ADB BRIEFS

KEY POINTS

- At the beginning of a partnership it is important to focus on agreed upon resource and risk sharing, even where the partners may have different reasons for being involved, to ensure that ICT-enhanced educational outcomes truly benefit the beneficiaries.

- There is no simple formula that can ensure that every ICT for education partnership will be successful. Careful application of underlying principles of PPPs with clear roles and responsibilities can certainly increase the probability of success.

- Apart from robust design, successful implementation of a PPP in ICT for education requires strong commitment from high-level leadership—from ministries and companies—to ensure buy-in among their staff for delivering ICT for education programs.

- A clear financing plan is necessary, as often PPPs in ICT for education experience "budget creep," which can lead to disagreements that undermine the willingness of partners to contribute anticipated resources, risking sustainability.

- Not every expected educational outcome will require ICT and/or PPPs to deliver the intended outcomes; thus one of the important initial challenges is to think carefully about the reasons why PPP and ICT are being adopted.

- PPPs for ICT for education designs must support classroom practice for better learning outcomes and be accompanied by new teaching styles. This requires a shift towards interactive, project-based, and self-directed learning.

- Public and private partners may join forces to improve the provision of e-education services; their complementary strengths can accelerate the pace of inclusive education.

PUBLIC–PRIVATE PARTNERSHIPS IN INFORMATION AND COMMUNICATION TECHNOLOGY FOR EDUCATION[1]

Jouko Sarvi
Advisor (Education)
Asian Development Bank

Venkataraman Balaji
Consultant
Asian Development Bank

Hitendra Pillay
Consultant
Asian Development Bank

INTRODUCTION

Public-private partnerships (PPPs) have generated a lot of interest from governments around the world for leveraging private sector involvement in developing and sustaining public infrastructure and services. Initially, PPPs were favored by transport, energy, and other large infrastructure-intensive sectors. More recently, the concept has been expanded to include social sectors such as education. In the education sector, PPPs have been used for building school infrastructure (Philippines), managing schools (United Kingdom), and designing innovations in educational technology such as low-cost devices (India). While the PPP models adopted for these education projects differ from the models that have been used for large infrastructure projects, the underlying principles have been retained. Considering the breadth of activities covered under PPPs, it is understandable that there is no universally accepted definition of the term; however, it is possible to identify a set of core principles that are common across international definitions.[2]

Innovations in information and communication technology (ICT) are recognized as an important option for increasing access to education and for providing high-quality learning materials and experiences. PPPs offer options for appropriate partnerships—bringing together governments, development partners, civil society, and the private business sector to increase the use of ICT in education. The Asian Development Bank (ADB) commissioned a study to understand how PPPs have been employed to

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1   This brief draws on a study financed under Regional Technical Assistance (TA-8303 REG): Partnership for Innovation in Education in Asia and the Pacific. Asian Development Bank. 2015.
2   ADB. 2012. Public-Private Partnership Operational Plan 2012–2020. Manila, Asian Development Bank.

date by its developing member countries in Asia and the Pacific region. The study identified seven initiatives that adopted the underlying principles of PPP in developing and delivering ICT for education services.

PPPs IN ICT FOR EDUCATION

In the education sector, ICT for education is a development area that offers increasing opportunities for the design and implementation of PPPs. Typically, the following ICT for education services have been identified as lending themselves to a PPP approach:

(i)   providing connectivity to the education sector to enable effective use of online educational services and web-based applications to assist teachers in customizing the student learning experience to achieve greater learning outcomes;

(ii)   providing centrally managed, ICT-based transversal systems (such as education management information systems, human resource planning and development systems, or financial management systems) that facilitate the collection of, and access to, management information across all levels of the education system;

(iii)   providing fit-for-purpose online communication systems to all relevant personnel and learners;

(iv)   providing ICT hardware and software to enable educators and administrators to use ICT-based, time-saving administrative and curriculum/educational tools;

(v)   managing online professional development systems for educators and administrators;

(vi)   offering preservice and in-service professional development opportunities to educators; school, college, or university managers and administrators; and support personnel who focus on effective use of ICT for education;

(vii)   establishing and managing online communities of practice;

ICT can be a powerful education multiplier, and PPP provides a mechanism to exploit this potential to develop and deliver innovative educational services to all levels and types of education.

(viii) providing ICT hardware and software to enable learners to fulfil the ICT-related requirements of the curriculum, as well as to become information-literate and ICT-capable;

(ix)   providing learners with access to repositories of digital knowledge and other resources;

(x)   making educational resources, tools, and information electronically accessible for learners and educators to use and adapt; and

(xi)   providing learners with access to online, distance learning courses to help them complete subjects, courses, or programs and to meet the growing demand for education.

EXPERIENCE IN THE ASIA-PACIFIC REGION

Brief descriptions of seven PPP initiatives involving ICT for education are provided below. These descriptions are followed by a matrix that captures some of the key aspects of a typical PPP that have been noted in the current literature.

Infrastructure, Leasing, and Financial Service (IL&FS) (India)

This project has been driven by both the government's and the private sector's focus on education. IL&FS Education and Technology Services uses educational technology to enhance outreach and improve the quality of education. Currently, it manages ICT for education activities in 17,000 schools across India and partners with state governments. The partnerships provide opportunities for secondary-level students to develop their capacity in ICT skills via information technology education and computer-aided learning. As a private partner, IL&FS's role is to enhance the educational outcomes of students and increase educators' effectiveness. It invests capital in hardware and services, sets up computer laboratories in schools, provides multimedia content, trains teachers in using this ICT learning resource and in managing the laboratory, and conducts overall project monitoring and management.

Samoa Schoolnet (Samoa)

The project was initiated by the government and supported through an ADB grant. The private partner provided the design and built a virtual private network overlay on its existing network. It operated the Schoolnet network for the duration of the project (3 years). The private sector partner also assumed responsibility for the repair and maintenance of the network and equipment. The Ministry of Education, Sports, and Culture has been receiving a fully operational countrywide managed network service designed to meet its needs and operating at

Education is no longer a public sector issue only; PPPs in ICT for education have the potential to leverage finance, technical expertise, and e-learning resources from the private sector.

a significantly lower cost than would occur in normal business practice. For more rural areas, where high-speed infrastructure is not present, the ADB grant helped procure the last-mile access technology that links each school to the private partner's network.

The Virtual University Pakistan (VUP) (Pakistan)

VUP was established by the government as a public sector, not-for-profit institution with a clear mission to provide extremely affordable world-class education to aspiring students all over the country. It has been using a mix of free-to-air satellite television broadcasts and the internet. Of the network of nearly 200 campuses across Pakistan, only 30 are owned and operated by the public partner, with the remainder being owned and run by private partners. Private partners are responsible for providing the campus building, computers, and a laboratory with computers installed according to VUP's specifications. The public partner provides the course material, examinations, and certification.

National Skills Development Corporation (NSDC) (India)

The NSDC has been described as a PPP, with 49% ownership by the Government of India and 51% by private industry associations. NSDC partners have been required to include ICT, English language, and employability skills as part of their training. Approximately 35 institutions focus specifically on ICT. One NSDC private partner, Talentsprint, has provided training for graduates who are first-time job seekers in the banking and ICT sectors to fill the gap between what students have to offer (usually theoretical knowledge) and what employers need. Talentsprint has referred to the training it provides as a "three-legged stool," because this training is provided in the discipline areas of study (banking, ICT, or child pedagogy), soft skills and

communication (reading, writing, and speaking English), and ICT (digital literacy).

Low-cost Aakash Tablets (India)

The Aakash Tablet project was aimed at equipping higher education students with affordable ICT devices to positively affect their learning. The government partnered with Indian institutes of technology to develop the specifications for a device that costs less than US$35. The private partners responded to the government's global tender. The government pledged to procure 100,000 tablets after they were developed, thus providing a guarantee against which private partners could raise loan capital. The low-cost device, now in its 3rd generation, has helped bridge the digital divide.

GILAS (Gearing up Internet Literacy and Access for Students) Project (Philippines)

The GILAS initiative has been a response to the limited access to ICT among public high schools in the Philippines. Only about 50% of the schools have computers, and only 6% have internet access. The private partner is a multistakeholder consortium of companies that put philanthropic or corporate social responsibility (CSR) funds into ICT projects in schools. This consortium's goal is to bring computer laboratories with internet access to all public high schools in the Philippines. In addition to hardware and software, other ICT services provided included free internet access for 1 year, training for teachers on how to do research and teach using the internet, and training for teachers on basic ICT maintenance and troubleshooting.

Intel Teach (Indonesia)

This project was initiated by the private partner. Intel's primary partners are the Ministry of Education and Culture (MoEC) and nongovernment organizations that focus on education. Other partners include PGRI,[3] municipal governments, and Telkom Indonesia.[4] The partnership delivers professional development for teachers across ten cities. Intel has been providing the teacher training curriculum and the training, and Telkom Indonesia has been providing access to the necessary broadband and internet. MoEC has been providing certification for teachers once they have completed the training. The partnership has created 10,000 master teachers who, in turn, will train up to 50,000 other teachers in 61 cities by the end of 2015.

The table provides comparative information on key aspects of these initiatives.

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[3] PGRI or Persatuan Guru Republik Indonesia is a teachers' association.
[4]   This is one of the largest telecommunication companies in Indonesia.

Comparative Information on the Seven Initiatives

Name of Program	Established	Government Role	Private Sector Role	Risk sharing
IL&FS Education (India)	Via a government tender process in 2010. There was substantial negotiation around costing and pricing.	Provide school infrastructure, human resources (school principals, teachers) and state education systems, and performance payments to private partners when milestones are achieved.	Mobilize capital, procure hardware, set up computer laboratories in schools, provide specialized teachers, produce multimedia content, train teachers on using content and managing the laboratory, and conduct overall project monitoring and management.	Private sector carries most of the risk—provides initial capital investment and running costs; takes time for reimbursement; risk of obsolete technology. Government's risk is around choice of partner. ➤➤
SchoolNet (Samoa)	Responded to a request for proposal to a tender to provide telecommunication infrastructure to schools in Samoa.	Provide funding (through ADB grant) for the equipment and installation costs. Provide access to schools to set up requisite infrastructure.	Ensure that the network is set up and functional, and provide operational maintenance and internet access at noncommercial rate	Government takes the risk that the technology does not work. Private sector takes the risk that the character of the network may change. ➤➤
Virtual University Pakistan (Pakistan)	Government established as not-for-profit institution to provide affordable quality education to students all over the country. Partnerships with the private sector (to establish private virtual campuses) are via an application process based on demand.	Provide program and TV-based teaching resources, online tuition support, administer and monitor examinations.	Provide learning space, computer laboratories, uninterrupted power supply and broadband internet access, and good TV connections.	Private sector carries most of the risk. ➤➤
NSDC and Talentsprint (India)	NSDC was established in 2008 under the Ministry of Finance. Private partners are solicited and invited to submit proposals outlining their value as technical and vocational education and training (TVET) partners.	A catalyst for skills development and training by providing loans with favorable terms; provide the national framework for skills development and demand analysis.	Provide infrastructure and equipment; develop training material for identified programs. Train the required number of people as per agreement with NSDC.	NSDC's risk is that partner may be unsuccessful due to local contextual issues; inability to mobilize resources to deliver the services. Private partner's risks: taking on debt to set up training centers; dealing with local mind-sets to create TVET demand; and retaining students who may not want to study and join the work force. ➤➤

Comparative Information on the Seven Initiatives *continued*

Exit Strategy	Level of Funding	Contract	Monitoring and Evaluation	Sustainability Plans
Clearly defined in a contract. Contract runs for a defined period. At the end of the contract, asset ownership is transferred to the schools.	Payment corresponds with achievement of predetermined outputs.	Scope and objectives are clearly identified in the contract.	Private partner conducts own monitoring. Third-party project monitoring as well as validation checks done by public sector staff. Student examinations are used to monitor effectiveness of intervention.	Sustainability plans are defined at the start and in the contract. Infrastructure needs to be in working condition. Schoolteachers are trained in specified skills and in how to manage the laboratory—build, operate, transfer (BOT).
Initial agreement was for 2 years but no official exit strategy was in place.	Substantial payment made up front to the private partner by government through ADB grant to purchase equipment to expand the network infrastructure. During the 3-year contract period, operational maintenance costs are recovered for the support and operation of the network.	There is a formal contract, established at the start of the project.	Project is monitored by a third party sponsored by ADB.	Sustainability options are: Transition to government national broadband network (NBN) when it is ready; network maintenance and internet cost may be subsidized through universal access fund (UAF). However, nothing has been finalized
No exit strategy. It is expected that this will continue to expand in the decades to come.	Private partner receives a portion of student fees (usually between 50% and 70%) depending on facilities for operational costs.	Contracts (or at least those done at the start of the initiative) are not formalized. Appears to be some effort for formal franchise agreements.	Conducted by public partner to ensure adequacy and quality of infrastructure and program outcomes.	Since it is demand driven, the life of this initiative will continue as long as there is demand.
Mutually agreed open by both parties. NSDC hopes to retain the partnership as long as possible. Mechanisms are in place to be proactive to ensure that the partners do not exit at an early stage; process for identification of difficulties and establishing solutions and recovery are in place.	NSDC provides funding with better terms and conditions than commercial banks. It usually has a small equity investor stake in the private company.	Formal contracts established at the start of the partnership.	Rigorous online monitoring system. Monitoring is outsourced to a third party. Training is monitored and verified through random calls to students and visits to the training partner.	Sustainability plan is required at the time of proposal development. NSDC works with its partners every year to refine their short-term and long-term strategies.

Comparative Information on the Seven Initiatives *continued*

Name of Program	Established	Government Role	Private Sector Role	Risk sharing
Aakash Tablet (India)	Initiated by the public sector to develop affordable ICT devices via a tender process.	Initiate by requesting IIT to develop functional specifications for the tablet, to increase access to ICT estimated affordability parameters.	Use research and development resources to procure or develop components and build tablets according to specifications.	Public sector risk: loss of tax revenue if fails. Private sector risk: loss of investment if there is not enough demand for low-cost tablets. ➤➤
GILAS Initiative (Philippines)	Initiated by the private sector.	Allowed GILAS consortium access to public schools. Ensured that schools were ready to receive and utilize the PCs, and that teachers were allowed to attend training.	GILAS consolidated CSR funds to procure computers for schools. Consortium provided ICT infrastructure, internet access, and computer training to teachers.	Public sector risk was alignment with Ministry of Education strategy—access and equity. Private sector risk was misuse of CSR and other donations. ➤➤
Intel Teach (Indonesia)	The initiative started in 1996 as a CSR activity to support the education sector.	Provides teacher relief to participate in training. Provides certification to teachers who participate. Facilitates adaptation of curriculum to suit the local context.	Provides access to Intel Teach resources to train teachers. Develops a core group of master teachers to roll out training. Shares best practices from local teachers with regards to education transformation.	Government risk is that it could be just Intel product positioning. Parallel training program overburdening the teachers. Private sector has negligible risk. ➤➤

WHAT ARE THE IMPLICATIONS FOR POLICYMAKERS?

Drawing on lessons from the study and the summary provided in the table, the following considerations may be helpful in understanding and adopting PPPs in ICT for education initiatives.

The three key areas of PPP in ICT for education may be classified as investment in equipment and infrastructure; application software and e-resources; and human capital that can enhance education service provision.

Develop a Common Understanding of the Term

Instead of seeking a single definition, underlying principles may be used to develop and structure PPPs. All principles may not apply to every PPP context, because each PPP is developed for a specific purpose and a particular context. In ICT for education, it is important to highlight that the vague use of the term PPP and lack of clarity in current literature contribute to confusion about the concept.

Adopt Appropriate Partnerships for the Context

It is prudent to recognize that not all ICT projects are suitable for PPPs. PPPs are not a one-size-fits-all solution; every ICT for education initiative has its own unique challenges, priorities, and financial constraints. Thus the nature and extent of a PPP should be based on an assessment of its appropriate role, and the relative costs and benefits to both the public and private partners. The cases noted in the table provide a number of different ways to conceptualize PPPs in ICT for education.

Comparative Information on the Seven Initiatives *continued*

Exit Strategy	Level of Funding	Contract	Monitoring and Evaluation	Sustainability Plans
Relationship ended when tablets were successfully developed and delivered.	Public sector provided tax concession and assurance of procurement order. All other costs were borne by the private sector.	Formal contract established at the start of the partnership.	Evaluation done by implementing partner and results used to improve the product.	The tablets are now in the 4th generation with continued research and development. It is assumed the affordable device will attract buyers to increase ICT access in higher education.
Handover to MOE when individual schools were completed.	Government did not have any direct funding but provided in-kind support such as teacher relief to attend training.	Memorandum of understanding was used but no formal contract was in place.	Monitoring by private partners, local government, and local districts.	Sustainability is based on the assumption that use of ICT will be mainstreamed in all schools. However, plans for recurrent and equipment replacement costs are unclear.
There is no exit strategy.	In-kind funding covers the cost of trainers. Covers the cost of developing the curriculum. Covers the cost of trainers' training.	Memorandum of understanding with MoEC, which outlines the deployment of Intel's programs	Intel conducts its own informal monitoring. MoEC evaluates teacher proficiency, but it is unclear if ICT competency, and particularly the Intel Teach work, are included.	No formal sustainability plan. It is not embedded in existing teacher training programs in the country.

Encourage the Development of Regulatory Frameworks

A robust regulatory framework is often the crucial precondition for successful PPP development. Such frameworks can help negotiate product positioning by large ICT companies, CSR initiatives, and demand-driven PPPs. A strong political will to develop PPP models is critical for success. A government regulatory framework and policies underpinning good governance can provide the necessary foundation for the implementation of sound ICT for education partnerships.

Create a Clear Vision and Objectives

PPPs should define a vision that clearly indicates tangible objectives and outputs and shows definite benefits for the beneficiary and the potential for expansion activities. Such vision can help to create buy-in from prospective partners and promote the model espoused. The NSDC initiative is a good example of the use of vision, and, now that it is established, it reports that many new applicants wish to enter the market.

Continuous and Transparent Monitoring

Regular monitoring allows for gradual adjustment of partnership details when necessary to adapt to changing situations. Third-party monitoring is one effective option that can be used to evaluate the implementation of a PPP model and is important in ensuring the credibility of outcomes—see cases outlined in the table. The use of ICT as a monitoring and evaluation tool can be readily embedded in ICT for education PPPs.

A government regulatory framework and policies underpinning good governance can provide the necessary foundation for the implementation of sound ICT for education partnerships.