

**The Basic Education Development Dimension:
Internet Access for Development**

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Abstract

The internet has been remarkably successful in developing greater opportunities for education practical possibilities. More than 70 countries still have monopolies over international gateway services, and 92 countries did not have internet exchange point (IXP), which raise the price to access and reduce the affordability of internet access to education and learning innovation. Contributing to global development, nowadays, should be one of key objectives of MoNE as well as remains a tool for literacy reduction, mutually supportive policies across wide of basic education. The paper notes the increasing internet-basic education innovation occurring in number of developing countries and primary school development opportunities. It also raises issues of education nature with may surround security as the next billion students join the network, and innovative approaches being taken to address the issues. By and large, the paper concludes with a number of policy recommendations applicable to the development of basic education and the goal of extending the benefit of internet access to the next million students in Indonesia.

Keywords: *Internet, Basic Education Development*

1. Introduction

The internet, in little more than a decade following its commercialization, has been remarkably successful in developing greater opportunities for communication access for the first billion users. The challenge for all stakeholders is to expand the education, economic and social opportunities made possible by the Internet for the next several billion users. The paper examines where the users will come from, as well as the large shifts in education policy which enable expansion to be a practical possibility. It also considers how different government policies affect internet accessibility. The question of whether the policies- in our developing country- are conducive to development of education especially in basic education and poverty reduction of ICT is discussed as part of National Education Ministry Program on policy coherence for development.

All indications are that the majority of the next several billion Internet users, mainly from developing countries, will connect principally via wireless networks. In some developing countries wireless subscribers already outnumber those using fixed networks by more than 20 to 1. The characteristics of these 'new' Internet users will be vastly different from the first billion. The majority of those joining wireless networks, for example, have income of less than USD 2 per day

Liberalization has played a key part in the expansion of fixed and wireless access networks. This in turn makes access to the Internet possible, increasingly affordable and applicable to people with very low incomes. This report notes the increasing innovation occurring in a number of developing countries with competitive markets but with less competitive on education, such as Indonesia. It is also highlights the employment, micro-entrepreneurial and social development opportunities which have emerged as access levels have risen among low-income users

More than 70 countries still have monopolies over international gateway services. Such monopolies raise the prices for accessing international capacity far beyond costs, and reduce the affordability of Internet to education purposes and end users. The paper considers the education debate which has taken place in fora such as National Summit on the Information Society and Basic Education Forum for IT. It concludes, consistent with previous works [see references], that the current model for internet traffic exchange has been highly successful and that regulatory reform over the past decade has been positive in developing communication access and it is important to develop it on student since basic education are start running.

It is suggested that the characteristics of access in developed and developing countries are likely to exhibit significant differences in the short to medium term in areas such as fixed and wireless, narrowband and broadband. The largest differences in

commercial arrangements for interconnection will not be North-South but between countries with different models for traffic termination on domestic access networks. As convergence toward the use of Internet Protocol (IP) continues, more and more traffic will be exchanged using the Internet's commercial model across a variety of broadband platforms. Coupled with the commercial arrangements which have typified these networks in the past, significant international differences could emerge.

Educational Policy Coherence for a Globally Accessible Internet

The concept of policy coherence for development covers following main areas” (i) internal coherence within development co-operation policies; (ii) intra-country meaning interaction between aid and non aid basic education policies; (iii) inter-donor coherence; and (iv) donor-recipient coherence. The most important factor in achieving greater affordability is reduction of communications interconnectivity costs and access through the use of competition. Commercial negotiation best serve this purpose by encouraging each player to seek the most economical option for the needs. Striving for balance through nationality mandated system does not increase affordability; rather it encourages operators to inflate purported costs instead of seeking low cost solutions.

Governments need to carefully consider the overall policy coherence for development. For developing countries such as Indonesia, the benefit of liberalization extends beyond the growing size of the market. It also supports broader economic and social development goals from employment creation through to improving basic education. For countries yet to reform telecommunication market, again like Indonesia, in areas such as liberalizing international gateways, fundamental barriers will remain.

A coherent policy approach also needs to consider other sectors that may affect the development of access, such as policies which place high tariffs on ICT equipment or tax services over and above those applicable to the rest of the economy. Strategies can also involve national and international stakeholder partnerships and networks that bring together relevant stakeholder provide them with platforms to share knowledge, discuss policies and build implementation-oriented partnerships.

Paradigm Shift: from supply-led to demand-driven development

In an environment characterized by monopolies, in which decision were supply-led rather than demand-driven, this tool was used to assess how many ICT lines would be added in any given period. If a country was on or close to the trend line, network planners believed that the correct setting were in place for ICT relative to the overall state of economic development. On the other hand, conventional wisdom held that a position significantly above or below the line indicated overinvestment or underinvestment

2. Recommendation

Based on some discussion, paper investigation, focus discussion group, documents analysis, ICT for Basic Education Forum, there are a number of policy recommendations applicable to the development of Basic Education as one of student's communication and the goal of extending the benefits of Internet access to the next several billion users.

- a. The next several billion users represent a educational opportunity rather than a burden. This should be reflected in education policy approaches
- b. There is now a large body of experience to draw on in reforming ICT in Basic Education and orienting them towards growth. These include the introduction of education competition, separating function of policy making from operational responsibilities, and creation of independent basic education regulators with the power to enforce appropriate regulatory safeguards.
- c. Liberalization of education and communication market focuses competitive forces on the expansion of access and affordability for low-income populations and promotes innovation applicable to local circumstances, as highlighted by recent experience in Indonesia. Improved access and lower communication costs generate general education, economic and social benefits. Historically, in markets typified by monopolies and little momentum for growth in access, the cost of establishing and maintaining service to low-income users was unsustainable.
- d. Opening communication-education markets enables private sector investment to respond to demand and allows governments to direct scarce development resources to other high priority area such as Basic Education. The development of a competitive and commercial markets stimulates the build out of infrastructure when can then enable targeted intervention by government to achieve public policy goals *e.g.* access provision in underserved areas at a reasonable cost, such as village school access point.
- e. Higher prices for communications services generally exist where one or more players can exercise monopoly power in the use of existing infrastructure (an undersea cable or international gateway) of prevent the development of more costs efficient infrastructure (IPXs). Government should aim not only to ensure competitive markets for users in their own countries but for the delivery of international services through lower termination rates.
- f. The barriers to establishing IXPs in Indonesia as one of developing countries where they do not yet exist are largely non-financial. There is a lack of appreciation among all stakeholders of the mutual benefits which they can enable. An efficiently managed

- IXP can rapidly generate savings that pay for its establishment and maintenance as well as improve Internet performance in the country concerned. It is estimated that less than USD 40 000 would fund the establishment of an IXP in Indonesia that do not have them. However, such expenditure – in the form of development co-operation- would only make sense if conditions are in place to enable the IXP to operate efficiently and become education driven.
- g. It is necessary for Indonesia, especially MoNE, MoRA, ICT Deputy to closer consider the overall coherence of their policies in order to support development in Basic Education. The benefits of liberalization – supported by relevant capacity building- extend well beyond the communication sector to education, economics and social use of networks and services.
 - h. Policy or regulatory approaches that place burdens on communication access and education not related to specific goals, are additional to those applied to the rest of education, economy, and social or do not encourage competition act as a barrier to overall economic and basic education development
 - i. The global nature of the Internet means that policies and practices adopted in one country may affect the security (especially for students as users and security system itself) and stability of network use in another. In this context development of international culture of security and the government expenditure necessary to sustain it is a particularly challenging priority. To this end, all stakeholders should support capacity building and developmental and cross-border co-operation.

3. Conclusion

In closing, the paper highlighted the need to continue to build a culture of security and to extend it to the next several billion users as they join the Internet. As an interdependent network of networks, the security and stability of one part of internet may affect all other parts. To the extent that service providers or consumers do not take into account costs borne by others, lack awareness of the need for a culture of security or cannot afford to meet the costs of online protection and best practice, they can affect the overall health of the Internet and the experience of its users that is million students in Indonesia. These issues raise specific challenges for low-income users and a growing need for all stakeholder communities to address building a culture of security around Internet provision and use.

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