Relocating Skills in an Information Age: An African Experience

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This paper describes a partnership premised on the use of available infrastructure and the sharing of modest technical skills. This has allowed local partners to embark on the more rewarding process of social learning and exploration of available ICTs without first having to climb a steep technical learning curve. Using available free web-sites, which provide simple on-line editors, and a minimum of HTML instructions, a sustainable presence has been developed for a range of individuals and organisations in a short timeframe. The face-to-face contact of a two-week workshop has been supplemented with subsequent on-line contact and knowledge sharing. A combination of simply designed web pages has been linked with the leveraging of already available internet-accessible material to provide the means to create a sustainable presence from the margins. In keeping with the notion of a complex penetration of peripheries and cores, this model developed in the context of West Africa is currently being applied to the U.K. periphery.

The end of the Cold War removed political and economic barriers arbitrarily created at the end of World War II. Less developed countries had been regarded as an arena in which contesting ideologies could demonstrate their contrasting claims. Ghana, as the first sub-Saharan country to gain independence from a European coloniser, was a focus for such contestation and interest. Once the barriers between economic blocs were removed, global economic integration accelerated. The military-Keynsian policies of many western economies were supplanted by a resurgence of liberal economic theory that championed the application of information and communication technologies (ICTs) to globalised financial markets. The triad of developed regions (North America, Europe and North East Asia) now dominating the world economy capture the great majority of world trade within and between these regions. Peripheral economies in Latin America and Africa were rapidly consigned to the margins.

Webber (1964) formulated "non-place communities" to imply that peripheral actors may achieve a presence in core activities, and question the value of physical centrality. While information technology appears to offer a means of redressing relative locational disadvantage, experience suggests that its impact on locational mobility has been overestimated. Webber discusses the relative disadvantage of the "by-passed pre-industrial locals" (Webber; 1968, p.1101), and the elite component of the transnational corporation's workforce may be the only actors to achieve fully non-space interest communities.

The contemporary notion of the "network organisation" and decreasing Internet costs appear to present an opportunity for smaller players to access resources from and to compete within global networks. However larger firms may also restructure to enter niche markets yet still draw on their wider resource base. New locational strategies

allowed white collar work from the US mainland to be relocated off-shore to the Caribbean as far back as the 1980s, and "front office" tasks in prestigious locations have been divided from "back office" tasks relegated to the more local periphery of outer suburbia. Less developed regions find themselves increasingly in competition for such lower value work, and their infrastructure is likely to be developed primarily to support it.

However, across the new networked economy as a whole research and development, raw materials sources and routine manufacturing, final assembly, markets and after-market support, are increasingly co-located. Complex layering of labour markets is exacerbating unevenness of development within and between both core and peripheral economies to a degree which threatens the sustainability of the total system. Differences within individual nation states can be at least as significant as those between them. Consequently "zebra strategies" (Ohmae; 1995), directed at only the strongest parts of adjacent regional economies, are being pursued in order to create sufficient levels of formal economic activity for entry into the world system. Such strategies can only reinforce existing inequities. They result in migration both within and between national boundaries and produce dispersed communities forming new cultural and linguistic minorities. The emergent global system is therefore one of complex interpenetration of peripheries and cores. These terms no longer reflect physical location, but rather reflect access and competence in the underpinning information and communication infrastructure.

ICTs are critically important for participation in the global economy (eg Castells 1996), yet by western measures of ownership and market penetration, most people are excluded from them (UNDP 1999, Chapter 2). The technologies themselves have been created and driven from within the developed economies and carry assumptions about levels of both resources and skills. Many locations appear to have very limited access to the key technologies driving globalisation. Nevertheless communities have already appropriated available ICTs for their own purposes. For example West African communities, in Ghana and Nigeria use World Wide Web technologies to distribute craft products to a global marketplace by a route which provides its own audit trail safeguarding intellectual property and demonstrating authenticity which adds value to the product. Business centres in the suburbs of West African cities offer phone, fax and email connection to overseas family members and partners in the overseas diaspora. Ownership of technology is not a prerequisite of access to it.

Sproull and Kiesler (1991) separate the organisational learning necessary fully to exploit information technologies into technical and social learning. The former is most often identified and accounted for in developed economies, the latter is often overlooked, or discounted since it is not easily quantified. Sproull and Kiesler (1991) emphasise the difference between immediate technical gains from ICTs and the longer-term process of social gains for organisations. The systematic introduction of information systems too often only addresses the technical learning, leaving the social to follow on. However, the social learning can be conducted in parallel to the technical.

A range of initiatives and partnerships been developed to redress the unequal distribution of skills and resources. For example, the Tanami Network was established in Australia in the 1990s to serve remote aboriginal communities (http://members.ozemail..com.au/tanami). It was intended to support traditional community decision-making without the need for physical proximity, which in the wet season was impossible and at other times might involve journey times of up to 20 hours. It utilised the national domestic satellite system to deliver state-of-the art technologies to remote areas. Inevitably such initiatives meet problems of sustainability. The successor paradigm to Tanami, the Outback Digital Network has used available telecoms infrastructure, as opposed to direct satellite links. This has resulted in a locally supported provision of information and telecommunications technology. Members of the user community have been skilled in the hardware and software requirements of the system (http://www.odn.net.au). The Local Government Association of the Northern Territory (LGANT) has subsequently piloted the delivery of services with the support of the relevant local community councils (Morrison, 2000).

A comparable approach through a partnership premised on the use of available infrastructure and the sharing of modest technical skills was used in Ghana. The immediate objective was the development of the technical base and the appropriate skills for a sustainable presence on the World Wide Web. The broader goal was to allow the local partners to embark on the more rewarding process of social learning and exploration of available ICTs without first having to climb a steep and expensive (in both time and scarce resources) technical learning curve.

Coincidentally an unrelated project was being implemented at the same time in the village of Patriensah, east of Kumasi. An approach comparable with the original Tanami project was bringing state-of-the-art solar powered satellite-based internet access to a rural community (http://www.e-greenstar.com/Ghana). The objective was to allow local craft manufacturers dis-intermediated access to global markets. The international charitable promoter providing the technical input works with a model which assumes transfer to locally generated income in the medium term.

Our alternative approach drew on the prior availability of internet access in the metropolitan area of Accra. "Business Centres" and "Communication Centres" exist throughout the suburbs, even where public infrastructure is limited to an intermittent electricity supply and basic telephony. These offer international phone calls and fax transmission to their locales at affordable rates

Only minimal time was spent on skill transfer necessary to use available free web-sites. The providers of these sites provide simple on-line editors and file transfer facilities with on-line instructions. Using only a minimal subset of HTML programming instructions, a sustainable presence was developed for a range of individuals and organisations in a short timeframe. The face-to-face contact of a two-week workshop has been supplemented with subsequent on-line contact and knowledge sharing. A combination of simply designed web pages has been linked with the leveraging of

already available internet-accessible material to provide the means to create a sustainable presence from the margins.

In keeping with the notion of a complex penetration of peripheries and cores, this model developed in the context of West Africa is currently being applied to the U.K. periphery. In conjunction with local authorities in NE England, a set of related web-sites created and maintained by both local authorities and community groups have been established. These are directed at the issues of public transport provision and the implications for social exclusion in a range of urban communities.

The metaphor of a virtual journey is used to convey the way in which shared understanding is engendered through these electronic ontologies (http:www.geocities.com/stephen_e_little/vjourney.html). Each set of interactions with community-based users allows further refinement and development of techniques and a growing set of tools and examples are becoming available on-line.

References

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Ohmae K (1990) *The Borderless World: Power and strategy in the interlinked economy* Collins London

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On-Line Resources

http://www.geocities.com/odysseygroup2001/sharing/index.html

http:www.geocities.com/stephen_e_little/vjourney.html

http://www.geocities.com

On-Line Examples

http://www.geocities.com/knowledge_links

http://www.newnet.org.uk/neat/

http://www.goneat.org.uk

http://www.geocities.com/moorparkexploreclub