Funding for E-learning in Africa: A Question of Sustainability

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Abstract

This paper investigates funding models for e-learning in Africa and their economic sustainability, based partly on interviews with stakeholders at the eLearning Africa conference in Accra, Ghana, in May 2008. The study revealed four popular funding models: the foundation model, the government model, the consultancy model and the fee-paying model. To aid project sustainability, e-learning initiatives are forming Multi-stakeholder Partnerships for Education (MSPEs), in which several partners share control and project prosperity is ensured even if one financier drops out. Additionally, the philosophy behind project formation has an impact on economic sustainability. Projects that adopt a push mentality, where forces outside the ICT4D environment implement development plans in Africa, appear more likely to fail; sustainability seems more likely when e-learning has been implemented by a demand-driven economy.

1. Introduction

The potential of technology in African education was first recognised by the founding president of Ghana, Kwame Nkrumah, who confidently declared "we shall achieve in a decade what it took others a century" (Zachary, 2004). Yet Ghana, like the rest of Africa, still lags in this area (Laaser, 2006). A development agenda around information and communication technologies (ICT4D) has now emerged, with much of its educational focus on the potential of e-learning courses delivered partly or wholly online. E-learning projects are seen as vital for economic and social development (Danofsky, 2005; Hamel, 2005; Ford, 2007), but project and country reports suggest that sustaining them is rare. This study investigates the state of funding for African e-learning projects and their sustainability. It explores why they sometimes fail, what can be done to avoid the most common economic pitfalls, and by which criteria a financially dependent project might flourish.

Recent years have seen the emergence of an annual eLearning Africa conference, where professionals share their findings to promote the adoption of best practices. This conference is itself a valuable site for research, allowing one to connect with a large base of academics and explore a wide range of cases. This paper features original data collected at eLearning Africa 2008 in Accra, Ghana, where it was possible to interview project facilitators and various e-learning stakeholders, as well as listen to their stories of success and failure in presentations.

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These reflected the challenges faced throughout the continent and how they are being approached and overcome.

The study required a flexible approach to the research design. The formation and proposal of a sustainability framework is consistent with a grounded theory study, which typically relies on interviews to collect details of actions and processes that are not public (Robson, 2002; Gorden, 1975). Research interviews range from the rigidly structured to the unstructured and flexible; the exploratory nature of an unstructured interview gives opportunities to form new questions or probe for clarifications, resulting in greater control over data collection (Gillham, 2000).

A small number of individuals were interviewed at eLearning Africa 2008 to provide case studies, in addition to several e-learning users and financiers to contextualise the potential for a sustainability framework. Most valuable were the opinions of project leaders and facilitators, who were generally keen to take part. Further invitations were sent to the founders and operators of e-learning projects in and around Accra, as well as representatives of international agencies, notable African e-learning initiatives, Ghanaian government ministries, and research students and lecturers. It was important to achieve an interviewee population of both higher- and lower-status personnel (Gorden, 1975): high-status respondents are likely to be familiar with the financial structure of an organisation and able to report on company history and future plans, while lower-status interviewees (in this case, students participating in e-learning) can provide details of operation and are more likely to be aware of opinions and values on the ground.

Interviewees were provided with a basic description of the study in advance, but no specific topics of discussion. Questions were loosely defined around the financial history and future of specific projects, to allow interviewees to discuss their own understanding of the issues. At the end of each interview, they were debriefed on the significant points raised and any outstanding issues. Notes were taken during the interviews, which were also recorded and transcribed to ensure accuracy. Presentation sessions and debates at the conference also helped shape the analysis.

Preliminary research was carried out by a literature review around e-learning in Africa, open educational resources in Africa, public private partnerships, the economics of e-learning, business models for e-learning and the criteria for sustainable development endeavours and businesses, the results of which follow.

2. Funding E-learning in Africa

> The process of adoption and diffusion of ICT in education in Africa is in transition. There appears to be the beginnings of a marked shift from a decade of experimentation in the form of donor-supported, NGO-led, small-scale, pilot projects towards a new phase of systemic integration informed by national government policies and multi-stakeholder-led implementation processes. (Farrell and Isaacs, 2007.)

In the UK, the initial model of "connecting the learning society" (DFEE, 1997) was one of pump-priming by government to stimulate growth of the overall e-learning market, in the expectation that a private market economy would develop—a model also applied in

developing countries. Mee (2007: 65) argues that "government support for the purchase of ICT hardware, without fully assessing how it will be applied or sustained, is a familiar theme across many nations". Often such aid is accepted without careful consideration, as some progress is seen as better than none. Yet financial aid comes with a time limit (Hoppe and Breitner, 2003). Projects can develop to such a point that all stakeholders believe that central funding will persist, but can and do end when denied further funding from donations or supporting agencies (Mee, 2007).

Many projects fail because of overly optimistic calculations or even absent business plans when initial funding is being pursued (Keats and Beebe, 2004). A sensible and sustainable strategy needs to be identified at the outset of any e-learning development project, and needs to consider a complex arrangement of economic, social and pedagogic factors (Selwyn and Brown, 2000; Breitner and Hoppe, 2005).

Uneven Distribution

A striking feature of the literature of ICT4D and education in Africa is the apparently random spread of successes in terms of economic sustainability. Adam (2003) notes that progress is uneven and attributes this to how schools and regions have been introduced to ICT. Hicks (2007) documents the considerable variation in countries' ability to support ICT-based learning. Uptake has been led not by governments but by donor assistance and the efforts of individual faculties (Adam, 2003). Projects also are not coordinated across countries, resulting in a mixture of platforms and networks, which reduces the portability of solutions (Laaser, 2006).

Laaser's findings suggest that "leapfrogging", whereby developing countries benefit from the lessons of past failures in ICT design (Davison, Vogel, Harris and Jones, 2000), is not occurring, either because of lack of international communication or because of various donor agencies pushing different technologies to different countries without internal collaboration. Paterson (2007) attributes the variation between countries to the efforts of various NGOs and government funds; for example, expenditure in some schools is higher than others (and therefore higher risk) because of uneven allocation of subsidies and funding.

Open Education in Africa

Developing countries are turning to open educational resources (OERs) for many reasons. Reproduction costs are almost non-existent, content is available to millions and it has the potential to be a "social transformer" (Caswell et al., 2008). However, although OERs may be free to the user they are not free to provide. The nature of OER design negates traditional income models and places pressure on funding systems. Despite the involvement of high profile institutions and organisations, Caswell et al. conclude that "foundation money is not the answer to long-term sustainability" (2008: 9).

One proposal for ensuring sustainability is to focus on decentralised open educational services (Downes, 2007). While this may prove fruitful, there are relatively few examples of European universities using common repositories and exchanging course material (Laaser, 2006). Most such European projects have been targeted at students and institutions outside the developed world. The lack of successful collaboration among richer institutions does not instil confidence for those undertaking greater risks to be involved. A more immediate concern is whether the European example implies that ownership of knowledge and content prevails over the common good. This would be cause for hesitation for any African university using

OERs. The risk is that resources gifted to the community might be seen as second-class, or (if they were hosted by the providing institution) could be withdrawn at any time.

We should also consider the motivations of providers of OERs. Sharing information is seen in the OER movement as something that should be done because "it's the right thing to do" (Caswell et al., 2008: 8). This altruistic attitude can cloud the decision-making process and lure businesses into funding projects with limited opportunities for success.

One purported disadvantage of ICT4D e-learning projects is that students are required to study courses designed in developing countries and of limited local relevance. although Gunga and Ricketts (2007) claim that this can be resolved by local amendments. The same issue arises with OERs. The open approach enables the creation of "contextual local knowledge in a sustainable way" (Reif, 2005), though this local e-learning content has to be balanced against the opportunity to use extensive open-learning content from around the world (Adam, 2003).

Partnerships

An important theme in the literature of e-learning projects in Africa and other developing regions is the formation of partnerships between various development stakeholders. The term "partnership" can apply to many relationships, including (but not limited to) "one time donation, sponsorship or cooperation for sharing of information, working together to more deliberate cooperation by joint planning, implementation and evaluation" (Ahmed and Nwagwu, 2006: 87).

Many universities in developed countries form partnerships or consortia with other universities to cater for more learners with a lower outlay on resources (Gunga and Ricketts, 2007: 902). This approach has clear benefits when considering the financial plight of African institutions. However, Adam (2003: 204) stresses that "a one-size-fits-all approach or translating models designed for the developed world to Africa or from one country to the other will face difficulties". These include the limited relevance of content from developed countries (Ahmed, 2007) and the need for local language translation.

While some observers are wary, many are happy to recommend partnerships as part of an ICT4D solution. Keats and Schmidt (2007) emphasize the potential of large-scale partnerships to enable African institutions to benefit from e-learning. Gunga and Ricketts (2007) see a number of opportunities for African education in adapting public-private partnerships (PPPs) to new contexts. Despite reservations, Adam (2003: 220) believes in the power of partnerships to contribute "to the social and economic well-being of African people across the continent". Others suggest that meaningful and productive North-South partnerships need to be established to meet the high expectations of governments for African education (Ahmed and Nwagwu, 2006, Ahmed, 2007). However, the complications of founding such relationships have led some to propose that virtual systems should emerge at the national level before linking with international partners (Laaser, 2006).

While the benefits of a successful partnership are clear, these relationships put pressure upon various aspects of organizations, and a truly productive collaboration takes effort. Those new to any kind of partnership can find it hard to adjust to the collaborative environment, and the risk of deterioration in the relationship increases with immature (in a business sense) partners (Ariño and de la Torre, 1998). The final Imfundo report (Wagner, Day and Sun, 2004)

recommended that the long-term vision for projects should develop collaboratively amongst financiers, facilitators and beneficiaries.

Gunga and Ricketts (2007) suggest that partnerships must be nurtured to ensure success. Respect must be shown for conflicts of interest and the different agendas of participants. While organisations around the world are keen to support struggling regions with direct funding for tangible results (such as new ICT centres), "donor countries are not enthusiastic about funding the organizational aspects of international consortiums" (Daniel, 2004). Local social development must be considered in the implementation of successful partnerships. This was demonstrated by the first incarnation of the African Virtual University (AVU), which involved a partnership with a North American university and the importation of e-learning courses with no adjustments or translation into local languages. This resulted in its being branded a "high tech solution for the student elite" (Laaser, 2006), and contributed to the model's failure.

The Economics of E-learning

The development potential of e-learning in Africa suggests a substantial prospective gain. Some studies suggest that the cost per credit of creating and maintaining e-learning courses is lower than in conventional education (Bayrak and Kesim, 2005), and financial savings in exploiting ICTs for education could free funds for other sectors of development. E-learning also offers many non-quantifiable benefits (Breitner and Hoppe, 2005). This helps justify the initial investment, but without a quantifiable return, projects will have trouble sustaining themselves.

A 2005 Open University project report noted that quality e-learning materials "do not come cheap" (Peake, Aczel and Hardy, 2005: 29), and suggested that the increasing popularity of partnerships is testament to the challenges of providing e-learning. Cronje (2006) blames the failure of many e-learning initiatives on the misalignment between business objectives and training needs. However, evidence suggests that ICT4D in education can enhance the return on investment in terms of local socioeconomic development (Jagger, 2005).

Economic aspects lie at the heart of a sustainable e-learning model (Breitner and Hoppe, 2005). Although many e-learning projects are authorised and funded through astute governments and organisations of the developed world, the development agenda can often render these financiers business-blind. It is important to consider whether an e-learning project is the most cost-effective way to meet one's needs. Most importantly, we should question whether funding is reliable and sustainable for the long term of the initiative (Clark and Berge, 2003; Sayed, 2003). Prominent failures in e-learning, such as the UKeU and AVU, vastly overestimated demand (Peake, Aczel and Hardy, 2005; Wilcox, Petch and Dexter, 2005). It is continually noted, however, that the market for e-learning in Africa is huge: 350 million people under 20 years old are hungry for education (Hicks, 2007). More work is clearly needed to assess levels of demand.

Once an e-learning project has achieved funding it is important that monitoring and evaluation take place (Berge, 2001). Projects should be evaluated for effectiveness and efficiency so that wastage is minimised, funding is accounted for and lessons can be applied to similar projects (Breitner and Hoppe, 2005). Keeping track of spending is especially important given the significant funds required to achieve project goals. One daunting example is that equipping Nigeria with a telephone and Internet infrastructure at the average world level would cost approximately twice the gross national product (Laaser, 2006).

Business Models for E-learning

To achieve long-term economic sustainability, e-learning projects should have a suitable business plan; selecting an appropriate commercial model is essential to a comprehensive strategy (Hoppe and Breitner, 2003; Breitner and Hoppe, 2005; Berge, 2001). Twinomugisha, Callan and Bunworth (2005) have gone so far as to prepare a systematic guide to designing suitable e-school models, recommending that schools not purchase equipment they cannot sustain in the long term.

Downes' (2007) models for sustainable funding could support a wide variety of e-learning projects:

- Endowment: the project obtains significant funding from a donor organisation or other fundraising activities. This is placed in a secure investment or bank account and the operating budget is drawn from the interest earned.

- Membership: the project receives funding from fees paid by interested organisations in return for privileges, which might include access to roadmap decisions or information valuable to the associated community.

- Donations: the project receives funding from non-governmental donor organizations and/or individuals. In essence, the wider community deems the project worthy of support.

- Conversion: the project provides its services for free, and once established attempts to convert consumers to paying customers. It may be possible to keep providing the free service if income from an advanced service covers all costs.

- Sponsorship: the project receives funding from sponsors in exchange for decorating their service with some form of branding. Within e-learning projects this funding can be manifested through direct installation of relevant hardware and software.

- Institutional: the project is developed through a successful institution's regular funding program, and is justified as part of the organizational mission of the institution.

- Governmental: the project is funded through government development agencies or collaborations between governments, including the United Nations. This is probably one of the most common funding models associated with ICT4D projects.

- Partnerships and Exchanges: the project is developed and funded (either in cash, services or hardware) by development partners. Partnerships can be forged without constraint on the number of simultaneous partners or variety of backgrounds.

These funding models are mostly designed to support projects on the assumption that their end product should be free to consumers. One alternative is to develop a service that consumers are happy to pay for over the long term. However, in the African context the

challenges here are substantial. There is also the potential to raise funds by selling student-related information to data mining agencies (Hoppe and Breitner, 2003), although this raises serious questions of morality and legality.

There are, of course, considerable challenges to the formation of successful and sustainable business models. Some of these are especially prevalent in Africa, such as "undemocratic governments, high level of official corruption and mismanagement of public funds" (Ahmed and Nwagwu, 2006: 91). Another is defining the decision-making structure of an e-learning project. While local control over projects is important, when money is delegated to local leadership teams they may choose to invest in alternative projects, leaving stocks of hardware to decline (Mee, 2007).

The AVU has often been reviewed in relation to African e-learning business models. Despite a large initial investment from the World Bank, few AVU courses have actually been delivered and much of the capacity (learning centres in several African countries) remains unused (Laaser, 2006). Some of its original plans encouraged partner universities to assume responsibility for the projects (Gunga and Ricketts, 2007). However, the AVU model is heavily capital-intensive, involving the purchase and upkeep of satellite equipment—costs that host universities will have to absorb when World Bank assistance is phased out (Juma, 2001).

The Criteria for Sustainable Business

It is helpful to consider more specifically the criteria for a sustainable business model. Downes (2007: 34) observes that "what constitutes 'sustainable' is unlikely to be reducible to a single metric or calculation". In general terms, however, sustainability is achieved when people inside an organization no longer think of "moving toward the goals" and the organizational focus shifts to other areas of competitive advantage (Berge, 2001).

Recent years have seen increasing demands for development agencies to support ICT4D education projects in Africa (Reif, 2005), yet there is considerable resistance to the altruistic model of development, as research grants and subsidies are not considered sustainable revenue models (Hoppe and Breitner, 2003; Breen, 2007). Adam (2003) suggests that many of the problems associated with sustainable funding were introduced through donor-run schemes. Dependence is a danger; Laaser (2006) notes a great risk of failure once external funding is withdrawn. To counter this, Wagner, Day and Sun (2004) propose clearly defined "development" phases to allow organic project evolution, an approach also recommended in Sandler, Bell and Rice's (2007) evaluation of sustainability in The Gambia.

Reviewing business models for e-learning, Hoppe and Breitner (2003: 5-6) note that the following should be observed when formulating a sustainable model:

- Target group and target segment must be chosen carefully.
- Investments must aim for medium- and long-term profit generation.
- Costs can be minimised by concentrating on core activities and considering partnerships and collaboration. Besides cost reduction, strong partners are connected with image aspects of an e-learning product.
- Income can be generated through a wide variety of sources. Direct or indirect revenue channels (or a combination) and funds can also be transaction dependent or independent (or a combination).

- In the rapidly changing e-learning environment, the adaptivity and scalability of a business model comes to the fore. However, Wagner, Day and Sun (2004) stress the importance of not scaling up prematurely or inappropriately.
- Customers are more likely to buy a product with high customer value. Brand recognition is one crucial factor for the success of market leaders in e-learning.

Reif (2005) observes that organisational development is key to the sustainable implementation of e-learning projects. For example, if independence is a project goal it is critical to build local capacity to manage the project internally. Building social capital at the local level, and moving from hierarchical solutions towards a horizontal, participatory and locally focussed approach, are considered central to the success of e-learning development programmes (Marshall and Taylor, 2005; Wells and Wells, 2007; Mudhai, 2004; Tisch, 2005; Traxler and Leach, 2006).

3. Four Funding Models for Sustainable E-learning

The Foundation Model

E-learning projects backed by large multinational companies were well represented at eLearning Africa 2008. These companies all adhered to what we have termed the "foundation model". In this model, the funding for e-learning projects comes directly from profits made in the global for-profit sectors of the company.

The first example in this category is Meltwater, an online media monitoring company with increasingly diversified interests which employs around 500 staff worldwide. The Meltwater Entrepreneurial School of Technology (MEST) in Accra was entirely funded through the company's global activities. This is an altruistic project fuelled by the CEO's desire to "give something back", and while there is some possible return on investment in the form of students helping the company enter emerging African markets, the school's overall aims are not conducive to financial sustainability. The future of MEST lies in the hands of the CEO, and while he remains in power there is little chance that funding will be withdrawn, as the school's Managing Director observed:

> The foundation is not funded through fees, donations from private or public industries, or partnerships. We are 100% funded from the profits of the Meltwater company and followed the same method of opening as other Meltwater offices around the world, except that we don't put any money back into the company… which is a bit weird, but it works for us. I think we benefit quite a lot from being a private, rather than public company, as one person can make all the decisions. You know, when you have lots of people making decisions, like shareholders, it slows everything down and maybe we could not have done this. (Strander, 2008.)[3]

A similar arrangement can be observed within the Oracle organisation. The Oracle Education Foundation funds two major projects, think.com and thinkquest.org, and various peripheral

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[3] Ylva Strander is the managing director of the Meltwater Entrepreneurial School of Technology (MEST) in Accra. In May 2008 they had been active in the country for approximately 12 months and had just completed recruitment for their second student intake.

investment programmes. This is a much larger operation than MEST, with over a decade of funding from the main commercial arm of Oracle; while this continued funding might again be attributed to the altruism of decision makers, it is also a sophisticated platform for marketing to potential customers in emerging markets.

Another organisation with a notable presence at eLearning Africa 2008 was Microsoft, which works on a number of e-learning projects in Africa through its commercial arm, offering below-market-price software and consultancy services to governments. While altruism may be involved, traditional business tactics still apply; Microsoft, too, is using this exposure as a platform for its various products and services.

Looking back to Downes' (2007) original categorisation of funding models, it is surprising that there were relatively few examples of sponsorship being the primary income and sustainability provider. This may be due to sponsorship opportunities only being offered in piecemeal development projects, as opposed to larger operations, in line with Easterly's (2007) "pull of development" approach.

The Government Model

A significant number of projects represented at eLearning Africa 2008 were seeking arrangements with their respective governments to secure economic sustainability:

> The Government [of Lesotho] pay my wages and also those of the teachers at my school. This is the best way for our school to be run because it means no one is trying to make money out of it; it's just a good investment for the Government, on behalf of the future of our country. I don't think anyone really has a problem with them spending money on education, especially ICT, as this is very up and coming. The Government also wanted to pay for us to come here, to the conference, so I guess that shows an investment of sorts. (Kalanda, 2008.)[4]

> Without the Government [of Togo] my company would not be able to survive. Our biggest income is from grants, not students' fees or anything else. This way the school is secure for the future and I do not have to worry about charging people to learn. (Toure, 2008.)[5]

Underpinning many Ghanaian projects is the work of the Global e-School and Communities Initiative (GeSCI), who work internationally with governments to ensure that money is allocated to projects that are in line with up-to-date research into ICT4D. Governments appreciate the consultancy service they provide:

> We have to find the best solutions for the money that the Government wants to spend. In doing that we have to look for projects that will have the greatest impact, along with projects that can survive on their own management and eventually break away for themselves. We do this by making sure we're up-to-date with everything that's going on in the ICT4D community, and encouraging facilitators of new projects to get in touch. By only supporting projects that have a well-thought-out plan, the Government can be sure that their money is

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[4] Kasongo Kalanda is a teacher at the government-funded Lesotho College of Education.

[5] Tidiane Toure is the director of the Centre for the Promotion of New ICTs in Togo.

being spent well. Also, this encourages more and more project managers to think clearly about planning their scheme, as this increases their chance of receiving funding from the Government, which is better for everyone involved. (Clarke, 2008b.)[6]

The Consultancy Model

An increasingly popular way to maintain e-learning project funding is to sell the expertise of those being trained. The consultancy model works by training a first generation of e-learning users who then train and provide consultancy services to other local businesses motivated by the success of the first-generation learners. This model can continue almost indefinitely, until the local market becomes saturated with e-learning users.

Consultancy as a major form of income generation was mentioned by a number of stakeholders at eLearning Africa 2008:

> We are now helping to build a second ICT centre in Burundi. In fact, I am not helping much at all. I have left my project administrator to do all the work! I trained him, he is a local to the area and helped me with the logistics of getting set up in Burundi, but then I taught him how to administer the network and all of the technical side of things. So now he is helping some others with their centre. And they are paying him a wage that he is putting back into our centre and will cover the cost of the satellite connection for next year. So that's really useful. And I think this model is a good one, we can use it again to make more money for the centre. (Brunello, 2008.)[7]

After several years of unsuccessful attempts at wide-scale e-learning implementation, the Rector of the AVU explained how consultancy will generate income for his project:

> We have a number of income models. One of them is consultancy. I have done this before working for the AVU on an independent basis. Now that I am here I can offer lots of consultancy to different groups of people. So far I have consulted with the partner universities on setting up their ICT centres, and they pay extra for this service. As I work for this large organisation, I think I will have lots more opportunity to consult on similar education-style projects, as this is becoming my speciality. Of course, we also have other people working at the AVU who have specialist knowledge that they can use for consultancy. (Diallo, 2008.)[8]

The Fee-Paying Model

While many African e-learning projects have so far rejected the fee-paying structure adopted by many universities and schools around the world, this model can be successful. The main arguments against it are that it limits access to an elite and does not promote development, in

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[6] Denise Clarke is the Country Programme Facilitator for Ghana in GeSCI. She is officially employed by the International Institute for Communication and Development, but in practice works as a consultant to the Ghanaian Ministry of Education.

[7] Paolo Brunello flew to Burundi in 2004 with the intention of 'mucking in' with development in the region. Soon after he arrived he was hired by a local company as a consultant to build an ICT centre.

[8] Bakary Diallo is the current rector of the African Virtual University (AVU). He joined the organisation in a senior position in 2005 before being promoted to the top spot in 2007. He has worked in the education sector for two decades as teacher, academic, consultant, project administrator and researcher.

line with the "poverty trap" scenario (Sachs, 2005) whereby generations of disadvantaged people cannot afford the education to climb out of poverty. However, this is contested by Easterly (2007), in addition to several project facilitators present at eLearning Africa 2008. They argue that the fee-paying model encourages potential students to work harder to afford their fees:

> I think the paying of fees should carry on, this encourages the students to go to work and work hard for the money they need. They learn that you need to work hard to do well in this world, and that is good for them. If we make everything free, like some people think we should, then the time will come when we will not be able to sustain it. And students pay fees in the rich countries … we should aim for that. Also, the money we make from the fees is how we can expand our business this fast [opening six ICT centres in the last two years]. If we had to get by on grants, they would not pay for us to expand and then less people would be able to have access to our centres. (Mensah, 2008.)[9]

Other Models

In addition to these relatively traditional models we encountered a number of innovative ideas for generating sustainable income, three of which are described below. For many projects, these stem from the need to survive when donations are unreliable and all other options have been exhausted.

In the Siyavula project, schoolteachers and other local experts in South Africa have been creating an open-source content bank of textbook reference material. This project had initial funding from the Shuttleworth Foundation for two years, after which its project manager had two ideas for income generation:

> So our idea is that we have this great resource, an online textbook which is kept up-to-date by local teachers, for free. Now we need to work out how to make money from this. We have observed that there are still not enough computers in schools for each child to have access to their own machine, so the majority of teaching is still done from textbooks. So we might be able to get some money in there. We can sell physical copies of the online textbook, but cheaper than the other copyrighted textbooks as all they need to pay for is the paper and printing process. Our plan is to firstly, start a print order and invite some schools to join in, this way we can get an idea of the volume that will be needed and therefore work out the unit price. Once we have this unit price, we can encourage other schools to join in [they would not join in the first round without having an actual price]. Doing this will increase the volume of the order and will push down the unit price of the books, and the difference here can go back into the website project, thus sustaining it. (Horner, 2008.)[10]

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[9] Henry Mensah is a teaching fellow at the Institute of Distance Learning in the Kwame Nkrumah University of Science and Technology (KNUST) in Kumasi, Ghana.

[10] Mark Horner is a project manager at the Shuttleworth Foundation, in charge of the Siyavula project. He co-ordinates the development of a comprehensive set of Open Educational Resources (OER) supporting the National Curriculum.

The second was the "added value model". Alongside the textbook material, Horner hoped that the same teachers would produce a content bank of assessment materials:

> We have seen that there is lots of interest in the way social networking websites such as MySpace are organised, and that there is the potential for them to sell data on their users. We are thinking about something similar where teachers can submit questions for exams and homework etc. There would be free access to the material in its raw format, but then we could actually arrange it in a different way to add some value, perhaps through some kind of tagging system, to sell this on to a third party. Some schools and examination would pay to have their questions written for them on every subject. To check the quality of the questions, we can use some kind of peer rating system, so then good quality material is provided for free and we can use the profit to continue the service. (Horner, 2008.)

The AVU are also pursuing an innovative form of income generation. The Rector described how they plan to take advantage of large partnerships in order to ensure economic sustainability:

> We have learnt from past mistakes of the AVU. They used to charge students fees and we still have a lot of old debt left over, where students cannot afford to pay for their fees. So we had to think of a different way to generate the funds. Nowadays, we actually charge the partners for fees. The universities where the students study are paying for them to be enrolled in an AVU partner course. This is much better for us as the universities always have the means to pay the fees they owe us. This goes back to what I was saying about choosing sustainable partners. They will always be able to pay us, so we will always survive. (Diallo, 2008.)

Even more shrewd plans are likely to emerge than those discussed, but no obvious "best practice" has yet emerged. The models presented above dominate the African e-learning market. Many see the four main models outlined as secure investments for sensible business planners. Project facilitators relying on them were confident that funding would continue indefinitely, as there will always be a market for their services. It has taken a number of years of evolution and lessons learnt from failed projects to achieve the current state of funding arrangements, so one might take confidence from their ability to adapt successfully to their changing environment.

4. Partnerships for E-learning Sustainability

The End of Public-Private Partnerships

A workshop on "Crafting Multi-Stakeholder Partnerships for Education" was delivered by the ICT4D Partnership for African Higher Education Institutions in the run-up to eLearning Africa 2008. Its stated aims included:

- Raising awareness of the benefits of multi-stakeholder partnerships in delivering ICT-based initiatives in African education;
- Sharing experiences of implementing such partnerships at a range of scales and in different contexts;

- Understanding key principles for success in implementing educational partnerships.

At its outset, participants were promised that they would never use the phrase "public private partnership" (PPP) again. The new buzz-phrase was to be "Multi-stakeholder Partnerships for Education" (MSPE), defined by Draxler as a unique endeavour between the public sector, business and civil society that can provide "enhanced expertise, synergy, resources and response to needs" (2008: 15).

The workshop was attended by an array of e-learning stakeholders, including government officials, private sector corporations (global and local), NGOs and researchers in ICT4D. The first debate revealed two major challenges in implementing and sustaining MSPEs. The first was communication among stakeholders: a slight misunderstanding could send an entire project off-kilter, so it was important to ensure that everyone was included at every level of discussion. The second was any change (structurally or politically) within a partner organisation that affected the contribution it could make, which could jeopardise the involvement of other partners and initiate the breakdown of the project.

The second debate concerned the need for partnerships in education. This revealed some benefits traditionally associated with PPPs, such as pooling resources, eliminating duplication (there was some debate about the extent to which this is occurring), the ability to build complex solutions and adapting solutions from industry to education. In addition, the workshop discussed five further points raised by Draxler (2008):

- Making education relevant to local economy;
- Encouraging innovation in education;
- Enabling educational progress to be targeted to specific groups;
- Improving the technical and financial management;
- Improving the learning experience and environment.

Once the need for MSPEs had been established, some exemplars were presented. The first was Microsoft's "Roadmap to Success", where consultants worked with education ministries in various African countries to meet their individual requirements. There was some resistance to considering this a true MSPE, given that there were only two major stakeholders, but the programme showed significant investment in local stakeholders such as teachers.

The German Gesellschaft für Technische Zusammenarbeit (GTZ) has been devoted to sustainable development since 1992, championing interactions between global and local partners, and presented a number of sustainable projects that have succeeded through the involvement of MSPEs. In fact, nobody in the audience could think of a successful MSPE that did not rely on some form of international-local partnership. The British Council gave an example of an MSPE in China that is now run by the Chinese government; they are taking the same model to Arabic-speaking countries and Mexico in an attempt to replicate this success.

The next stage was to establish the principles for successful implementation of MSPEs. The ensuing discussion determined six core requirements:

- Clearly define project needs;
- Ensure ownership for all stakeholders;
- Focus on impact of the partnership;

- Ensure that there is effective regulation and accountability;
- Focus on sustainability of the partnership and the project;
- Monitor and evaluate the partnership and the project.

These principles relate to establishing an MSPE. Further debate concerned partnerships' disintegration. It is important for projects to be sustained in this situation, which might be achieved through:

- Forecasting long-term costs pre-operation to ensure these are not a cause of breakdowns;
- Focusing on the outcomes and objectives of the project, rather than what each stakeholder can offer;
- Encouraging constant evaluation and feedback from all partners so that potentially damaging misunderstandings are avoided.

Towards the end of the workshop the discussion turned to how MSPEs might best be implemented. Discussants referred to Cassidy and Paksima's seven valuable lessons learned (2007: 26), agreeing that these represented the challenges and solutions commonly found in the formation of MSPEs:

- MSPEs can be very effective in supporting educational reforms and adding value to partners;
- To be successful, MSPEs must be very well and systematically managed;
- Leadership and management teams must include a balance of educators, IVT experts, and representatives of all types of partners;
- Educational reform is complicated and takes longer than expected;
- Teachers and principles are at the heart of the change process;
- Sustained partner involvement should not be taken for granted: active management is required;
- Monitoring and evaluation, scaling up and sustaining must be given greater attention in all initiatives.

The final message of the workshop was that although MSPEs are a good source of development potential, they are expensive to create in terms of time, money and resources. The challenge remains to find a cheaper, more economically sustainable system of e-learning development.

MSPEs in Action

In his opening address to the eLearning Africa 2008 conference, the Ghanaian Minister for Education, Science and Sports, Professor Dominic Fobih, stated that "partnership, communication and collaboration between successful projects [are] critical to sustaining them". This drew agreement from presenters and interviewees throughout the conference.

The Kwame Nkrumah University of Science and Technology (KNUST) has formed a number of partnerships to achieve its rapid expansion into six of Ghana's ten regions. Teaching contracts are outsourced to professors in different universities and university departments, and increasingly to professionals employed by local businesses. This reduces costs and increases the relevance of content, and also allows local businesses to build links with the graduates of the future and vice versa. Another advantage is that employees of partner businesses gain exposure to the courses offered. Henry Mensah, a teacher at the Institute of Distance Learning

at KNUST, is also interested in creating partnerships with other distance learning centres to tackle problems together and with different approaches. He encourages students to work collaboratively too, so they see the benefits of partnerships in industry and life.

To develop the Siyavula project, Mark Horner has formed partnerships with platform developers, others carrying out similar projects, the funding foundation, and schools and teachers who would be using the service. Partnerships were central to ensuring the project developed as intended, providing a platform for communication and an environment in which to collaborate.

Eben Otuteye (2008)[11] saw MSPEs as key to a successful e-learning model, encouraging further instances of North-South collaboration to pool the many resources already available. In addition to fully digitised products and reduced transaction costs, MSPEs should ensure the economic success of an e-learning project. In many models of educational development, MSPEs are considered important to bring resources or expertise from elsewhere. Unwin (2008) pointed out that, despite popular perceptions, Africa is rich in resources and manpower. Partnerships where local people and resources are used effectively give access to a motivated workforce and boost the relevance of the project.

Discussing the factors impeding ICT-supported learning in Africa, Clarke (2008a) emphasised the importance of increasing communication and forging partnerships to reduce duplication, both among projects and within large organizations such as UNESCO. Nkrumah and Garito (2008: 2) describe the importance of international collaboration both within academia and with industrial partners:

> Knowledge of countries with different cultures is exchanged; the internationalisation of the universities is promoted, methodologies and strategies of cooperation are used in order to meet the actual training needs of the new markets of labour.

Van Dam and Kirschner-Timmer (2008: 1) assert that "partnering with innovative organizations…allow[s] you to extend, complement and sustain your reach and programs beyond what any of you can do individually". This was verified by a representative of the G9 virtual campus operating in Spain, who was attending the conference to disseminate the results of an inter-university collaboration effort to widen the syllabus of participating institutions via a sharing arrangement. The large economic benefits suggested that a similar project should be attempted in an African context (Jiménez et al., 2008).

Stevens (2008) suggests that e-learning partnerships between institutions permit growth in two spheres. The first is structural and economic, whereby the institution grows through an increased number of students and faculty. The second is pedagogical, whereby partnering promotes the exchange of methodologies and the creation of new knowledge. Clearly, both would have a positive impact in an African context and go some way to confirm that the economic sustainability of an e-learning project would benefit from an MSPE.

Armelle Arrou of UNESCO has substantial experience in exploiting partnerships for commercial success. The eventual aim in UNESCO's education projects is for others to take over and sustain the projects so they can move onto something else. Having recently launched

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[11] Eben Otuteye is a professor at the University of New Brunswick, Canada, where he specialises in the economics of e-business.

the Open Training Platform (OTP), the most important things at this stage were "to keep it growing, to make it known, to get some funding and to get new partners" (Arrou, 2008)[12]. Unfortunately, while partners were ready to join the OTP, one challenge was the lack of flexibility afforded by the hosting organisation, making it difficult to permit advertising sponsors (which might otherwise sustain it) on the portal website. However, this inflexibility was being countered by working with another partner that could take over hosting the OTP. Arrou continued:

> We're working with a fantastic NGO in Romania … and they're doing a fantastic job, so some of the work should be handled by someone who has more added value, more flexibility for communication.

In addition to building up the English-language version, Arrou pitched to the Brazilian government to take over the Portuguese version of the OTP. This would be ideal in terms of sustaining the project as it would move it into the hands of local owners. Transferring ownership of projects to the governments of developing countries is considered a major achievement, as it demonstrates their value and ensures that their products and services will be used. If a single or group of African countries agreed to take over the English-language OTP, it would similarly be considered a success in the eyes of UNESCO.

In Arrou's experience, once you have one of the "big 4" international technology sponsors sponsoring a project the others will join in, and "will never leave as long as there is traffic [on the website/in the project]". This ensures future sustainability, provided there is significant interest from the target audience.

Kasongo Kalanda (2008) of the Lesotho College of Education reinforced the government sustainability model. His institution is mainly government-funded (including start-up costs and staff salaries), but also uses local partners to get good deals on hardware and infrastructure provision. The government also sends Kalanda to conferences such as eLearning Africa to help with the capacity-building of local educators and projects. Kalanda sees no problem with the economic sustainability of this model and considers that he has the "same job security as teachers in the UK".

The AVU was discussed previously as an e-learning project that failed to achieve its targets. The Rector of the AVU explained:

> The first model was not sustainable as the ownership model was rejected by participating partners. This heralded the breakdown of the project. We have learned from [the old administration's] mistakes. (Diallo 2008.)

An MSPE had been in place and proved successful over the last three years. Diallo considered that this success came from a pre-partnership meeting with education ministries to sign a memorandum of understanding. To guarantee sustainability, Diallo said, "You need to ensure that your partners have long-term interests and that they will be able to sustain themselves, otherwise what chance has the project got?"

While partnering with government departments is seen by some as the "holy grail", Toure (2008) stresses that it is important to "work with the government, not for the government". He

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[12] Armelle Arrou works for UNESCO in the Information Society Division as a Programme Specialist.

directs his own company, which is supported by government funding, therefore ensuring its sustainability. However, such complex issues as differences in agendas make such partnerships difficult to maintain.

When considering past failures of UNESCO projects, Arrou mused that perhaps these projects could not be sustained because they grew too fast internally and therefore the administration got out of hand: "in order to succeed they have to externalise management and pass responsibility to local owners". These partnerships were not created as people at UNESCO and other agencies were not willing to lose control of "their baby". When asked why these projects had been formed if they did not have plans to devolve ownership at some point, Arrou replied:

> When partnering with a funding body there is no check for sustainability. If your project is worthwhile ("doing good") they will give you money, no matter whether or not you have a plan to sustain it after initial funding runs out. And that's amazing.

Ylva Strander discussed the role of partnerships in the Meltwater organisation at some length. Whilst MEST does take advantage of some partnerships (such as access to the Ghana Telecom testing laboratories), they are mostly wary. They see partnerships taking control out of their hands and would rather keep the power. Despite only being in the country for a year, they could provide many examples of when partnerships had not worked well. Generally, the challenges appear when people partner too early (as they are keen to help sustain the project) and power relations get political. MEST have had many offers, including such funding opportunities as the recent call for projects that "promote ICT-enabled Innovation and Entrepreneurship in Developing Countries through Business Incubation" from infodev (2008). While mostly shunning formal partnerships, MEST owes some of its successes to networking: "It's all about making connections, it's who you know, that gets things done."

There is an overwhelmingly positive air around the role of MSPEs in the long-term success and sustainability of e-learning projects in Africa. Out of eight ICT4D facilitators interviewed, only two were wary of the benefits of partnerships (although they were still participating), and there was no sign of negativity towards MSPEs in the published proceedings of the conference. The existence of a workshop dedicated to achieving best practice further underlined MSPEs as a potential avenue for economic sustainability.

5. The Push and Pull of Economic Development

Is the success or failure of e-learning projects in Africa determined by their approach to business? The literature suggests that e-learning projects are being launched without thorough planning, despite research confirming that a business plan should be at the foundation of any such project. This neglect was confirmed in interviews with e-learning stakeholders.

Easterly (2006) observes two styles of economic development. The first is the altruistic "big push" approach favoured by planners in developed countries. The second is the demand-driven piecemeal approach that has typically steered the economic development of businesses in such countries. Easterly finds it troubling that the first style is still applied today, and even more that it is the favoured approach of most development projects. This was reflected in the number of cases at eLearning Africa 2008 following this model.

Push Models in Action

The most productive form of development occurs when "searchers" within a community are motivated by demand to provide a service (Easterly, 2006). This drives capitalism in developed countries, so why do most development projects reject this model in favour of a push paradigm? Examining cases that have opted to do business this way helps evaluate their economic sustainability.

The Meltwater Entrepreneurial School of Technology had its beginnings at the company's 2007 AGM, when the CEO announced they would set up a technology school "in Africa". A group of keen staff took over the project and researched where they should build their school. The first-round criteria involved infrastructure requirements and the political situations of the host countries. This narrowed the field to a few locations, with Accra finally selected on the basis of good transport links to Europe and North America for the senior management staff and faculty who would be working there. Surprisingly, student demand was not really considered in this decision:

> [The CEO] didn't consider demand to be an issue, the service we were going to
> provide…everyone would want. He was sure of it. (Strander, 2008.)

Fortunately, the CEO was proven correct, as the school was heavily over-subscribed; the most recent intake attracted 600 applications for around 20 places. But was this just luck? As we have seen, overestimating student demand is a major cause of e-learning failure. The risk is that demand has only been driven by the novelty of the new school. Due to the evolving nature of e-learning in Africa, it is often difficult to provide an end-to-end analysis of success in many projects as they are still so early in the student life-cycle. However, because the school provides a paid "traineeship", demand is likely to be high for some time.

The danger in such models, noted Arrou (2008), is that "when times get hard, the altruistic, foundation sides of businesses are the first ones to have their budgets cut". When this was put to MEST leadership, the response was that "the CEO would rather close other offices around the world than see MEST fail; it's his baby, he wants this to work so much" (Strander, 2008).

Another significant point in the literature was that e-learning development projects should involve some kind of ownership model for the local population. While MEST does not entrust any ownership to local stakeholders, its presence could encourage local people (including graduates of the school) to found similar ventures, although this would require significant financial backing.

The Open Training Platform (OTP) has been developed by UNESCO as a portal to provide open training content for non-formal education. The aim is that interested parties in learning centres in developing countries will download this content as needed. UNESCO wanted to promote the use of open materials and give OERs exposure in an increasingly complex content-importation market. The open content uploaded to date had been determined by the organisers at UNESCO:

> We work with different institutes, e.g. World Bank, DFID, and we check what
> they have been doing, and what training they have, and we load them on.
> (Arrou, 2008.)

UNESCO researched what topics were in demand for non-formal education and provided relevant materials. Some of their targets were noticing:

> Today I had an email from a network of community centres in Asia, Vietnam:
> they discovered the OTP and will use it for their centres. (Arrou, 2008.)

But as yet, their service was not being used by the non-formal African audience on a large scale. Arrou conceded that the most difficult part of setting up a new project like the OTP was to "make it known".

In the long term, UNESCO aims to relinquish control of the OTP to any party that can realistically sustain it. If it leads to more people using OER in non-formal education in developing countries, their project will be considered successful. Even if the OTP is not sustained in its current form, other similar portals could be created in its image.

The South African Siyavula project is entirely funded through the Shuttleworth Foundation. Their idea is to take the materials already being produced by a sustainable network of "swap and share" groups in private South African schools and extend them to all schools in the region using a portal where resources can be uploaded and downloaded in a format suitable for commercial textbook printing. The onus is on creating open licensed material that can be shared both online and offline, but is primarily gathered online. A large investment from the foundation covered Siyavula's initial costs. There were no plans for the foundation to be involved beyond the pre-arranged two-year funding period, as that was considered adequate to get the project up and running and to find a way of sustaining it. Horner (2008) agreed that passing ownership to the South African government would be ideal, but they had recently launched a similar project, and therefore were not attracted to partnering with an external solution.

The danger for Siyavula is that there may not be the demand for the service. This was not thoroughly examined in advance of the technical development of the portal. Arrou (2008) points out that the open donation scheme may not work ("that's a tricky one because you need incentive"), while Horner believes that the altruism found within the private school network will extend outwards. The one feasible solution for sustaining the project depends on sizeable demand for the printing of physical textbooks from the open resource portal. The downside of this is that sets of textbooks are only purchased intermittently, and would therefore be just as outdated as textbooks bought in from external publishers, although significantly cheaper. Schools may find that an increased investment in ICT to enable students to access the most up-to-date resources would be more beneficial, forcing Siyavula to rely on an alternative method of income generation and sustainability.

The AVU started out as a World Bank-funded project and encountered many problems when attempting to shift ownership to local institutions, who could not afford to maintain its expensive learning centres and resources. The current Rector of the AVU, a Senegalese national, said that the original World Bank model had been rejected by the partner universities because they had not been consulted about taking on the project costs. This was one of his priorities in leading the project:

> We are targeting the ministries of education to get an idea of whether they will
> be able to support the project in the long-term. (Diallo, 2008.)

This model, however, still relies on individual country governments having correctly calculated their ability to fund the project in the future, and on demand continuing.

While some have criticised the push model of development, Toure (2008) asserts that this is the only way of promoting education as a means for advancement. He blames the lack of fast-paced development on dependence on foreign aid:

> African people are lazy, especially in my hometown [Abidjan, Côte d'Ivoire]. They depend on the help of the donor countries and organisations. They do not know what they want. If we waited for them to ask for education, we would still be waiting now.

Pull Models in Action

A small number of representatives from home-grown projects were what Easterly (2006) defines as "searchers". These e-learning stakeholders search out the most suitable methods to deliver their products and services from the point of view of the financier, as would happen in a traditional business setting in the developed world. Easterly argues that these projects have more chance of being sustained financially as they are based on sound business models.

Course development by the Institute of Distance Learning at KNUST is being driven by the demand for the courses themselves. The decision to shift to online methods of delivery was made by senior management and professors after research showed that there was a market in the local area for quality education delivered through e-learning centres. Their research has been confirmed by rapid uptake of the service, which has permitted swift expansion, and student satisfaction has proven to be a factor in enrolment by peers and friends.

As part of its operational model, the institute sub-contracts professors and businesspeople from the local community. This is popular with students as it enables tutors to put content into local perspective, permits the formation of networks for employment and provides role models; "the students like the idea that they could be teaching other students one day" (Mensah, 2008).

Through careful observation and by making networks with local people and organisations, Paolo Brunello of WITAR (the *World Istituto Tecnico Alessandro Rossi*, a small Italian NGO founded by the alumni association of the oldest technical high school in Italy, the ITIS Alessandro Rossi) was able to build a centre in Burundi that met the demands of its community. The biggest achievement as he saw it was the degree of local ownership among the staff he left in charge:

> They saw me come over, by myself, just one man, and change the way they communicate, do businesses and just generally live. I think that really empowered the local people and showed them how they could do it for themselves. (Brunello, 2008.)

The first centre has demonstrated significant demand (including one incident of a twelve-year-old not leaving his seat in the centre for an entire day for fear of losing his turn on the computer) and a second is in construction; this project is being led by a local expert initially trained to administer the first centre.

The Global e-Schools and Communities Initiative (GeSCI) provide consultancy advice to Ministries of Education in developing countries on the effective implementation of e-learning projects. One of their core objectives is to achieve sustainability in their use of ICTs within schools. Denise Clarke, the current consultant working with the Ghanaian government, explained:

> Responding to demand is at the core of our approach. We work with the ministry to ensure money is only spent on projects that will be wanted by the people, so the money is a secure investment. (Clarke, 2008b.)

The push and pull of economic development are becoming increasingly blurred as push models are seen to respond to local "pulls" once in situ. While there is a transparent advantage for the pull model, aspects of the push model demonstrate considerable benefits. The significantly lower number of pull models reviewed here is testament to their absence at the eLearning Africa 2008 conference and in the surrounding literature, rather than their lack of physical presence; the above were the only projects at the conference operating primarily on a demand-driven basis. More research is needed to understand if and how these pull models are working and, if possible, to publicise these efforts.

6. Conclusions: A Framework for Economic Sustainability

E-learning Funding Models that Work in Africa

Interviews with project facilitators and project reports revealed a number of different funding models, some of which were higher risk than others. A common feature of the four models with the greatest backing of project facilitators—the foundation model, the government model, the consultancy model and the fee-paying model—is their acceptance by successful projects across Africa.

The sustainability of the foundation model depends on decision makers in the for-profit arm of the associated organisation; if the commercial business is struggling, there will be pressure to reduce funding to the foundations. A larger and more powerful organisation is more likely to be able to provide effective support, as they have experience in successful business management in addition to a wealth of resources that the foundation can exploit.

The government model was considered by many facilitators to be ideal in the search for sustainable funding. Governments act as gatekeepers to significant sources of funding for development projects, and those working on projects financed in this way consider their jobs to be as secure as their counterparts in richer, developed countries.

An increasing number of e-learning project staff in Africa are generating income by offering consulting services to similar projects in their regions. This is made possible when the first generation of staff and/or students are trained in administering e-learning to a high standard. This funding method reflects a similar income model in many successful organisations in developed countries.

The fee-paying model encourages students to work hard to afford school fees, improving their motivation to do well in their studies. This model emphasises the responsibility of the student for their own education, allowing them to take ownership of their learning and all the additional benefits this brings. Schools using this model effectively have been able to expand

rapidly. However, there are examples of schools failing under this model, where students have been unable to pay the fees. To avoid this, schools should only employ this method of income generation when they have a guarantee from the student, such as an employer's reference.

An additional aim of this study was to determine what protection projects could use to maintain economic sustainability. The results indicated that the most pragmatic is the creation of multi-stakeholder partnerships. The most successful operations have made use of these arrangements to ensure that projects can continue regardless of the financial difficulties that might affect one or more partners at any one time. Some projects have ensured that their respective governments are partners, further ensuring financial sustainability.

While the majority of projects reviewed either took part in such MSPEs or wanted to, a minority saw the subsequent adjustment of power within the project as a drawback. This may be because they have not previously experienced project failure in the ICT4D sector; facilitators who had worked in this environment for some time and had experienced failure believed that MSPEs would ensure economic sustainability for their projects.

A Philosophy of Sustainable Economic Development

One revelation of this research was that most projects represented at eLearning Africa 2008 followed a "push" development plan, where the goals and activities of the project were predetermined by individuals or organisations outside the ICT4D setting. This is considered an outdated approach to economic development, but persists in this environment. Some authors and project facilitators see demand as pivotal to success, and thus to economic prosperity. However, demand is being overlooked in many cases—sometimes without impact, but occasionally causing a project's downfall.

Where a project is implemented by an outside force irrespective of local demand, there is often some adjustment to local conditions after its establishment. From speaking to local project managers, it was clear that e-learning planners should take into account the local setting prior to a project's establishment, in the form of a traditional feasibility study, to indicate whether the project could succeed in the long term. This resonates with recommendations in the literature of a phased implementation to permit demand-based project evolution (Wagner, Day and Sun, 2004; Sandler, Bell and Rice, 2007).

The concept of an e-learning "project" implies a short-term impact: a project is a finite entity that can be isolated and evaluated. When seeking economic development in Africa, we should move to a more long-term and sustainable implementation of e-learning. This is already happening in practice: during this research it became clear that the most successful e-learning operations (those with some economic sustainability already) had left behind the "project" mentality. These managers and facilitators were investing in long-term solutions well-suited to the African e-learning landscape, an attitude that could make the difference between success and failure.

Finally, it is important to stress the value of research in the ongoing development of e-learning in Africa. The dissemination of projects and best practice during conferences such as eLearning Africa itself improves the quality and rate of education and promotes further socioeconomic development.

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