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Drivers of Inclusive Innovation in Developing County Markets: A Policy Perspective

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Abstract

This chapter seeks to understand the role that policy can play in ensuring innovation is inclusive in developing country markets. It does this through analysis of the Kenyan mobile sector, a sector that has been particularly successful in supporting suitable innovations for low income customers.

We argue that whilst inclusive innovation policy may mirror some elements of conventional innovation policy, it is likely that specific policy approaches can better support inclusive innovation. We offer a framework which highlights four key dimensions of consideration for policy for inclusive innovation – scope of policy, low income focus, scaling and innovation intermediaries. These four dimension outlines a set of considerations that policy makers should look to include in policy formulations and instruments.

1 Inclusive innovation and policy

1.1 Introduction - Kenya and inclusive innovation

A few years ago, the emergence of a lower income country like Kenya as an important ICT innovator might not have seemed feasible. Yet today Kenya regularly makes headlines around ICT innovation, and a number of these innovations have specifically impacted low income groups such as mobile money, mobile micro-finance models and rural mobile applications.

Much focus has been on the enterprise of key individuals within the sector, who have had the foresight to develop and drive these innovations, but the emergence of inclusive innovation in the ICT sector is not solely a story of entrepreneurship. As we will show, underlying policy has been important in the development and growth of certain innovations in Kenya (Ndemo's chapter in this book presents some insights from a key Kenyan ICT policy maker in more detail). Policy has also been important in enabling dynamic markets to emerge that have driven certain firms to become more focussed on low income customers.

This chapter then seeks to explore inclusive innovation policy, and to apply some of the lessons from Kenya's policy that might aid policy makers in a wider range of sectors.

1.2 The emergence of inclusive innovation

There is a growth in firms who are producing innovative products and services focussed on developing country markets, but often such innovation is less inclusive[ii]. Innovations tend to focus on more affluent groups, with less of an emphasis on lower income consumers and their welfare. A lack of inclusivity can limit the diffusion and development potential of such products amongst lower income groups.

So far, inclusive innovation has typically been explored from an individual or sectoral perspective, examining the processes around certain innovations that push them to be more 'inclusive'. For instance, management literature discussing so-called 'bottom-the-pyramid' consumers has outlined

strategies that can drive firms to push towards low income users. E-health and ICT-for-development have focussed on analysing the socio-technical elements of innovations as a means to driving wider welfare considerations. However, such studies have little to say about policy. Policy may be mentioned peripherally, but is rarely dealt with in a coherent manner.

Drawing on the Kenyan mobile sector, this chapter thus looks to explore the intersection between policy and inclusive innovation. It seeks to answer the question: What role does policy play in ensuring innovation is inclusive? Findings are also supported by a wider set of inclusive innovation literature to give a cross-sectoral perspective on initiatives.

We find that whilst inclusive innovation policy may mirror some elements of conventional innovation policy, it is likely that specific policy approaches can better support inclusive innovation. This includes policy around nurturing markets, driving demand for innovation amongst low income groups, and in supporting the growth of market intermediaries as part of diffusion of innovations. Responding to the lack of coherent policy for inclusive innovation, we outline a set of key policy considerations. This is positioned in terms of a set of coherent policy objectives that policy makers should look to embed, and use as a template for contextual appropriate policy instruments that might support these objectives.

In summary, this work advocates for more coherent, policy focussed perspectives on inclusive innovation. It enhances the limited literature on inclusive innovation by outlining guidance for policy makers, as well as offering concrete directions for further research on policy for inclusive innovation.

2 Perspectives on policy for inclusive innovation

2.1 Inclusive innovation

Typically innovation models in developing countries have linked to innovation for firms growing in, or joining global networks and/or marketplaces. In terms of policy approaches, innovation policy has thus been about supporting firms becoming internationally competitive, and these innovations driving national economic growth (Lundvall et al., 2009; Lundvall and Intarakumnerd, 2006).

However, there is a tendency to focus on familiar and coherent production sectors in developing countries, and there are suggestions that such innovation does not readily 'trickle down', indeed innovation may in fact foster inequality and exclusion (Kraemer-Mbula and Wamae, 2010). Thus, we see a disconnect around innovation, where focus on economic growth may lead to less positive outcomes for marginalised groups (Chataway et al., 2014).

Inclusive innovation brings in a more socially inclusive and equitable understanding of innovation with a particular focus on not only growth but reducing inequalities. Inclusive innovation thus aligns with recent interest on inequality that see it not only as an ethical goal, but important to the economic and social cohesion of nations (Piketty, 2014; Stiglitz, 2012; Wilkinson et al., 2011). Inclusive innovation research particularly looks to consider locally or indigenously created innovations, and to build better analysis of innovation in connection to the large expanses of informal work (Cozzens and Sutz, 2012). In terms of policy, inclusive innovation looks to push more appropriate and equitable innovation policy in developing countries that moves beyond narrow R&D and technology product focussed definitions (Gault and Zhang, 2010; STEPS Centre, 2010).

This chapter follows 'systems' approaches to understanding innovation, which provide a way of thinking about innovation as a dynamic set of market and non-market actors, innovation and linkages under an institutional setting (Freeman, 1995; Nelson and Rosenberg, 1993). Within a systems approach, the state's policy-making role can be conceptualised as a set of actions to complement, build and support market mechanisms within innovation systems. Policy intervention is rationalised as providing support for nurturing markets, supporting market deficiencies or failures where existing market mechanisms do not presently achieve the innovation goals envisaged, and where market adjustment alone are unlikely to respond to these failures (or market adjustment will take a long time) (Chaminade and Edquist, 2010).

2.2 The case for inclusive innovation policy

Whilst there has been little coherent discussion of policy as related to inclusive innovation, existing literature on the weaknesses of inclusive innovation can provide guidance. We particular highlight

four considerations for policy and supporting effective inclusive innovation based on the literature – scope of policy, focus, scaling and effective use:

Firstly, inclusive innovation necessitates a broadening of the scope of innovation to encompass more marginalised groups. As suggested in the previous section, the scope of inclusive innovation will move beyond a traditional innovation focus (Lundvall et al., 2009). This will include expansion in the breadth of sectors, to include those like health, education and small-scale agriculture that are important to the marginalised. It will also include a close consideration of who is playing a role in innovating in these sectors, particularly those who support innovations related to more marginalised groups (Joseph et al., 2011).

Secondly, it is rare that innovations explicitly focus on new goods and services that are required to address the economic, social (and even political) development for those on lowest incomes (Juma & Yee-Cheong 2005). Indeed, even where innovations are aimed at marginalised groups, they often fail to address the contexts and needs of consumers. This particularly occurs when innovations developed in one context (e.g. a certain geographic region or markets) are assumed to also be appropriate for other contexts (Anderson and Billou, 2007; London, 2009). Even when innovations are specifically intended for more marginalised, they can suffer from gaps between expectations and consumer realities.

Thirdly, beyond this poor fit between innovations and low income groups. A frequent problem for inclusive innovations is that they do not scale (Foster and Heeks, 2013a). Where innovations are designed or developed for excluded groups, they are never adopted in sufficient numbers to have significant impact. These problems can occur in a top-down manner where multi-national firms struggle to scale new products (Anderson et al., 2010), or in a bottom-up manner where local innovations do not diffuse outside their specific context (Cozzens and Sutz, 2012).

Finally even when innovations are diffused they may not be effectively used to bring impact. This encompasses use for a limited period of time, users rejecting innovations, the emergence of

unanticipated negative impacts, and full or partial breakdown of products or services (e.g. Dercon and Christiaensen, 2007; Foster, 2014).

In sum, the inclusive innovation literature enables us to highlight four important considerations around policy making which can serve as a template for the types of policy that might be important for inclusive innovation.

3 Policy Facilitators in the Kenyan mobile sector

3.1 The Kenyan mobile sector

The case of the Kenyan mobile phone sector is used as a case to explore inclusive innovation policy. This sector is particularly insightful to explore related to a number of success stories of innovations which have scaled and are used by low income groups. Here, we particularly focus on two such examples – mobile handset diffusion and mobile money. Elsewhere (Foster and Heeks, 2013a, 2013b) we have explored the theoretical and firm strategic aspects of inclusive innovation. Earlier work on inclusive innovation policy has also explored some specific aspects of policy in Kenya (Foster, 2014; Foster and Heeks, 2013c). This chapter moves beyond these narrower policy studies by focussing on a wider, and more systematic set of policies that can serve as a clear template for policy makers.

Research is based upon fieldwork in Kenya during 2010 & 2011 involving 109 interviews, with policy makers, firms and entrepreneurs in the mobile sector. This included policy-makers (14 interviews); handset producers and operators (7); handset distributors and wholesalers (20); informal handset sellers (27); mobile money operators and dealers (8); mobile money agents (32); and other demand-side micro-enterprises (15). Fieldwork was supported and triangulated by secondary data, particular by using sectoral reports to build a clearer picture of policy issues.

For clarity we split empirical discussion into key areas of findings around policy. Firstly, we examine regulation and the importance of underlying sound policy for the mobile sector. Secondly, we explore supply-side policy and policy related to pushing innovations to be inclusive. We also find two lesser

mentioned areas of policy to be important for inclusive innovation - demand side policy and policy for intermediary groups.

3.2 Regulation

The underlying sectoral rules and regulations which define the mobile sector have been crucial in allowing a comparatively stable sector to emerge. Establishing mobile market rules and institutions with competing firms underlies the early stage growth of innovation and pushed early adoption. Given the well-established discussion in this area (Bowman and Waema, 2005; Calandro et al., 2010; Foster, 2014; Waema et al., 2010; Wanjiku, 2009), a detailed examination of best practices in underlying mobile regulation is not a core focus of this chapter.

However, a key finding from our empirical work was that establishing regulation was not be the sole condition for growth in innovation. Even where regulatory structures seem to follow good practices, the growth of innovation towards low income users can be slow. This suggests that solid underlying regulation is likely to be a necessary, but not sufficient policy approach for inclusive innovation without other measures. In the Kenyans mobile sector, there were a number of additional policy interactions that can support markets and overcome market limitations around innovation systems.

3.3 Supply-side policies

Mobile innovations emerged not solely from lead firm's action, but through external support - both financially, technically, managerially and logistically - particularly in helping develop inclusive innovations in the exploratory scoping stages. In Kenya policies had both an international and national element and related to state-sanctioned bodies building partnerships for inclusive innovation.

The international element was more noticeable in the case of mobile phones handsets and the focus of international bodies in supporting research and development into how handsets could be adapted for low income users. For example, one branded handset manager interviewed in Kenya had previously worked at an international level, and outlined the historical importance of the GSMA's Emerging Market Handset Initiative (EMH) as an example of international research which launched in 2005 in

50 countries. this initiative did not include Kenya within the project scope, it nevertheless was impactful in Kenya, in that certain cheaper and adapted phone models directly emerged from the initiative. This initiative also began to change multinational firm thinking about low income users, where firms started to consider such users as part of core processes and business models (for example, investing in lower power research and cheaper chip design for more appropriate mobile handsets).

Policies pushing inclusive innovation in Kenya was also crucial in the mobile money case through donor supported research that lead to M-Pesa. One cannot underplay the importance of the early DFID donor intervention in driving the emergence of M-Pesa. M-Pesa for all the private sector rhetoric that surrounds it, started as donor intervention. One can take insight from the form of this intervention. It looked to undertake a trial with capable local partners, private sector firms and NGOs and then handed on the innovation to a mobile operator as it grew. The research agenda was specifically a pro-poor one, and was a crucial driver in the emergence of this new service in the market, with an orientation towards inclusiveness from the beginning.

In addition to these successful supply-side policies, we explored other policies that could potentially provide incentives or oblige firms to push innovations to be more inclusive. Specific rules within mobile or mobile money licence conditions, or subsidies could drive firms to refine their innovation focus to be more inclusive of lower income users. However, in this case there was little evidence that such actions have been influential in Kenya. In terms of the licencing rules, a regulator described a lack of 'inclusivity' clauses in current regulation.

> *'The old class of [mobile] licence used to have roll out targets [in terms of low income reach] – but often these targets were very small and were met very quickly by the operators'*

Several policy makers also discussed their disappointment at the lack of universal service funds (USF). As a policy expert described,

> *'I wrote a proposal in 2004 for the Ministry which outlined an effective universal access fund. But this has had slow progress in launching, it has sat on the shelf! Now they are conducting another survey and forming working groups'*

Such USF funds have struggled to gain any momentum in Kenya, only being substantively instituted into ICT sector rules as part of the 2009 Amendment Act and still only partially implemented at present (Wanjiku, 2009). Policy makers have struggled to persuade powerful mobile firms to support such schemes, as reported by one senior civil servant who described how such firms often lobby against such schemes.

> *'In the consultative process, groups agree on a common goal but in reality there is often some resistance or one group goes against another'*

In sum, one can see that policy that facilitated research for inclusive innovation on the supply-side has been particularly successful in this sector. Operational mechanisms on the supply side for supporting inclusive innovation have been less successful, but with adjustment they might potentially have value in other cases or sectors.

3.4 Driving more effective use of innovations among low-income groups

Policy that helps to expand demand, particularly in terms of demand amongst lower income consumers was also found as crucial to inclusive innovation. In the case study, the most successful example of this was in policies which spurred demand through reduced costs for innovations (which particularly affected to low income users). This is most vividly shown with mobile handsets where the removal of the VAT costs in 2009 was a strong driver in mobile handset growth amongst low income users.

For mobile handset firms, the removal of VAT was not directly intended as an inclusive innovation policy, it was lobbied for by handset firms as a measure to allow local mobile handsets to compete with grey market imports. However, the indirect effect was to grow customers in the local market over time which has driven a reduction of prices for reliable low cost branded handsets. As one manager of a dedicated distributor described,

> *'VAT has had a huge effect on sales…the day after the new law changed, we sold a whole months worth of devices in one day…since then things have been growing monthly'*

This is supported in a GSMA report, which sourcing data from Safaricom which showed that 'handset purchases have increased by more than 200% since the removal of VAT' (GSMA, 2011, p. 16)[iii].

Whilst it somewhat links back to underlying regulation, demand for mobile handsets is also closely linked to underlying costs for using mobile telephony in Kenya. Here, the active regulation on cross-network mobile termination rates[iv] have similarly induced demand for mobile handsets, by making mobile use (and total cost of ownership) more affordable. This is something that has particularly preoccupied regulators.

> *'We know from our studies that reducing interconnect rates reduces prices, that is why we don't leave it to the industry….The pure incremental approach* [their current regulation] *has been contentious, and operators have threatened court actions. The risk is that this can result in one year delay to get through the courts which is a problem in a changing market'*

Thus, termination rate regulation is an ongoing activity and one where policy makers have to struggle hard to get their way. Nevertheless, the positive effect on wider mobile costs suggest this actions has supported increased demand for handsets amongst low income user, through lower prices.

In mobile money, policies which induce demand through price reduction were not found. However in M-Pesa, a growth in low income demand was partly an outcome of external conditions - the unfortunate adverse conditions in Kenya around the post-election violence. Conditions and examples of use were widely publicised at the time and are generally acknowledged (including in Safaricom presentations) to have pushed increased citizen appreciation of the potential of the service and thus demand, particularly low income groups who were most affected by problems. This is not a specific policy per se, but serves to highlight that awareness building also drives demand and could be an effective policy tool.

Other known demand-side policies that might push demand were also explored. In particular, in some countries government procurement has been used to support the emergence of early innovation. However, in Kenya it was found that such approaches had met lower success. One expert in a Kenyan policy institute discussed limitations of government procurement in another sector. When the Kenyan

government previously looked to outsource vehicle repair and vehicle cleaning to SMEs, almost all SMEs withdrew from the scheme due to the slow bureaucratic nature of payments with SMEs simply unable to afford to wait so long to receive larger payments. Early initiatives around nurturing demand in ICT through government procurement have also been disappointing with similar problems around bureaucracy, as outlined in one recent project report.

> *'[a]…lack of readily available information on how to compete successfully. Additionally, there is a perception among SMEs that the procurement process unfairly favors foreign firms ' (Excelsior Firm, 2010, p. 14).*
>
> *'…onerous application and experience requirements for government vendor selection' (Excelsior Firm, 2010, p. 17).*

However, there were indications that the government had managed to more successfully drive low income demand for ICTs in Kenya through lesser-known approaches. For instance, e-government schemes such as online tax and exam results systems have been increasingly valuable to driving citizens to use the internet and aided use in low-income areas (Limo, 2007). Experimental delivery of government supported development projects built early demand for branchless banking firms such as Equity Bank in this region (FSD Kenya, 2011).

Thus, whilst it is unclear if direct government procurement has the ability to provide demand-side support for emergent ICT sectors and innovators directly due to inefficiencies of such procurement processes there may still be potential in more creative government schemes.

3.5 Promote grassroots innovators

As innovations increasingly focus towards low income groups, inclusivity of innovation can be associated with the ability of intermediaries to be active. Thus, from a policy perspective, policy that improves intermediary viability is of interest.

Intermediaries in the mobile sector are mainly made up of micro-enterprises such as mobile handset sellers, repairers and mobile money agents which support the diffusion of innovations (Foster and Heeks, 2010). These intermediaries have been supported by the progress that has been made in terms

of policies for business regulation and support. During research even the most marginal respondents were found to be aware and displaying their business licences, with many micro-enterprise suggesting that inspectors would regularly check these. Policy reforms towards single business licences, and reducing bureaucracy around small enterprises, has simplified and benefitted the micro-enterprises research (FSD Kenya, 2009; Jacobs et al., 2007; Mitullah, 2003). The outcome in this case was clarity for micro-enterprises, and a clear rule of law in this respect.

Other crucial initiatives have also indirectly supported the growth of innovation intermediaries in the mobile sector through policy. In interviews with mobile handset micro-enterprises, the majority of respondents, even many of those which were highly informal, had bank accounts. Kenya, has been a leader in the growth and policy around low income banking, and this can be seen to have benefitted such micro-enterprises to whom it is a useful service, particularly for ensuring security of funds and transfers.

In sum, it is now easier and less costly to start, grow and run a micro-business in Kenya, and this can be seen to have aided the growth of inclusive innovation through making it possible for many low income, entrepreneurs to more easily integrate small mobile businesses in low income areas. Enterprise policy improves the ability to run an official firm (at least in terms of enterprise regulation) and thus supports the presence of intermediaries in diffusing and adapting innovation.

4 Discussion

In the previous section, key policies for inclusive innovation systems were identified in the Kenyan mobile sector case. We expand these findings to serve as a basis to build a core policy framework for inclusive innovation, referring back to the ideas of policy supporting innovation systems outlined in the literature.

4.1 Policy scope

As outlined in the introduction, inclusive innovation has a different focus that includes low income and marginal groups. Whilst making consideration to economic effects of innovation is still important,

we are also interested in aspects of improved livelihoods and social inclusion that can emerge from use of innovations. As shown in the mobile sector, such inclusive innovation relates not only to new products emerging but a wider set of activities such as adaptation of innovations and small process changes to meet social needs and improvement in diffusion processes. This interest in wider processes implies that 'systems of inclusive innovation' will include different actors and relations. In particular, informal and grassroots innovators, and small and medium enterprises are important contributors who are often poorly-understood by policy makers.

The changed scope for innovation also suggests quite different outlooks for policy makers which diverges quite significantly from conventional innovation policy. Thus there is a need to build a stronger evidence base to support policy making for inclusive innovation, building case studies that highlight the value of inclusive innovation, and commissioning harder economic and social data to support discussions of the importance of inclusive innovation at a political level.

4.2 Policy supporting inclusive innovation focus

Poor policy can limit inclusive innovation. A preliminary objective is to ensure that policy barriers that might dissuade firms from investing in inclusive innovation, or limit creation of inclusive innovations amongst small firms are removed. For instance, government rules and norms that exclude low-income actors, not just from innovation but also more broadly from economic and social activity can be problematic. This was seen in the Kenyan study in terms of the importance of a competitive mobile policy. Policy attention in this area may also run quite deep and wide, to encompass foundational economic and social policies and institutions since these create the context for inclusive innovation.

However, beyond policy barriers, larger and more formal firms require policy support in order to improve their focus on more marginal groups. As the success of polices for global partnerships and local innovative research showed in the Kenyan mobile case, policy actions brought firms into potentially socially inclusive areas of innovation and reduce their risks. In the wider business cycle, formal innovators may be pushed to become more inclusive where markets are specifically structured

to require or support innovations being adopted by more marginalised groups. In the Kenyan case, we found that one such policy, the universal service fund, has been less successful in pushing formal firms, but elsewhere in countries like Columbia, such policies have been very successful in supporting inclusive innovation so further research is needed to understand the condition whereby such policies thrive.

4.3 Policy to drive scaling of innovations.

In the Kenyan case, VAT and competitive regulation rules supported more affordable and expansive use of innovations within low-income communities, and this was important in scaling. Such policy can support scaling of innovations by building markets where they might not previously have existed and guide good practices for innovations as they diffuse. The evidence in Kenya highlights the importance of such 'demand-side' policy and this is a key area of future research. Whilst some demand policies seemed successful, others such as government procurement need further analysis to understand where and when they might be effective.

4.4 Promoting use through intermediaries and local innovation

Grassroots innovators– individuals, community groups, informal businesses – are potentially already undertaking small-scale innovation and adaptations based on their knowledge of marginal groups. Policy can support and amplify these knowledge flows to support inclusive innovations by playing a key role in encouraging innovations and building networks of innovators. Intermediaries are also important who link between grassroots innovation and formal actors; translating, absorbing and serving as key diffusers of innovation. In the mobile sector case policy that supported these intermediaries led to improved learning and ability to run viable businesses. Policies hence look to improve system weaknesses in networks and linkages are important to inclusive innovation systems.

5 Conclusion

Inclusive innovation is considerably different to conventional innovation and takes a different approach, looking towards more marginalised groups. Here we have argued that alongside this

changed focus is a changed set of policy approaches. Enabling environments are important in orientating sectors, but in addition specific policy approaches around scope, focus, scaling and use provide a framework to understand the intricacies of inclusive innovation policy. As shown in the Kenyan mobile case, policy is an important element in driving forwards sectors and pushing firms to more rapidly focus on low income groups and inclusivity. These policy approaches thus serve as a first step, to begin to think about specific groups of policy instruments that might be implemented to allow these key policy approaches to succeed.

Endnotes

[i] Empirical research for this paper was undertaken as part of research at IDPM, University of Manchester

[ii] The policy model presented in this paper originated from research for the World Bank's Innovation Policy Platform (IPP), see (Foster and Heeks, 2015). With acknowledgement the World Bank.

[iii] Such VAT reduction, also had an extra effect on growth of inclusive mobile handsets through growing the market sufficiently so that a number of multinational handset firms began to specifically focus on Kenya as a viable market. This led to a virtuous circle of firm location in the region and better focus on low income groups.

[iv] Mobile termination rates set (and gradually reduce) the maximum that can be charged by operators for cross network calls in mobile networks. This approach reduces prices by reducing costs of smaller and emerging mobile operators whose customers tend to be restricted by cross-network prices, and allows them to compete with the large firms. The literature on mobile regulation has generally argued that such termination rates should be based solely on the 'cost', to maximise competition (Calandro et al., 2010). However this has only been implemented in a few developing countries often due to the power of mobile incumbents.

References

Anderson, J., Billou, N., 2007. Serving the World's Poor: Innovation at the Base of the Economic Pyramid. Journal of Business Strategy 28, 14–21. doi:10.1108/02756660710732611

Anderson, J., Markides, C., Kupp, M., 2010. The Last Frontier: Market Creation in Conflict Zones, Deep Rural Areas and Urban Slums. California Management Review 52, 6–28.

Bowman, W., Waema, T., 2005. The Institutional Structures and Models for Implementing the Kenyan National ICT Plan. Kenyan Ministry of Planning, Nairobi, Kenya.

Calandro, E., Gillwald, A., Moyo, M., Stork, C., 2010. Comparative ICT Sector Performance Review 2009/2010 (No. Two, Policy Paper 5), Towards Evidence-based ICT Policy and Regulation Report. Research ICT Africa, Cape Town, South Africa.

Chaminade, C., Edquist, C., 2010. Rationales for Public Policy Intervention in the Innovation Process: A Systems of Innovation Approach, in: Kulhman, S., Shapira, P., Smits, R. (Eds.), Innovation Policy - Theory and Practice. an International Handbook. Edward Elgar, Cheltenham, UK, pp. 83–97.

Chataway, J., Hanlin, R., Kaplinsky, R., 2014. Inclusive Innovation: An Architecture for Policy Development. Innovation and Development 4, 33–54.

Cozzens, S.E., Sutz, J., 2012. Innovation in Informal Settings: A Research Agenda. International Developmnet Research Centre (IDRC), Ottawa, Canada.

Dercon, S., Christiaensen, L., 2007. Consumption risk, technology adoption, and poverty traps: Evidence from Ethiopia (World Bank Policy Research Working Paper No. 4257). World Bank, Washington D.C.

Excelsior Firm, 2010. Transforming the East African ICT Sector by Creating a Business Engine for SMEs. InfoDev, World Bank, Washington, DC.

Foster, C., 2014. Does Quality Matter for Innovations in Low Income Markets? The Case of the Kenyan Mobile Phone Sector. Technology in Society 38, 119–129. doi:10.1016/j.techsoc.2014.03.003

Foster, C.G., Heeks, R.B., 2015. Policies to Support Inclusive Innovation (Development Informatics Working Paper No. 61). University of Manchester, Manchester, UK.

Foster, C.G., Heeks, R.B., 2013a. Innovation and Scaling of ICT for the Bottom-of-the-Pyramid. Journal of Information Technology 28, 296–315. doi:10.1057/jit.2013.19

Foster, C.G., Heeks, R.B., 2013b. Conceptualising Inclusive Innovation: Modifying Systems of Innovation Frameworks to Understand Diffusion of New Technology to Low-Income Consumers. Eur J Dev Res 25, 333–355. doi:10.1057/ejdr.2013.7

Foster, C.G., Heeks, R.B., 2013c. Analyzing Policy for Inclusive Innovation: The Mobile Sector and Base-of-the-Pyramid Markets in Kenya. Innovation and Development 3, 103–119. doi:10.1080/2157930X.2013.764628

Foster, C.G., Heeks, R.B., 2010. Researching ICT Micro-Enterprise in Developing Countries: Themes, Wider Concepts and Future Directions. The Electronic Journal of Information Systems in Developing Countries 43, 1–20.

Freeman, C., 1995. The "National System of Innovation" in Historical Perspective. Cambridge Journal of Economics 19, 5–24.

FSD Kenya, 2011. Equity Bank and the Hunger Safety Net Programme (HSNP) in Kenya. Financial Sector Deepening Kenya, Nairobi, Kenya.

FSD Kenya, 2009. FinAccess National Survey 2009: Dynamics of Kenya's Changing Financial Landscape. Financial Sector Deepening Kenya, Nairobi, Kenya.

Gault, F., Zhang, G., 2010. The Role of Innovation in the Area of Development, in: Kraemer-Mbula, E., Wamae, W. (Eds.), Innovation and the Development Agenda. OECD/IDRC, Paris, France, pp. 13–29.

GSMA, 2011. Mobile Telephony and Taxation in Kenya 2011. GSM Association, London, UK.

Jacobs, S., Ladegaard, P., Musau, B., 2007. Kenya's Radical Licensing Reforms, 2005-2007: Design, Results, and Lessons Learned. Presented at the Africa Regional Consultative Conference, Accra, Ghana.

Joseph, K.J., Chaminade, C., Dutrenit, G., Sutz, J., Muchie, M., Cozzens, S., Turpin, T., 2011. Editorial. Innovation and Development 1, 1–3. doi:10.1080/2157930X.2011.574414

Kraemer-Mbula, E., Wamae, W., 2010. Innovation and the Development Agenda. OECD/IDRC, Paris, France.

Limo, A., 2007. E-Government: Facilitating Business with Government. Presented at the Seventh Annual Strathmore University ICT Conference, Strathmore University, Nairobi, Kenya.

London, T., 2009. Business Model R&D for New Market Entry (Working Paper). William Davidson Institute, University of Michingan, Ann Arbor, MI.

Lundvall, B.A., Intarakumnerd, P., 2006. Asia's Innovation Systems in Transition. Edward Elgar Publishing, Cheltenham, UK.

Lundvall, B.A., Joseph, K., Chaminade, C., 2009. Handbook on Innovation Systems and Developing Countries: Building Domestic Capabilities in a Global Context. Edward Elgar Publishing, Cheltenham, UK.

Mitullah, W., 2003. Street Trade in Kenya the Contribution of Research in Policy Dialogue and Response. Presented at the Urban Research Symposium on Urban Development for Economic Growth and Poverty Reduction, World Bank, Washington, DC.

Nelson, R.R., Rosenberg, N., 1993. Technical Innovation and National Systems. Oxford University Press, New York, NY.

Piketty, T., 2014. Capital in the 21st Century. Harvard University Press, Harvard, MI.

STEPS Centre, 2010. Innovation, Sustainability, Development: A New Manifesto. STEPS Centre, Brighton, UK.

Stiglitz, J.E., 2012. The Price of Inequality: How Today's Divided Society Endangers Our Future. WW Norton & Company, New York, NY.

Waema, T., Adeya, C., Ndungu, M., N., 2010. Kenya ICT Sector Performance Review 2009/2010 (No. Volume 2, Policy Paper 10), Towards Evidence-based ICT Policy and Regulation. Research ICT Africa, Cape Town, South Africa.

Wanjiku, R., 2009. Kenya Communications Amendment Act (2009) Progressive or retrogressive? Association for Progressive Communications (APC), Johannesberg, SA.

Wilkinson, R.G., Pickett, K., Chafer, C., 2011. The Spirit Level. Bloomsbury Press, London, UK.