

Online Higher Education: Issues and Implications

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Abstract

Education and human capital are recognized drivers of economic growth and social progress. Investment in education should be guided by how it can help eliminate social disparities and promote sustainable economic growth. Education, given its important role in the economic, political and cultural development of any country, is potentially one of the key sectors where information and communication technologies (ICTs) are applied. In a world where access to, and use and creation of knowledge is central to social and economic development, higher education is in increasing demand. Higher education serves a number of important functions that are central to the development of nations. The potential uses of ICTs in education are vast: from radio and television programmes to the use of CD-ROMs, e-mails and the World Wide Web. The internet has the potential to overcome geographical and time barriers, and to allow students to study in any place at any time. Online higher education is providing further educational options for students, promoting the sharing of information and knowledge worldwide, reinforcing ICT use and access, and supplementing traditional modes of supply of education. In view of the above, an attempt is made in the study to assess the educational policy process by analyzing how higher education services are provided and traded (either commercially or not) and outlining some of the trends resulting from the use of the internet in the provision of higher education.

Keywords: Education, Higher education, Information and Communication Technologies (ICTs), Internet, Online.

INTRODUCTION

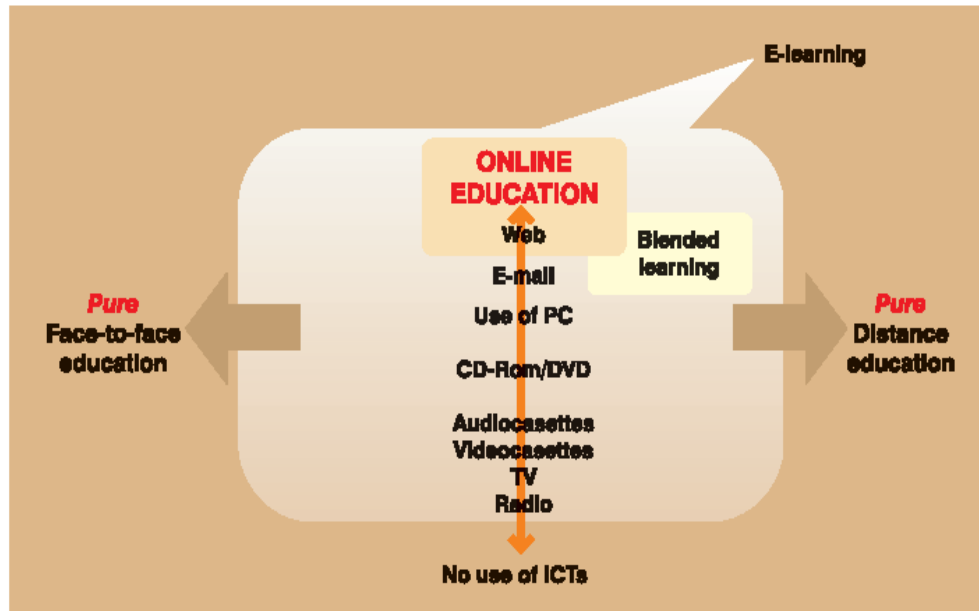
Education, given its important role in the economic, political and cultural development of any country, is potentially one of the key sectors where information and communication technologies (ICTs) are applied. The opportunities presented by ICTs to change the content of and approach to learning as well as to extend the reach of educational institutions could have a profound effect on development. The internet has the potential to overcome geographical and time barriers, and to allow students to study in any place at any time. Researchers, teachers and students are communicating globally. The present day students are following a full technical degree online. The purpose of this study is to assess the educational policy process by analyzing how higher education services are provided and traded (either commercially or not) and outlining some of the trends resulting from the use of the internet in the provision of higher education.

The potential uses of ICTs in education are vast: from radio and television programmes to the use of CD-ROMs, e-mails and the World Wide Web. Our analysis will focus on one concrete application: the Internet. The Internet has a number of uses within education: disseminating learning content, enabling communication between students and teachers, and engaging in and publishing research. The use of the Internet for education, including the use of websites and e-mail, has come to be known as online education.

E-learning is a broader notion than online learning which embraces every kind of teaching and learning situation using some element of electronic or digital resourcing (radio, audiocassettes, videocassettes, TV, personal computers, e-mail, Web) and considers online education a subset of e-learning. Another concept is blended learning. As the name suggests, blended learning is learning that combines different modes of student engagement. In practice, the use of blended learning has been limited to the combination of online learning with face-to-face instruction. An overview of these different concepts is shown in figure 1.

FIGURE 1

The e-learning continuum to online education



THE HIGHER EDUCATION MARKET:

1. Education and Economic Growth

Education and human capital are recognized drivers of economic growth and social progress. Investment in education should be guided by how it can help eliminate social disparities and promote sustainable economic growth. Higher education serves a number of important functions that are central to the development of nations – training teachers, lawyers, engineers, and so forth. It also has a social and cultural function both in providing social cohesion and in transmitting certain important social values (World Bank, 2010).

TABLE 1

Educational priorities and contexts		
Low-income countries	Middle-income countries	OECD countries
Basic education for all by 2015	Develop secondary and tertiary education	Ensure quality of learning for all
Address inequities, particularly female enrolment	Competition with OECD educational institutions	Teacher shortages
Training of teachers	Develop access to ICTs	Continuous learning
Access to ICTs	Education statistics	Financing lifelong learning
Wealth growth	Demographic pressure	Increasing diversity of students
Quality and locally meaningful content and curriculum	Bridging inequality	Competitive educational services
Affordable teaching materials and textbooks	International recognition of accreditation	Attract new students
Use of mother tongue		Excellence
Community involvement		Promotion of ICTs

Source: OECD-UNESCO (2003); Johnston (2004); World Education Forum (2000).

As table 1 summarizes, educational objectives and priorities frequently depend on the level of economic development of a country (OECD–UNESCO, 2003). This is by no means an exhaustive summary (countries within the same region, do have different needs) but it provides an overview of the different priorities countries have as regards higher education and the different types of programmes they might concentrate on.

2. The Higher Education Market

In 20 years, the number of higher education students has doubled and the greatest increase has been in developing regions (UNESCO, 2008). In developing countries education in general has seen varying patterns of privatization. Whereas some developing countries have pursued government-led education (in India nearly all tertiary education is publicly funded).

3. International Trade in Higher Education Services:

Higher education has value for individuals, institutions, States and other associated service providers (e.g. academic publishers).

International trade in higher education services takes place through the following four modes of supply: (i) cross-border supply: the provision of online degrees to students in another country; (ii) consumption abroad: students move abroad to take a course; (iii) commercial presence: a university setting up a campus in another country; and (iv) presence of natural persons: professors moving between institutions in different countries. It is in the movement of students (mode ii) where most international trade takes place. The net exporter regions are North America, Europe and Oceania, while net importer regions are Asia, Africa and South America (Larsen et al., 2002).

Data on the exports in the other modes of supply are practically non-existent, but the size of such exports is thought to be limited. International trade in educational services is not new: selling educational services, studying abroad and establishing educational institutions are conventional features of academic life. What is new is the impetus (at least in some countries) to further liberalize the education sector, and the responses by other actors such as teachers, students and education managers to this opening up of the education market. Higher education services are subject to progressive liberalization under the General Agreement on Trade in Services (GATS).

The internationalization of education provides many benefits by further enhancing the mobility of students, such as wider options for qualified students and exposure to different cultures. However, it is also one of the processes that can lead to “brain drain”, with competent students leaving their countries of origin and taking their skills with them.

KEY DRIVERS FOR PROMOTION OF ONLINE HIGHER EDUCATION IN DEVELOPING COUNTRIES:

Online higher education provides different benefits and opportunities for students, higher education institutions, Governments and educational service providers. Six key drivers responsible for the current adoption and promotion of online higher education in developing countries: They are:

- 1. To develop educational capacity.** The Internet makes it possible to reach more people over a wider area with limited access to traditional education in general or to specific higher education institutions. In this sense, online higher education is an extension of the distance learning model.
- 2. To improve the quality of learning.** There is a strong argument that the use of ICTs can increase the effectiveness and quality of learning by providing increased customization, more flexibility and student choice.
- 3. To increase access (particularly for marginalized populations):** E-learning can be used to provide innovative solutions to address specific access issues that might make it difficult for potential students to participate in higher education.
- 4. To achieve cost-efficiencies.** The possibility of e-learning to expand capacity and access brings with it potential cost-efficiencies (reaching more students for less money) through reducing the cost per unit (or student) and therefore improving an institution’s financial position.
- 5. To enhance the uptake of ICT skills and infrastructure, so as to promote a knowledge economy.**

Perhaps the key driver for online education at the macro-policy level is that it will enhance ICT skills and infrastructure, and thus serve to reinforce the promotion of a “knowledge economy”.

6. Because it's the survival and marketing strategy.

There is also the perception that e-learning is worth investing in because, to some degree, it represents “the future” and if some institutions have e-learning capacity, then other universities need to invest in order to be able to compete.

THE ONLINE HIGHER EDUCATION MARKET

Online higher education is a potentially profitable global market. The OECD predicted in 2001 that there will be 30–80 million online students in the world by 2025. The online higher education market is composed of goods and services that include software applications that enable interaction via the Internet, course content, support services (such as accreditation or education management) and the actual dissemination of education (e.g. the interaction between teacher and student(s)).

The Economist Intelligence Unit ranking (2003a) grades countries according to their e-learning readiness. In other words, it ranks countries on their ability to produce, use and expand Internet based learning – both informal and formal, at work and at school, in government and throughout society. This ranking assesses e-learning on the basis of four categories: education (Internet access and use among teachers and students, including equality considerations), industry (use in different sectors), government (its support for e-learning) and society (populations' access to and use of the Internet, including attitudes and overall level of education).

In Asia, online education is growing in the richer and more technically advanced developing countries. In contrast, India and China have a long tradition of open and distance education, with experience in the application of technologies to education, such as satellite and radio, but for the moment online higher education is only starting to be developed (Tu and Twu, 2002). The Internet is promoting international trade in higher education services by facilitating the dissemination of educational content and services through online distribution. (Paulsen, 2009) indicates that there are 300,000 courses available on the Internet.

The Internet is also increasing trade in higher education services by facilitating the reuse and reselling of higher education resources to serve the lifelong learning needs of the information society. In a rapidly changing, technology-dependent economy, lifelong learning has become increasingly important for ensuring the necessary and continuous updating of skills (languages, professional skills etc.). As the Internet is already widely used in the corporate training sector, one might expect its use in higher education to further facilitate the reuse and trade of educational services from one sector to another.

Open and/or Distance University going Online:

Indira Gandhi Open University, India; UK Open University Open universities and distance learning universities have long experience in providing distance education using ICTs to support and/or replace face-to-face course provision, including television and

radio broadcasting, cassettes and videocassettes. These universities are taking further steps in the use of media technology, using the Internet to provide education.

The Indira Gandhi Open University (IGNOU) caters to the Indian market and has a history of broadcasting educational content, and has strategic partnerships with Doordashan, India's National Broadcaster and All India Radio. Its major strengths reside in the large domestic market, and an already established support network of regional centres and staff. The institution buys pre-existing content from other institutions that specialize in particular educational disciplines. For example, IGNOU has entered into collaboration with the EDEXEL foundation in the United Kingdom, whereby some of the pre-existing content of the institution is used for the online IGNOU Bachelor in Information Technology and Advanced Diploma in Information technology. IGNOU also creates its own content.

TECHNOLOGICAL INFRASTRUCTURE AND APPLICATIONS

ICT infrastructure:

The use and the adoption of online higher education require ICT infrastructure. To maximize the use of ICTs in education computers and software are indispensable, and in the particular case of online learning access to the Internet is also a prerequisite. Reliable and fast connectivity, as well as sufficient bandwidth, are of particular importance in order to make full use of the range of e-learning software and applications – from animated simulations used to enhance learning in engineering or medicine to video conferencing for increased interactivity between students and teachers at a distance. The ability of a region, State or nation to develop e-learning depends on the existence of a strong ICT infrastructure.

ICT applications: Content production, delivery and course management:

The Internet has had a major impact on education in terms of both content creation and distribution. Designers and teachers use a wide variety of tools to create content, such as word processors, presentation software, audio, video and animation. They also use ICT tools to evaluate students (e.g. assessment tools). Moreover, they use ICT-based communication to enhance teacher–student or student-student interaction. Traditional methods, such as audiocassettes and videocassettes, are and will continue to be widely used in developing countries, for example by the Indira Gandhi University in India.

The large majority of online courses are developed in the fields of business management and ICT related areas. Internet delivery is particularly popular with postgraduate courses, presumably because of their shorter duration and greater independence, as well as their popularity with full-time professionals.

Open content

The growth of the Internet has led to increased availability of content and, as with public libraries; there is a demand for knowledge to be shared and freely or cheaply accessible. A well-known initiative to make courses publicly available online is Open Courseware.

Professionals from developed and developing countries have suggested (UNESCO, 2002) that open courseware, should:

1. Provide educational resources for college and university faculties to adapt them in accordance with their curricular and pedagogical needs;
2. Include the technology to support open, meaningful access and use of courseware;
3. Include at a minimum the course description, syllabus, calendar and at least one of the following: lecture notes, demonstrations, simulations, illustrations or learning objects.

Research and publication

The Internet is also having a major impact on research and publication. It has led to information being available to more people, new publication opportunities, networking being enhanced through newsgroups and other mechanisms for collaborating across borders. For most scholars in developed countries it is almost unimaginable to engage in research without access to the Internet.

Content management

Content is provided primarily through Learning Management Systems (LMS). The newer and more advanced version (Learning Content Management Systems) offers additional features that focus on content management and authoring (Hawkrige D 2008).

Open applications

ICTs have allowed the production and distribution of content in a variety of electronic formats incorporating different media. The ability to use content on different platforms is an asset, particularly in education, where the potential for content exchange is unlimited.

THE LEGAL FRAMEWORK

The legal framework affecting online higher education extends from specific regulations in the field of education (recognition of titles, accreditation of educational institutions, curriculum design, teachers' qualifications etc.) to broader legal issues, including intellectual property rights, commercial law, security and authentication, electronic payment systems, consumer protection, applicable law, and fiscal and customs regulations. Both sets of regulations shape the ability to buy, sell, develop and use online higher education.

Accreditation and recognition

Accreditation is the currency of higher education. National quality assurance and accreditation systems vary from one country to another. As regards accreditation, online higher education is an issue in the key areas of quality, transferability, authenticity and branding. It is likely that in online higher education both branding and accreditation will play an important role in shaping the market. Currently, there is no single international accreditation body for either online or offline higher education. In order to be meaningful, global education requires transparent and recognizable standards of accreditation.

Intellectual property rights

IPRs play a role in determining the ability to access, produce, copy and distribute content and specific expressions of knowledge. Since education is a public good and is strongly based on knowledge, the application of IPRs to education is of particular importance. The Internet is promoting more knowledge exchange around the world – from developed to developing countries, and vice versa. Since online education services derive from diverse sources (music, software, content, design, media, etc.) they are also restricted by varied protecting rights, which are now enforced by both technical and legal methods.

THE INTERNET’S IMPACT ON AND IMPLICATIONS FOR HIGHER EDUCATION

In a world where access to, and use and creation of, knowledge is central to social and economic development, higher education is in increasing demand. Online higher education is in some cases providing further educational options for students, promoting the sharing of information and knowledge worldwide, reinforcing ICT use and access, and supplementing traditional modes of supply of education.

Estimates speak of a small volume of online-only higher education courses in developing countries, with higher concentrations in more developed nations and among elite populations. The Internet is encouraging new thinking about the validity of current business models for the provision of education and access to research.

The Internet has further internationalized (the trade in) education, and is increasing access to international higher education services, both online and offline. The Internet is promoting competition for international students and thus it increases pressure on developing countries’ institutions. Additionally, online higher education requires further strengthening of quality assurance and recognition processes.

RECOMMENDATIONS

On the basis of the above analysis a number of suggestions are provided below for Governments and educational institutions in developing countries.

Despite the growing competition that developing country institutions face in the provision of higher education from developed countries, they still have a broad range of strategies that they can use to attract students. Firstly, they can differentiate their courses through local content/language. Secondly, they can gain recognition of their institutions and courses by attaining international accreditation either on their own terms or through association with a developed country or regional institution. Thirdly, they can maximize the advantages of geographical presence in a market. Finally, they can pursue a strategy of developing regional leadership, although this is clearly not a strategy that all institutions can succeed in pursuing.

One important role of Governments is to ensure that the current widespread enthusiasm for online education³³ does not overshadow the wider objectives that they set for

initiatives such as reaching students who are under-represented (owing to disability or geography, or for some other reason), providing local knowledge, and reducing the digital divide. Governments have the opportunity to pursue policies that redress existing online higher education deficiencies and that maximize educational and developmental outcomes. Some of the options available to Governments to ensure that online higher education has a positive impact on reducing the digital and educational gap are set out below.

- Creating awareness and encouraging collaboration and dialogue between educational professionals, the IT sector and other stakeholders (such as students). There are multiple stakeholders with different interests in online higher education. A better understanding of each other's interests, aims and strengths facilitates the promotion, design and implementation of online educational initiatives.
- Fostering a culture of learning, through investing in traditional resources (books, teachers) and technologies. Funding online infrastructure and applications should not be at the expense of traditional knowledge resources, and local content and existing expertise are a valuable resource to be supported and promoted.
- Promoting coherence between educational and ICT strategies. The use of the Internet in education has the potential to, among other things, provide wider access to knowledge, promote ICT skills and enhance educational networks as well as international presence. However, ICTs are only tools to achieve educational objectives. Relevant ministries within Governments need to consider broader educational strategies when thinking about e-learning so that e-learning strategies meet current and future national educational priorities. There should also be coherence with the general e-strategy, so that measures to solve common concerns regarding infrastructure, skills and the use of open systems are consistently reflected in both sets of strategies.
- Supporting the use of open technology and open content in higher education. The use of free and open source software encourages the deepening of ICT skills and allows for local customization, and as with open standards, it promotes the interoperability of different e-learning tools. Open content is a valuable option for developing countries, both to access foreign content and to further disseminate local content. Governments play a role in promoting open initiatives, in particular in the field of higher education, by promoting their use in universities.
- Providing incentives for investing in e-learning and online higher education so that educational goals are maximized – for example, regulating the provision of online higher education, and promoting long-term sustainable partnerships between different actors (e.g. a software company and a university) that set minimum quality and reach requirements. The aim should be to enable an educational environment that provides equitable access to education and that is aware of the limits of a competitive environment.
- Developing transparent quality assurance, accreditation and recognition measures both nationally and globally, through consultation with key stakeholders, ongoing evaluation and consensus, so as to ensure that they cover the specific nature of online higher education and that they allow the achievement of particular educational goals.

- Monitoring and measuring the economic, educational and social benefits and/or costs of e-learning in general, and online higher education in particular, as well as carrying independent and rigorous research into the uses of online learning, so as to be able to benchmark and evaluate the efficiency of e-learning initiatives and return on investment.

CONCLUSION

In the light of the assessment made so far, it is not possible to give a categorical answer to the question of whether online higher education is a sound proposition for developing countries. Governments' best option is to analyse the benefits of online higher education from the overall development perspective, including national educational objectives, and the competitiveness and quality of the online education on offer, with a full analysis of the financial restraints and the opportunities offered by partnerships and open source-software/ content approaches.

In conclusion, online higher education can fulfill some of the promises made on its behalf to the extent that the educational and policy environment enables the expansion of higher education to previously excluded students, encourages relevant and appropriate learning content and processes, promotes innovation and investment in education, and recognizes students' needs and efforts

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