployed	380
Private businessmen	232
State employees	214
Educators	141
Health workers	122
Others	44
Total	4157

“ Lesson: Pre-paid cards elicited great interest and were highly appreciated by the local communities. The cards served as an effective tool to create ICT awareness and promote ICT skills enhancement. ”



PC3 cards for the different centers – in different colours

PC3 _____ CARD No: X X Y Y Y Y
/Town/ Valid until: _____

Card Holder: _____
/Full name/

User Group:

Teacher Private business
 Health worker Student
 State employee Unemployed

Other _____

Date of issue: _____

Card Holder signature: _____ AED Signature: _____

PC3 card

Coupon No: XXYYYYZZ Valid until: _____ Value: 1 lev

User Group:

Teacher Training
 Health worker Internet
 State employee E-mail
 Private business Chat
 Student Computer applications
 Unemployed Faxing, Copying
 Other _____ Other _____

Time Period:

8-10 10-12 12-14 14-16 16-18 18-20 20-22 22-24 24-8

Date: _____ Card Holder signature: _____

*This coupon is non-transferable, may not be exchanged for its monetary equivalent and may not be used for computer games

PC3 coupon

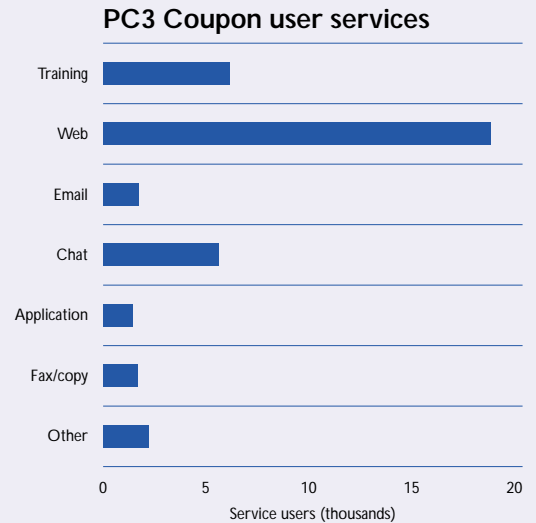
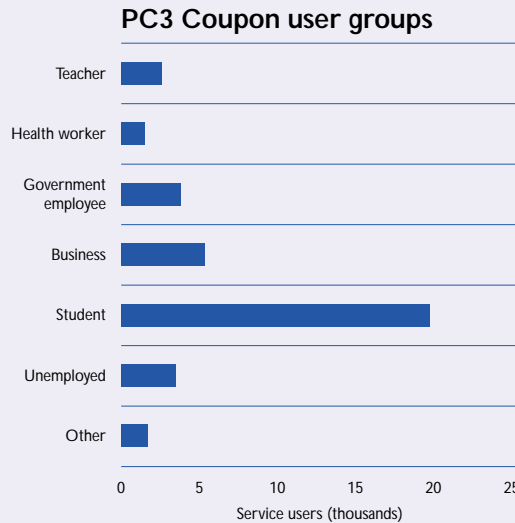


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Figure Trends Shown By PC3 Cards Usage Data

2 Analysis of the card usage data shows students and youth as the principal coupon users and the Internet as the service most heavily used. Times of use peaked in the afternoon after school. Student and youth training usually consisted of the basic “Introduction to Computers” course, after which they came mainly for online chat and web surfing. “Other” services and users indicated on the graphs illustrate the diversification of both during the project period.

The evaluators’ observation survey of users, conducted near the end of the project, revealed further diversification of services: initially, training was mainly for children; youth were primarily interested in games; and there was greater use of computer applications than anticipated. Since then, new services have emerged: more diversified computer use by adults, a “minibar” (snacks and sodas) for youth and children, and considerable use of IP telephony (“phone” label).



required for card distribution and usage reporting.

Some PC3 Boards created to oversee card distribution continued to function after the fact. The long-term effect of their involvement resulted in strengthening the connections between the PC3 and the important local organizations that became supporters and customers.

PC3s that distributed their pre-paid card allotment all at once created a demand they couldn't meet: too many coupon users appeared to use too few computers. This also proved detrimental for business because paying customers sometimes found all computers occupied by coupon users. Distributing the cards too eagerly also caused a problem: some people would take a card just because it was a gift and never return. This meant lost potential revenue to the PC3 operators, who exerted considerable effort to get the cards back.

PC3 operators who learned to manage their cards tightly, distributing them in scheduled increments and specifying how they could be used—for training or Internet use, for example—were able to better maximize the benefits of the cards.

Experience with the pre-paid cards suggests that their value could be diversified for different services. Findings also indicate that the card allocation criteria could be improved and that, since the paper-based pre-paid card system proved rather unwieldy, managing the cards with a computerized program might be more effective. Better ways to use the pre-paid cards to subsidize use by the underserved also need to be devised, and the elusive question of how to serve “the public good” still remains.

Pre-paid cards can be a powerful tool for stimulating business development for small telecenters in poor environments. The cards not only can mitigate business financial risk but also build a customer base by encouraging customer loyalty and developing customer skills, as well as serving as an effective marketing tool. Because they affect business behavior, the cards can be used to direct services toward specific beneficiary groups. Therefore, careful planning of the distribution rules is essential.

Service development and enhancement

Along with the core set of services that all PC3 centers offered (Internet access, e-mail, CD-ROM use, computer training, document preparation, fax, printing, scanning, and copying services), each PC3

developed its own additional set of services to match the expertise of the local team, the specifics of the local context, and the needs of local customers—such as public telephone access, Internet telephony, Web design and publishing, graphics design and advertising, Internet service provision, city LAN building, and specific services for local administration, local businesses, educational institutions, community groups, and individuals. Some PC3s identified and successfully filled a service niche after offering special training of PC3 trainers in “ICT for children and students.”

Information services, in general, represent the core of the PC3 services. Building information skills, though, needs special attention, time, and effort. Internet users do not naturally become information users. Rather, new information use skills take time to develop. As the PC3 evaluator observed, this development occurs, roughly, in three phases:

Phase I: Discovery of a new communication and entertainment medium. New Bulgarian users are somewhere in Phase I.

Phase II: Tool-using skills develop by discovering remote sites that are useful, using instructional and content-bearing media, and learning useful applications. PC3 operators seem generally to be somewhere in Phase II.

Phase III: Deliberately develop content-seeking and management skills for downstream and extended purposes, clients, or products. These are the skills of a researcher with experience in a profession or discipline, which require time and targeted effort to develop.

According to their service profiles, each of the ten PC3 telecenters shows signs of moving toward one or another of the following models, though they are by no means mutually exclusive:

- **Multi-service telecenter** for a small customer base, like a village telecottage, surviving by meeting a broad variety of customer needs.
- **Training center for IT skills (adults and children), foreign language learning, vocational retraining.** Developing successfully in this direction requires establishing contractual relationships with the appropriate national government ministries,

especially education and labor. In addition, a formal certification process would give the PC3 training center an authoritative standing to attract trainees.

- **Designated partner of the municipal government for electronic delivery of social and educational services to the local population.** A strong, competent, and involved mayor is a positive factor in this model.
- **Designated partner of local schools, orphanages, and hospitals for computer installation, maintenance, and user training services.** In the case of such specialized institutions, development of curricula and useful local content should occur in tandem with infrastructure development.
- **Cybercafe for email, surfing, snacks, and games.** PC3s located in a tourist area, or among a large population of children and unemployed young men, are likely to move in this direction.
- **Node of a national ISP.** In the short term, this may offer some stability of income, but in the long term each PC3 must assess what its own strategic place in the ISP market should be.

Lesson: Some PC3 operators are intuitive, forward-looking, and client-oriented. They devise interesting ideas for new services and partnerships and quickly implement them. Others need special attention, help, and push. Here the PC3 human network comes into play—the sharing of ideas and “know how” within the group of operators was strongly encouraged and facilitated in many ways. For example, the operators found invaluable the opportunity to exchange experiences among themselves during trainings and PC3 operators seminars; the project Web site embedded a section where answers to questions, advice for solving common problems, and “know how” for new services were published. (Both operators and project staff contributed to building and maintaining the content in this section of the Web site.)

Building information skills requires special attention and time, both for the operators and their clients. Offering quality information service (becoming ‘infobrokers’) should be an important goal and direction for the further development of the telecenters.

Ongoing support

Throughout the implementation of the PC3 project, various technical challenges were faced: poor local telecom infrastructure, insufficient maintenance skills available locally, need for

technical training for the local staff, and ongoing guidance and support to the operators.

Lesson: Careful consideration and timely reaction to each particular problem was crucial for the smooth implementation of the project.

Monitoring and Evaluation

The monitoring and evaluation system of the PC3 project should have been designed and put in place earlier than it was. Given the amount of implementation work and the lack of specific experience in systematic project evaluation, however, the local project team relied on external assistance, which was delayed for technical reasons. An alternative approach would have been to hire an additional staff member or subcontract a local evaluation specialist to design and design and launch a monitoring and evaluation system early on. Failure to do so led to some negative consequences. For example, important data related to sustainability (data on paying users) was not collected systematically. Also, while waiting for the external evaluation support and trying to predict the needs of the evaluation, the local team and the operators collected and processed a great deal of data, some of which later proved unnecessary or improperly formatted. Nevertheless, the collection process took considerable time and effort, which could have been directed elsewhere.

Once external evaluators were identified and the evaluation system was designed, its implementation was quick and efficient. Most of the data already collected was useful and helped evaluators’ work.

Lesson: Monitoring and evaluation system design should take place early on so as to provide clarity for all stakeholders and enable systematic data collection on project indicators over a sufficient period of time.

Content development

The initial conceptualization of the content development component of the PC3 project was too broad and vague. During the implementation phase of the project, however, it was further shaped and became more focused. Since Bulgaria rapidly progressed in telecommunications over the course of the project, and because there was a dramatic external increase in the amount and quality of Bulgarian-language content, AED/Sofia decided to

create Bulgarian language products specifically for the support and training of PC3 operators and their clients. One of the reasons for this decision was the fact that, concurrently with the PC3 project, an Internet information infrastructure in Bulgaria was developing rapidly: Bulgarian government, business, and NGOs were publishing on the Web their own information in the Bulgarian language, and several Bulgarian portal sites emerged.

After studying the PC3 information and training needs, the project team identified suitable authors, content providers, and developers, and as a result of an intensive content development process, a number of Internet and CD-ROM based information resources and training materials were provided to the operators for use in the centers. The set included a “How to...?” information resource aimed at meeting the most frequent information needs of the PC3 customers and, thus, helping the PC3 operators to serve their clients’ needs. An online Internet Course in two modules—“Internet for Beginners” and “Internet for Advanced”—was used as a learning resource by the operators themselves and as a training resource for more advanced clients. Other resources included a bookmark collection of useful links, an educational software package for children and accompanying teacher’s book, and a paper-based Business Education Course provided by a UNDP project.

Unfortunately, the content development process concluded almost as the project ended, so it was not possible to devote enough time to evaluate the content utilization or to collect and analyze clients’ feedback.

Lesson: *PC3 operators need some explanation about the notion and importance of local language content development.* As with the development of information skills, operators require additional time, practice, and experience to be able to search for, identify, evaluate, select, and deliver appropriate content for their clients.

An important aspect of the PC3 content needs analysis was the priority of immediate life purposes that usually underlie PC3 clients’ information seeking.

While multimedia technical developers are easy to find locally, content specialists able to meet particular content needs and produce professional Web and CD-based content in a relatively short time are relatively scarce. An additional project team member specially hired for content development

purposes would have been appropriate.

Content development and utilization need more time than was available in the PC3 project. The project should allow sufficient time for planning and preparing for this activity, including identifying the necessary human resources. This should happen early enough in the implementation process so that there is time left to obtain feedback on the content produced.

Sustainability

Along with the pre-paid cards scheme and locally relevant content, the project team addressed sustainability through targeted business related trainings for the operators and by assisting them in individual business plan development. To ensure sustainability, operators adopted wireless technologies to obtain the fastest Internet speed, which became a competitive advantage. In general, operators learned to adapt their service provision to meet local needs and PC3 abilities. For instance, some had stronger Web design skills while others excelled at desktop publishing capabilities. Despite the client base, service and product diversity, training differences, and diversity of business plans, all PC3s relied on the pre-paid cards as income support. Among the many lessons learned, the most prominent for sustainability was the use of the pre-paid cards for stabilizing initial PC3 telecenter business income and attracting the paying client, albeit intended at the onset for educational and under-served groups.

Lesson: *One project design weakness was an inadequate monitoring and evaluation process.* A requirement for relevant data collection and reporting should have been included in the operators’ subcontracts.

The personality and attitudes of the PC3 operators, as well as the quality of organizational relationships with the PC3, seemed to be important determinants of PC3 sustainability success. An active, social personality—a positive, upbeat attitude—and a calm, orderly, and professional setting all made a real difference. Finally, the demonstrated ability to accept and exercise personal responsibility for outcomes was a key characteristic of successful PC3 operators.

The operational lifetime of the PC3s at project closure was too short to enable speculation about how successful the PC3s will be in a business based solely on paying clientele, though recent PC3 income growth is encouraging. A longer-term evaluation or follow-up would provide such data.

Looking Back...

The main project outcomes are

- 10 PC3 centers established and operating (3 to 10 initially planned)
- 7 training sessions for PC3s conducted (2 or 3 initially planned)
- More than 6,500 pre-paid cards utilized by community members
- More than 4,000 end users trained
- New PC3 services developed
- Locally relevant Bulgarian language content provided/produced
- Municipal LANs established and Web sites for local institutions developed by some PC3 centers

The main **implementation strategies** that contributed to project achievements included

- **Local capacity building:** A strong emphasis on training, building the PC3 human network, and effective communication channels
- **Community outreach:** PC3 Boards, PC3 Cards, and PC3 opening events and promotion activities
- **Timely and adequate response to technical challenges:** Strong human and technological support during the initiation phase, as well as technical training for local staff
- **Focus on sustainability:** Demand-driven services, client-oriented approaches, locally relevant content development, and encouragement and facilitation of “share and reuse” within the PC3 human network

Some **missing inputs** made the project harder to manage than was necessary. For this pilot ICT project, the following ought to be considered critical inputs.

- Timely design and set up of the monitoring and evaluation system
- Up-front funding for automating the tracking of computer use and accounting for pre-paid cards users and paying clients
- Up-front funding for ensuring quality Internet connectivity using the best technologies suitable for the region

Reflection

The PC3 Project was an ambitious project in terms of the amount of implementation work required to meet the project objectives, the short project lifetime, and the small project team. Nevertheless, as noted by the evaluators, the project successfully demonstrated that

the multipurpose telecenter can be a potentially sustainable and replicable demand-driven, small private enterprise model for human capacity development in a transitional economy country, where many communities lack Internet connectivity and remain isolated from economic and social change. Also, with appropriate preparation, a structured use of pre-paid service vouchers can help build a small business and reach specific user groups. This telecenter business/service model, as opposed to a wire-it-and-leave-it model, increased Internet penetration in Bulgaria. By supporting a project that treated operators as professional equals, the Bulgarian PC3 project transformed their opportunities in a positive way.

The importance of the human factor in this project must be stressed, as well as the involvement of a committed donor organization and a well-resourced implementing agency support structure. This synergy made the project succeed.

Still, there are no panaceas for alleviating the digital divide problem and building related human and technical capacity in underserved areas. Sustainability is a challenge.

Looking Forward... Replication prospects

The evaluation concluded that, once the project is conceived of as a human capacity and small business development project with a telecenter label, rather than simply as a telecenter project, its applicability to a wide range of social and economic development objectives becomes clearer. Because a telecenter functions as a complex communication center, it can conceivably handle whatever communications its local users need to send or receive electronically.

Therefore, the following six lessons learned from the Bulgaria PC3 project can be used to inform the design of future development projects that envision using telecenters to deliver project benefits:

1. Since telecenter success depends on high quality managers, a careful bidding and selection process to identify the best applicants is essential.
2. Clear objectives and guidance about balancing of business development and social service components is needed, as are a clear definition of “common good” and “public good” in culturally appropriate terms that are understood by all.
3. Up-front investment in the best, fastest Internet connection available and in automating data capture for monitoring and evaluation purposes is important.



PC3 AED/Sofia Country Director Iliana Nikolova (center) signs agreement with Aitos PC3 staff in Sofia.



4. A design for a strong and continuing operator training program, using in-country resources that can result in useful in-country contacts and relationships among the trainers and beneficiaries, is useful.
5. A project designed to support, first, user communication efforts and interests, followed by user learning, and finally information use.
6. A culturally appropriate start-up activities plan that brings local prestige to the telecenter stimulates usage.

The Future of PC3

There is a saying in Bulgaria that, “Each miracle lasts three days.” Will the PC3 become just another three-day wonder? We believe not. First, the PC3s are no longer viewed as miracles but are already an integral part of their communities’ life. Second, serious efforts have been undertaken to position their usefulness in the future and ensure their sustainability. The most recent development in this direction is the establishment of an NGO—the PC3 Association—launched by PC3 operators and project staff members to stay together and create a partners network for further developing the PC3 concept and practices. The PC3 Association (PC3 Net) will look for strategic partnerships and opportunities to strengthen the existing PC3s and to stimulate and facilitate the establishment of similar centers in communities that need them.

Footnotes

¹ For a country profile, see, for example, <http://www.undp.bg>.

² Regrettably, some of the world's best known computer viruses were developed by Bulgarians. Perhaps this could be interpreted as a sign of wrongly directed potential.

³ The Bulgaria activity is part of a seven-year Indefinite Quantities Contract (No. HNE-I-00-96-00018-00) of the US Agency for International Development (USAID). It was funded by the USAID Bureau of Economic Growth, Agriculture, and Trade (EGAT) and Office of Energy and Information Technology (EIT), and other USAID Bureaus, offices, and missions. It was operated by the Academy for Educational Development.

⁴ USAID, Center for Economic Growth. *Initiative on Internet for Economic Development: Initial Survey of Bulgaria*. September 19-30, 1999, p. 21-5.

⁵ <http://www.aed.org>

