
ICT Management and Challenges

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PPPs for Enhancing ICT Enabled Education

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ABSTRACT

21st century is called the age of Information and Communication Technology (ICT) is playing a significant role in developing the communication channels, especially in education. It is also associated with economic benefits such as higher productivity, lower costs, new economic opportunities, job creation, innovation, and increased trade. ICT has helped in development in a sustainable way but has given rise to digital divide as it has penetrated limited rural areas due to budgetary constraint, lack of technical knowledge, in addition to high rural populations, more than 22 languages and scores of dialects, lack of adequate infrastructures, failures of power systems and poor broadband networks. Public Private Partnership (PPP) has emerged as a key strategy for infrastructure improvement, more effective service delivery and fiscal efficiency. The study aims to garner information on the challenges and best practices of PPPs in education in order to help organizational funders and development practitioners become more effective in designing and implementing education PPPs for strengthening ICT enabled education. The study also examines how PPPs are formed, how they function over time, some challenges they might face and common pitfalls to avoid.

Keywords: *Information and Communication Technology, Public Private Partnership, Sustainable and Standard Education.*

INTRODUCTION

Indian education sector has witnessed a series of changes in the last few years, which resulted in a significant increase in market size of the education industry. With economic growth and enhanced technology it has become necessary to develop the Indian education sector. Indian education system can be divided into formal and informal segments which are further divided into sub-segments. Formal education segment broadly comprises schools and higher education institutes. Schools often classified as K-12(Kindergarten to 12th) caters to '3-17 years' age group. While higher education includes graduate, diploma, professional and post-graduation courses caters to '18-22 years' and above age group. On the other hand, informal education segment comprises of preschools, multimedia, ICT, vocational training, books and coaching classes. This segment is free from regulation as opposed to highly regulated formal education segment. Education sector is unable to cope with growing market demand and global competition due to constrained investments. Increased private investment is imperative to expand infrastructure and provide greater access to quality education. Funds are a major concern in the market to meet this demand. The government has taken many initiatives for the development of education infrastructure which needs to be supplemented led by private players.

Public Private Partnerships

PPPs are collaborations between public and private sectors with a focus on system efficiency, innovation and accountability. In education, they bring together the scale of the government system with the innovation of the private sector to improve the quality of the system as a whole. PPP can provide the much needed finance to the education sector while serving as an efficient operating model. Establishing strong partnerships between private and public sector can achieve the growth. The Government of India defines PPPs as: *'A partnership between a public sector entity (sponsoring authority) and a private sector entity (a legal entity in which 51% or more of*

equity is with the private partner/s) for the creation and/or management of infrastructure for public purpose for a specified period of time (concession period) on commercial terms and in which the private partner has been procured through a transparent and open procurement system'.OECD defines PPPs as “arrangements whereby the private sector provides infrastructure, assets and services that traditionally have been provided by government”.

Unlike pure privatization, PPPs are a partnership between public and private sectors with a focus on system efficiency, innovation and accountability to improve the quality of service delivery. They are contractual agreements that help in achieving a greater level of risk sharing between the two sectors. PPPs in the education space serve to improve the quality of education service delivery. They bring together the reach of the government system with the innovation of the private sector to improve the quality of the system as a whole. There are differences between PPPs in education and other sectors like infrastructure development. Some of the unique characteristics of education PPPs include:

- Focus on providing services to the poor without the opportunity to cross-subsidize
- No potential to earn revenues or return on investment as schools can charge fees only in certain circumstances
- Complex monitoring structures with results that may take time to appear, e.g. improved learning outcomes
- High operating and maintenance costs in relation to capital expenditure.

The involvement of private players in education service delivery does not imply the withdrawal of government from providing education. Rather, it signals an evolution in the role of the government from an administrator to a facilitator and regulator. Well-executed PPPs in education can introduce positive disruption in the government system that could lead to the following results:

- Creating models of excellence
- Addressing residual gaps in access, especially in secondary education
- Triggering competition between different public and private providers

PPP in ICT Education

The need for reform in the educational systems of these countries at various levels - pedagogical, curricular, as well as institutional, the emergence of various Information and Communication Technologies (ICTs) and their increasing acceptance and adoption by society provide unique opportunities and could potentially promote education on a large scale. While there is no conclusive research to prove that student achievement is higher when using ICTs in the education space, either in the developed or developing countries, there is a general consensus among practitioners and academics that integration of ICTs in education has a positive impact on the learning environment. It is understood that in diverse socio-economic and cultural contexts ICTs can be successfully employed to reach out to a greater number of students, including those to whom education was previously not easily accessible, and help in promoting learning, along with exposing students to the technical skills required for many occupations. ICTs act as and provide students and teachers with new tools that enable improved learning and teaching. Geographical distance no longer becomes an insurmountable obstacle to obtaining an education. It is no longer necessary for teachers and students to be physically in proximity, due to innovations of technologies such as teleconferencing and distance learning, which allow for synchronous learning. ICTs in schools provide an opportunity to teachers to transform their practices by providing them with improved educational content and more effective teaching and learning methods. ICTs improve the learning process through the provision of more interactive educational materials that increase learner motivation and facilitate the easy acquisition of basic skills. The use of various multimedia devices such as television, videos, and computer applications offers more challenging and engaging learning environment for students of all ages. Twenty-first century teaching learning skills underscore the need to shift from the traditional teacher-centered pedagogy to more learner-centered methods. Active and collaborative learning environments facilitated by ICT contribute to the creation of a knowledge-based student population. Education leadership, management, and governance can also be improved through ICT by enhancing educational content development and supporting administrative processes in schools and other educational establishments.

Teachers and learners in the developing world are no longer solely dependent on physical media such as printed textbooks which are often times outdated. With today's technology, one even has the ability to access experts, professionals, and leaders in their fields of interest, around the world at any given time. In India, various ICTs have been employed over the years to promote primary

and secondary education. These include radio, satellite based, one-way and interactive television, and the Internet. However, there have been enormous geographic and demographic disparities in their use. Some states in the country currently have an enabling environment in place that allows for a greater use of ICTs for education, whereas other states lack such an environment making the use of ICTs for this purpose very sporadic.⁸ It is also important to keep in mind that ICTs in education are a potential double-edged sword— while ICTs offer educators, tools to extend education to hitherto inaccessible geographic regions, and to deprived children and empower teachers and students through information, there is also the danger that such technologies may further widen the gap between the educational haves and have-nots. However, technology is only a tool and the success of ICTs in enhancing the delivery of quality education to the needy, without widening the gap, will depend largely on policy level interventions that are directed toward how ICTs must be deployed in school education.

The Four Rationales for Introducing ICT in Education

Rationale	Basis
Social	Perceived role that technology now plays in society and the need for familiarizing students with technology
Vocational	Preparing students for jobs that require skills in technology.
Catalytic	Utility of technology to improve performance and effectiveness in teaching, management and many other social activities.
Pedagogical	To utilize technology in enhancing learning, flexibility and efficiency in curriculum delivery.

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 favoured by transport, energy, and other large infrastructure-intensive sectors. More recently, the concept has been expanded to include social sectors such as education. Innovations in information and communication technology 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.

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.

Challenges

- **Availability of Infrastructure to Support ICT:** A country’s educational technology infrastructure sits on top of the national telecommunications and information technology infrastructure. Availability of adequate infrastructure to support the deployment of ICTs in schools is a tremendous challenge that the region currently face.
- **Availability of Funds to Implement ICTs:** Given the current budgetary and resource constraints of various Governments, a widespread investment in ICTs in education is probably not possible in most developing countries. It is, therefore, critically important to

better understand the cost-benefit equation of the wide range of ICT options and uses in order to effectively target-spend the scarce resources. Economies of scale are achievable in distance education, although such Programmes typically require large up-front investments. Some of these costs may be shifted from the public sector to the individual users, but this in itself raises significant equity and access issues.

- **Capacity Building of Teachers:** In most of schools in the subcontinent, the teachers are overloaded, less motivated and inadequately trained, and often deal with inconvenient working conditions. The use of ICTs in the classroom or in distance education does not diminish the role of the teacher; neither does it automatically change teaching practices. In such an atmosphere, building the capacity of teachers so that they are equipped to deal with using ICTs in classrooms is a challenge.
- **Resistance to Change:** Resistance is commonly witnessed while attempting to introduce ICTs into schools, very often from the teachers themselves, since they may be of the opinion that they shall become redundant once technology comes in or due to their perception that it is too late for them to adapt to a new environment. Educators themselves may be skeptical about the effectiveness of using ICTs in school education.
- **Lack of Awareness:** There is a general lack of awareness about the utility of ICTs in education, as well as about the ICTs at our disposal and how they can be accessed and utilized economically and effectively. This lack of awareness and knowledge about ICTs and their use in education, even on the part of policy makers, administrators and educators, makes it particularly difficult to deploy ICTs in the field of school education. Another critical issue with the usage of ICT in schools is the implementation of new technologies without having analyzed their appropriateness, applicability and impact on various environments and contexts. In most countries, particularly the least developed ones, they must learn from the experiences of others, but must also use technology to respond to their own needs and not just follow trends.¹⁵
- **Internet Usage:** While the Internet contains tremendous potential for education, as described in the sections earlier, it also has its own pitfalls. For one, providing all the students with Internet access is a very expensive proposition for most Government schools. This is more so in the case of rural centers and remote areas, where Internet connections are bound to be erratic, if available at all. A different challenge altogether

when it comes to Internet usage is the effort involved in monitoring the students usage of the Internet to ensure that they do not visit educationally irrelevant and socially undesirable sites, thus detracting from the intended objective.

- **Language Barriers:** English is the dominant language of the Internet. An estimated 80 percent of online content is in English. A large proportion of the educational software produced in the world market is in English. For developing countries in the South Asian region where English language proficiency is not high, especially outside metropolitan areas, this represents a serious barrier to maximizing the educational benefits of the World Wide Web.
- **Monitoring and evaluation:** Many of the issues and challenges associated with ICTs in education initiatives are known by policymakers, donor staff, and educators. However, data on the nature and complexity of these issues remains limited because of the lack of good monitoring and evaluation tools and processes. Where evaluation data is available much of the work is seen to suffer from important biases. Another problem in this area is the lack of a common set of indicators for ICTs in education. And, where data has been collected, it is often quantitative data related to infrastructure (number of computers, for example) rather than data that can help policy-makers gauge the impact of ICT interventions on student learning.

Advantages of Public-Private Partnerships

A well designed PPP, can, among others, do the following: ☐

- Bring additional resources (investment). Private investment can come out of pure corporate interest, corporate social responsibility, and philanthropic contribution.
- Supplement existing capacity of the public school system by helping to absorb growing numbers of children entering the education stream. This will help to expand access and reduce class sizes in government schools. ☐
- Expand the knowledge and skill base of the education sector, introducing new innovative approaches – whether pedagogic, technical or managerial in nature – that may not be easily available in the public sector. ☐

- Better achieve the desired outcomes in the education sector; greater innovation in the delivery of education will enable the focus to shift to the desired outputs and outcomes rather than specifying how those outcomes should be achieved.
- Introduce a longer, more structured (well thought-out) time horizon into the public private relationship to better align the interests of both the sectors. ☐
- Make the cost of services more transparent and accountable through the use of explicit contracts and improved costing mechanisms.
- Broaden the number and scope of players in the education sector, spurring greater efficiency, effectiveness, and innovations.

Therefore, while there is a great opportunity to raise revenues and promote savings to help meet the 12 FYP funding targets through PPPs, there is an equally great potential to increase efficiency as well as equity in education spending. It is proposed to constitute a formal group in MHRD for sustainable PPP initiatives. It is recommended that a PPP cell be established within the MHRD with the following mandate:

- To explore areas in which PPP models would be feasible within the school education sector
- To nurture and build capacity for PPPs
- To periodically monitor, evaluate and review PPP projects in school education
- Set up and supervise quality assurance processes for all PPP projects
- To report on performance periodically

The cell will have a secretariat in the MHRD and would have an advisory committee drawn from different stakeholders relevant to the PPP space. Such a Cell would ensure continuity from programme formulation to implementation and monitoring and evaluation.

Key Principles to Making PPP Work

- **Recognizing Private Sector Concerns:** It is clear that the primary concern revolves around transparency/clarity. The entire process of PPP from start to finish should be as transparent as possible with clear directives and platform for information sharing. This will help all partners to adjust in advance to any changes in the enabling environment and

move forward on an informed basis. The Government should come out with a clear framework/white paper, providing specific areas and modes of PPP engagement.

- Objective outcomes (not inputs or efforts) should be defined as clearly as possible and revised each year based on ground-level experience. Where the intended outcomes are not met, support may need to be provided and/or penalties imposed. The original agreement should clearly state the consequences of non-performance.
- Working Together: As recognized above, a major challenge under PPP, and one that will play a key role in ensuring success, is of all partners being to move together in a transparent, informed manner. PPPs may involve multi-organizational, multi-level, multi-functional collaborations and interactions that will crucially determine the outcome(s). ¶ It may not be easy for the various partners (senior government officers, field personnel, NGOs, private sector companies) to work together as they will bring with them the different styles of working, culture and approaches. There will have to be a conscious effort to make PPP work with the belief that the synergy will be valuable and beneficial.
- Platforms should be created to keep the channels of communication open at all times. There are valid points on each side of the debate – and education sector development is arguably not just a national but an international debate and discourse. ¶ Platforms/forums should be established to help address challenges in implementation faced by all parties. These challenges may be at the policy or at the operational level.
- Recommended Key Policy Directions : An underlying premise of this report is that the general education sector needs augmentation of public sector financing. There is, therefore, a critical need to diversify sources of finance and institutionalize cost-recovery schemes where possible.
- ‘Allocation’ of resources becomes as important as the amount of resources made available. This will require clear definition of the role of both government and private sector and evidence-based choices in the allocation of resources (i.e. most effective, in terms of cost and quality, in their impact on learning). ¶
- Effective systems need to be developed to promote and ensure access by the poor. The non-government education sector (both community and private-led) should play an increasingly prominent role in the financing of education. While encouraging private sector participation, it is essential to ensure that school education responds effectively to

both national priorities as well as to the expectations of local communities. Nurturing local community support, therefore, shall be vital. ☐

- A variety of PPP models should be promoted to respond to the different local enabling environment and conditions; it is unlikely that one single model could prevail across the whole country. ☐
- Key performance indicators shall be drafted and carefully monitored through the Concession Agreements/Contracts under PPP arrangements to ensure achievement of intended results.

Conclusion

A carefully thought-out, integrated approach to introducing computers and the Internet into learning environments in developing countries can have a significant impact on teaching and learning. In countries where learning resources are limited and teachers never dream of having a fully stocked library. As a result, those with access to ICTs have been greatly empowered. In order to more effectively prepare students to participate in ICT-driven education, greater commitments and willingness to share and adopt innovative solutions are needed from all aspects of society—from Governments, the private sector, communities, donors, parents, and students. ICTs are being increasingly used in education in both the developed and developing world, in order to reach out to children from poor and remote communities, provide them with a quality education, and in general equip both teachers and students with a wider range of educational resource and enable them with greater flexibility. There is a critical need to document every effort for the benefit of the various stakeholders— decision-makers, institutions, NGOs and civil society. It is necessary to know what works and what does not, and what the implications are for policy making, planning, and implementation. Specifically, it needs to be understood that any new technology comes not merely with hardware and software, but with a learning and teaching style and grammar of its own, and that management practices need to be adapted in order to use the technologies effectively. ICTs are, ultimately, only physical tools, which by themselves cannot bring benefits to students, teachers and communities at large. Therefore the unique contextual realities of this region, including, primarily, the initiative and impetus of the various countries and its constituents, the involvement of private companies and NGOs, and the level of

infrastructure, play determining roles in creating enabling environments promoting the use of ICTs for primary and secondary education.

As a conclusion the challenges that India's higher education sector faces and calls for focused initiatives for remedial action, like targeted interventions for increasing enrollment rates. It is also clear that the expansion of the higher education system in India would not be possible without sufficient levels of private sector funding, states the report, while adding that a clear gap exists in the availability of this private sector funding. It emphasizes that there is a need to look at partnerships to create progress on this front in the near term.

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