
For the last five years since Harvard I Research ICT Africa (RIA), has been systematically collecting current supply side, and developing the only systematic demand side, ICT indicators in 18 countries across the continent in order to understand policy reform on the continent. So we can affirm one of the primary narratives in the bundle prepared for the second Harvard Forum with evidence of the dramatic changes mobile communications has brought to in Africa. With average teledensities in sub-Saharan Africa of less the 1% 10 years ago, with the much acclaimed fastest growth rate in the world, millions of Africans now own their own communications devices and services for the first time. In several countries mobile penetration is beginning to transcend the 40% critical mass² identified as necessary to enjoy the network effects that realise economic growth and development producing innovations such as mobile banking and employment or agricultural information services.

Has this contributed significantly to poverty alleviation on the continent? Certainly not significantly, marginally, perhaps. What can be said for certain is that ICT is certainly not being optimised on the continent for developmental gains. We cannot continue doing what we have been doing in telecommunications and hope to ameliorate poverty. There is not much empirical evidence of mobile contributing significantly to economic growth in Africa, where growth is anyway generally structurally constrained by a number of factors. There is even less evidence in support of trickle down theories of it directly alleviating poverty, even when it may be contributing to growth.

With ineffectual regulation of excessive pricing prevalent across the continent mobile communication in poorer households may even have placed a greater burden on household expenditure. The 2007 -2008 RIA demand side survey found that the bottom three quarters of mobile phone users spent on average between 11% and 27% of their income on mobile communications. The narrative of the mobile panacea in the context of *connectivity and universal access and beneficial access* in Africa masks the fact that millions still do not access mobile services or any other form of telecommunications. And those that do, whether individual consumers or businesses, pay the highest costs in the world for a range of services from mass mobile phone, to leased lines and broadband, if they can access such services - driving up in the input costs to often struggling economies and further marginalising those countries.

While the world has changed in the last five years with increased access to bandwidth at lower prices than ever before, the gap between Africa and the rest of the world, even other developing continents and sub-continent, has grown. The RIA access and usage household survey found that less than 4% of households owned a PC and less than 1% had connectivity at the home. The average retail price for basic broadband in Sub-Saharan Africa is \$366 per Mbps/m compared to \$40 in Europe and India. (Williams

² See Roller and Waverman (2001)

2008:2)³ The reasons for this provided both by the RIA papers in the bundle and others in reference to other parts of the world, are often cited as the implementation of inappropriate policies, the lack of competition in markets, ineffectual regulation or even corruption or the pervasive absence of capacity. Despite the correct identification of these problems our research problems and proposed solutions tend by and large to focus on the quantifiable economic dimensions of these problems. The findings tend to reaffirm how poorly countries or regions are performing. The often isolated success stories are largely of individual, or at best community, progress. There are few stories of successful national or regional upliftment through ICTs, though some countries rhetorically refer to this.

While the enabling connections amongst these deficits and the *narratives of openness and capabilities* in the bundle are clear from a normative perspective, they lack explanatory value in the developing country context. The symbiosis of 'internal capabilities' and 'openness' may indeed be necessary conditions for development. But are they sufficient? And, if they are so obvious, why are they not implemented in most developing countries? What can be done about their absence, where, and how? There is little focus in the bundle or in much development agency research on the reasons why these obviously beneficial reforms are not undertaken. The indicators and indices and other monitoring and evaluation tools confirm the failure of most developing countries to harness ICT for economic growth and development but they do not tell us why this is so.

In the related *narrative on innovation and creative access* the success stories also tend to focus on individuals and individual company innovation. Innovation in this narrative occurs under extreme constraint. The examples provided are of low cost business models that enable communication strategies by the poor to overcome poor access and the extraordinarily high prices of 'regular' services, to produce often marginal gains that may, perhaps, allow them to live beyond the breadline or perhaps not so far below, or agricultural applications that allow people to endure lower levels of market exploitation. Those with the resources to pursue entrepreneurial strategies may put communications to marginally better use. But these are not Silicon Valley or Yokohama or the kind of programmes that turned South Korea from a developing country into a leading provider of ICT services and products over a couple of decades.

This is not to diminish the remarkable impact of such models and practices. Even marginal improvements in the quality of life or economic existence of the poor cannot be disparaged or dismissed. But are these the sustainable strategies required to alleviate poverty at a national and regional level? What is necessary to mobilise resources in support of such success, for them to scale up and extend their scope, to have broader application? Are they likely to enable the harnessing of ICT to reduce the *unevenness of globalisation* and development?

What seems essential for all the proposed initiatives, and presupposed by several of the narratives, despite their absence, is the necessary institutional endowments and capacity to develop, access and optimise ICTs. This is evident in the narratives of the *open and knowledge access and economy of the national innovation systems (NIS) narrative* and indeed the more general narrative of *poverty reduction and human development*. Both presuppose a

³ While the recent launch of submarine fibre optics cable in the east coast of Africa has increased competition and brought down wholesale prices, commercial arrangements are largely resulting in additional bandwidth being passed on the end users rather than price reductions. While this is probably welcomed by high end users it is unlikely to drive increased take up of the services currently barred from services by their high prices.

functional state and vital institutions. In this context an innovation system is defined as "a set of functioning institutions, organizations and policies which interact constructively in the pursuit of a common set of social and economic goals and objectives and which use the introduction of innovations as the key promoter of change." (Paterson et al. 2003 p 183 of the bundle). The first part of this definition is not the preserve of systems of innovation but refers to a functional state on which any integrative system is dependent. The potential to innovate derives from that institutional integration and functionality.

The potential of ICTs to contribute to innovation and development in a developing country context or *mitigate the negative impacts of the global economic crisis* or their role in *global warming and carbon omissions*, are unlikely to be realised outside of organised systems of funding, regulation and incentives and penalties. The conditions for vital foreign direct investment, identified as a further area of research, are not determined by individuals or communities - other than them actively participating in policy processes - but by the formulation of appropriate and realisable policies and institutions with the capacity and capabilities to implement them effectively.

Generally, reform failure, in the context of 'good governance' and 'service delivery' managerialist models, only enables an assessment of compliance with 'best practice'. Bounded by rationality, or what seems feasible, and timeframes and budgets, the lack of engagement with the reasons for this non-compliance in donor and multilateral agency research, generally reflects an absence of politics. The skeletons of excellent strategic intervention frameworks focusing on policy, regulation so succinctly summed up in the UNESCAP article by James George (2003: 177 of the bundle) and so clearly vital to any successful reform programme, litter the continent. The article, like so many of ours, goes on to acknowledge the importance of local conditions, participation of stakeholders and the centrality of vision and leadership. It is against such incontestable frameworks that the failure of countries, are assessed. But this compliance with best practice or failing to implement the checklist of policy reform provides no basis for analysis of non-compliance and has resulted in a poverty of policy. Policy reform has been reduced to the reiteration of 'best practice policy' that droves of countries have failed to implement, entrenching their stereotyped incapacity and marginalisation.

One of the areas of investigation that might address this problem and in which there is a dearth in donor research is to better understand the nature of the state in developing economies. Perhaps this is because global reform initiatives have erroneously focused on the reform of markets at the expense of the state or because there is often such antagonism to critical research on the state especially if sponsored by external agencies, or perhaps it is because the problems identified by academic research in this area present such intractable problems not suited to short term budgets or results.

An area related to this in which there is acknowledgement of the importance of the 'new' state, particularly in the governance approaches, is that of institutional failure. But generally such 'good governance' policy research, as indicated before, is normative. It does not explain why governance is generally not good. This is largely because it tends to be apolitical or is presented outside of a political context. But without politics the failure to implement economic reforms cannot be understood. Mushtaq Khan has argued that institutional failure in states undergoing dynamic transformation from pre-industrial production to capitalism, is not necessarily a result of rent-seeking and corruption, distortions in the market, or the absence of democracy, as is often cited. Echoing the seminal work of Levy and Spiller (1996) he argues that rather, state failure is often "driven by the lack of institutional capacities and more importantly, the

incompatibility of institutional capacities with pre-existing distributions of power” (Khan 2005: 1).

Unless such dynamics are understood and accommodated, reform strategies are unlikely to be successful. This is a long-term project. African academia has historically not examined ICT policy issues critically or engaged with governments that have largely not encouraged critical participation in policy formulation. To engage with the complexities of transformation and poverty alleviation will require the nurturing of a substantial body of African policy intellectuals who can effectively critique the political economy of reform. The support of the development of indigenous doctoral programmes and fora for intellectual engagement by those immersed in local conditions may go some way to contributing to the development of a cadre of policy intellectuals with the capacity to engage critically on policy and regulation. This would be in addition but quite different from the ongoing technical and professional training required to build vital individual competencies and institutional capacity.

Such an approach will also enable another critical area of policy research development in Africa work that requires a political economy context to be effective - that of creating viable regional and indeed continental markets for Africa. It is clear from the existing evidence that policy amongst nation states needs to be harmonised to create regional market and even a continental market to ensure the economic viability for nations, especially smaller countries, to create geopolitical substance and global competitiveness. In many countries the possibility and viability of broadband connectivity, for example, with its associated multiplier effects⁴ is dependent on the development of and access to regional backbones and undersea cables. Current approaches however fail to recognise the political constraints on such initiatives and how they may be overcome.

In summing up, I see the following areas of research as those that need to be focused on in the next few years for ICTs to contribute to economic growth, development and the alleviation of poverty on the African continent.

It is essential that the indicator, measurement and evaluation research developed in the South by non-governmental organisations in the last few years continues if the pressure towards evidence-based policy is to be maintained. Hopes of getting African governments to take on this function in any significant way at this stage are premature. Unless this collection and analysis of data continues through the kind of initiatives supported by IDRC in the past to be done large parts of the continent will again be plunged into a data and analysis vacuum in relation to ICT developments.

This data and analysis, together with the individual and micro success stories, need however to be systematically extended to examinations of the impact of ICTs at the macroeconomic level if stronger case for their prioritisation is to be made. If the divide between Africa and the rest of the world is not to widen further the impacts of new technological developments such as broadband - a necessary condition for a modern economy and largely absent in Africa, for example, - and of appropriate policy and effective regulation of it on economic growth, development and employment, require examination. Analyses of the linkages between markets and states and the institutional interfaces between them are essential to creating the enabling environments for open access and standards and business innovation, whether at the bottom of the pyramid or in the positive effects of disruptive competition which brought mobile roaming charges to an end in Africa, and other success stories in the bundle.

⁴ See Katz (2009)

The national data and analysis and success case studies also need to be more systematically extended to the regional and continental level to identify points of policy intervention and how deficits might be addressed. Moving from the now moribund rhetorical appeals for harmonisation of policy at the regional and continental level to an empirical, indeed self-interested basis for action is more likely to be effective in driving the vital integration of regional and even continental market for Africa's survival in the global economy. These endeavours, with the right safety net strategies for those who will continue to be marginalised from economy and society despite increased availability and affordability of communications if policies, are more likely to witness poverty amelioration than fabulously innovative but localised or scattergun commercial and state efforts (though these are not mutually exclusive).

Finally, the current poverty of ICT policy can be overcome by strengthening the linkages between policy formulation, research and intellectual endeavour and the development of the array of different capabilities required to capacitate institutions - from schools to ministries and regulatory agencies - that are necessary for the effective implementation and realisation of appropriate and innovative policies. One point of intervention in the larger capacity building project is the development of a critical mass of highly skilled, critically minded ICT policy and regulatory practitioners and intellectuals to do so.

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REFERENCES

Khan, M (2005) '[Markets, States and Democracy: Patron-Client Networks and the Case for Democracy in Developing Countries.](#)' *Democratization*, 12 (5). pp. 704-724. Oslo.

Katz, R (2009) [Estimating broadband demand and its economic impact in Latin America](#), Columbia Institute for Tele - Information (USA) <http://www.acorn-redecom.org/papers/RaulKatz.pdf>

Roller, L H & Waverman L, (2001) [Telecommunications Infrastructure and Economic Development: A Simultaneous Approach](#), *American Economic Review*, American Economic Association, vol. 91(4), pages 909-923, September

Williams, M (2008) *Broadband for Africa: Policy for Promoting the Development of B Backbone Networks*, infoDev / World Bank, Washington, available at <http://www.infodev.org/en/Publication.526.html>