12-14-2013

Motivations of non-use of telecentres: a qualitative study from Mozambique

Sara Vannini
Università della Svizzera Italiana, sara.vannini@usi.ch

Isabella Rega
Institute of Education, i.rega@ioe.ac.uk

Simone Sala
MIT, Columbia University, Università della Svizzera Italiana, simone.sala@usi.ch

Lorenzo Cantoni
Università della Svizzera Italiana, lorenzo.cantoni@usi.ch

Follow this and additional works at: http://aisel.aisnet.org/globdev2013

Motivations of non-use of telecentres: a qualitative study from Mozambique.

Sara Vannini; Università della Svizzera Italiana; sara.vannini@usi.ch

Isabella Rega; Institute of Education; i.rega@ioe.ac.uk

Simone Sala; MIT, Columbia University, Università della Svizzera Italiana; simone.sala@usi.ch

Lorenzo Cantoni; Università della Svizzera Italiana; Lorenzo.cantoni@usi.ch

Paper Category: Research paper

Main Document format outlined on next page

Motivations of non-use of telecentres: a qualitative study from Mozambique.

Paper Category: Research paper

ABSTRACT

On the cutting-edge scene for several years, and recently overtaken by the diffusion of more personal and pervasive technologies, telecentres have attracted and are still luring the interests of Governments in developing regions. To individuate improvement strategies and give food for thoughts to researchers and practitioners in the area, this study presents an in-depth qualitative analysis of the reasons why local people in Mozambique do not access the telecentre component of their local Community Multimedia Centers (CMCs). Based on 229 semi-structured interviews, the analysis allows to depict four main clusters of reasons for non-use, to finally suggest how they can be overcome.

INTRODUCTION

Telecentres have been on the ICT4D scene for the last two decades, at first welcomed by a plethora of enthusiastic development practitioners and academics, who considered them as the most suitable strategy to guarantee access to Information and Communication Technologies in those contexts where "one computer – one household" was not a sustainable model [1]. In these first years, international institutions, governments and non-for-profit organizations integrated telecentres into their access-for-all strategies, and a considerable amount of resources were spent in developing pilot initiatives and national and international networks. Along the path, the international community started to ask about evidence of socio-economic benefits and impacts brought to local communities by this kind of communal places to access ICT [2]. However, years

passed by without many definite proofs in terms of success and impact of telecentres around the world, or even worst, with evidences of failures of pilot cases and national strategies [3], [4], [5], [6].

In the meantime, the information and communication ecosystem has been changing and witnessing the rise of a new pervasive and accessible technology: the mobile phone. A considerable part of the international community of practitioners and academics moved their interest from the telecentre phenomenon, often disqualified as an overall failure, and focused on this emerging promising technology, which bears now the burden of providing access to information and communication to underserved areas of the world.

Yet, more than 1'200'0000 telecentres are currently active around the globe[1], and several studies [7], [8], [9], [10] claim their relevance in giving access to underprivileged populations. For the more, Walton and Donner [11] highlighted that public access to ICTs venues (PAV) provide non-substitutable impact to resource-constrained users, even those equipped with "the Internet in their pocket" through mobile smartphones. Public access can also support the development of digital literacies associated with hyperlinked media and large format documents, while mobile access supports everyday social literacies and messaging. Also, recent studies demonstrated how "old" technologies, such as computers and laptops, cannot be totally replaced by "new" mobile devices, being them basic phones or smartphones [12]. In fact, a closer look to mobile technologies as a means to overcome the digital divide, cannot leave aside two main considerations: first of all, mobile phones are not suitable to perform all the same tasks that can be done with a computer. They are certainly better and more efficient in terms of communication and simple information retrieval, but for more complex tasks they may not fit the requirements. Comparing desktop computers with mobile phones and devices (such as tablets), the former are generally economically more affordable, and provide better results in terms of resistance, security, versatility while allowing multi-users interaction at the same time (an important element especially in education) [13]. Secondly, mobile phones penetration in developing countries and in underprivileged zones is for sure impressive; however, data regarding the percentage of people accessing the internet through mobiles still show a long way to go, before

---

[1] According to Telecentre.org in 2012

they can be considered a means of access for all, including the most underprivileged ones [14]. Indeed, the majority of phones available in the developing regions are basic mobile phones [12], and their positive role in contributing to socio-economic development frequently remains an untested assumption, too [15]. On the contrary, PAV can improve venue rules and skills to encourage the complementary use of the mobile Internet – overcoming any possible dualism between mobile technologies and PAVs [11].

This note claims that research on telecentres is still necessary to recognize which is their role in this dynamic technological ecosystem, to surface how they can be integrated with new emerging technologies such as mobile devices, and to improve and fully exploit their potentialities. To do so, this study investigates reasons for non-use of telecentres according to local communities and in a still underexplored context: Mozambique. So far, the topic of non-use has not been explored extensively. One recent exception is the Global Impact Study (GIS): interestingly, GIS does not ascribe reasons for non-use to the diffusion of mobile phones, but rather to users' personal conditions [7]. At the same time, the study affirms telecentres are still a significant reality in the developing world, and have a substantial impact, even if not always a direct one, on the socio-economic lives of local people. The paper would thus be particularly helpful to shed light on the actual community development impacts of ICTs. For the more, the study could contribute towards a more holistic conceptualization of initiatives promoting development centered on ICT. Few other studies include the perspectives on non-users and go in the same direction: they affirm that, even if telecentres do not change the overall pattern of social groups of people who access to ICTs, and especially to the Internet, they do support ICTs capacity building in individuals who would not otherwise have access. Telecentres, then, do not always have an impact on the most disadvantaged groups (older and less educated people, as well as women, are not among their most frequent users, but they do to other, usually middle-income, categories [4], [7], [8], [16], [17], and to weakest categories as indirect uses [7], [8].

In Mozambique, the most widespread form of telecentres are Community Multimedia Centres (CMC), which combine a telecentre with a community radio component. Community radios are one of the most pervasive information means in developing countries: they are considered to give voice to the poorest and most voiceless levels of the population, and used by both cooperation agencies and local communities to raise awareness on developmental issues, increase participation, and educate isolated populations [18], [19]. As part of a five years' governmental

program to reduce the poverty in the country [20], the Ministry of Science and Technology of Mozambique is currently managing an expansion programme of CMCs, and it is investing largely (mostly World Bank and Finnish governmental funding) to supply all the 128 districts of the country with one CMC. Under this programme, CMCs are considered "powerful instruments not only to inform, entertain and educate the population, but also to give voice to the communities, and to enable them to have a larger impact on public issues" [21].

RESEARCH DESIGN

This paper presents a qualitative and exploratory study aimed to investigate local people's perceptions about CMCs in Mozambique. The study included an interview protocol to inquire on the topic of non-use of CMCs' telecentres, the part of the venues on which local communities usually capitalize the least [22]. Communities' opinions about the topic of non-use were explored in 10 locations throughout the country, and both interviewees' own and their opinion about other people's non-use were inquired.

CMCs Sample Selection

CMCs included in the sample were selected by crossing different criteria, with the aim of gaining an overview on the situation of the country:

- Geography: one CMC from each of the 10 Mozambican provinces was included;

- Distribution as rural (9 CMCs in the sample) and urban (1 CMC) centres, reflecting the actual distribution of the 34 CMCs present in that moment (2011) in the country;

- Affiliation: CMCs in the country are managed mostly by local associations (7 CMCs in the sample), as well as by the Government, via its Institute of Social Communication (ICS) (2 CMCs), and by religious institutions (1 CMC, managed by Catholic Sisters);

- Date of foundation, seeking a balance among older and newer CMCs. Some CMCs were built at the beginning of the UNESCO programme in Mozambique, in 2001. Others started operating within the territory even before that, with either a pre-existing community radio or a stand-alone telecentre subsequently integrated in a CMC (in the

sample, the oldest community radio was born in 2000, and the oldest telecentre in 2001). Finally, new CMCs are currently being established by the Government of Mozambique (1 in the sample, launched in 2010);

- Variety of services offered in the venue: CMCs in Mozambique differ considerably in terms of facilities and services they are able to offer to the public (for a description of the services offered by each venue, refer to [1]).

The CMCs finally included in the sample are shown in Figure 1 (red pins) and listed below by region and province of the country:

- North: Chiure (Cabo Delgado), Cuamba (Niassa), Ilha de Moçambique (Nampula);

- Centre: Chitima (Tete), Dondo (Sofala), Quelimane (Zambezia), Sussundenga (Manica);

- South: Chokwe (Gaza), Morrumbene (Inhambane), Xinavane (Maputo).

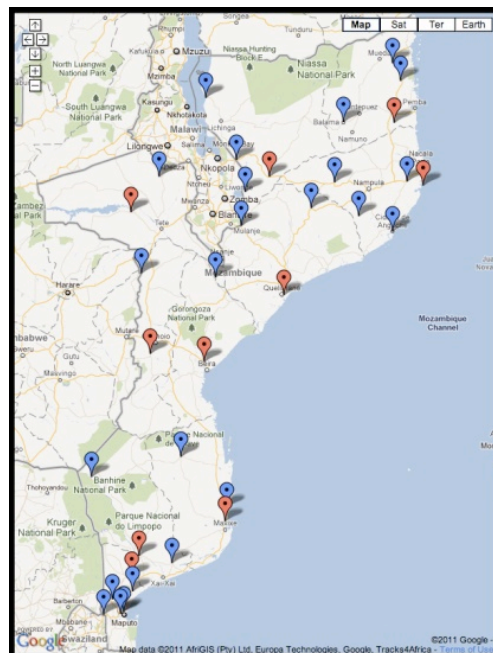Figure 1 maps, in red, the locations of CMCs in the sample among the totality of CMCs in the country (in blue).

Figure 1 Map of the CMCs in Mozambique (April 2011): Red pins show CMCs included in the study

Data collection

Semi-structured interviews were collected with 57 staff members, 95 users and 77 non-users of telecentres of CMCs on an opportunity-sampling. Interviews were run during the months of March and April 2011 by six members of the two institutions participating in the study [23].

Data analysis

Interviews were audio-recorded, and successively transcribed and coded by using a quali-quantitative content analysis. The software NVivo (version 9.2) was used to perform the coding. A first phase of the content analysis on the textual corpus followed a bottom-up approach, leading to a preliminary explorative code index to identify thematic areas and recurrent topics. A second phase of analysis included a top-down approach, moving from the first formalization to a more complex interpretative model. The process, meant to let the data "talk", was repeated and refined iteratively, until saturation of coding was reached.

Local perspectives about CMCs in Mozambique lead to an interpretative model including values, ideas and practices local actors connect to CMCs [24]. Reasons of telecentres non-use, as well as the benefits they get from them, inform on values interviewees connected to the venues.

RESULTS

Within the whole textual corpus, interviewees referred to reasons for not using telecentres a total of 147 times. References to reasons for non-use were analysed separately, re-coded, and grouped into 4 main thematic areas. Of the four areas, 2 can be attributed to the **object at stake** (CMCs' telecentres) and the way they are managed, and 2 can be attributed to **people of the community** and their requirements.

The two issues related directly to CMCs' telecentres are:

- *Competitors* (mentioned 11.5% of the times): the issue groups all references to other venues and businesses offering the same kind of services that are available at telecentres of CMCs (computer courses, typing and printing services, photocopies, etc.), and reasons why local people prefer address to them;
- *Service* (mentioned 26.7% of the times): this group brings together all references related to the (poor) quality or the lack of proper presentation and promotion of the services offered by CMCs.

The two issues related to people on the communities and their requirements are:

- *Resource-constraints* (mentioned 42.4% of the times): it includes all references to interviewees' limits related to location, time, and cost that come into play as a barrier for the use of CMCs;

- *Relevance* (mentioned 19.4% of the times): it groups all references to personal relevance-related issues, such as when respondents do not feel either adequate, or challenged enough, to make a good use of the venue. According to interviewees, telecentres are offering something they do not need, either because it is too far from their necessities, or because of the opposite reason, as they would like to have more advanced and unusual services.

Figure 2 presents the four main reasons for non-using telecentres, while Table 1 gives an overview of the number of times each thematic area was mentioned in the interviews, and which sub-themes it includes. In most of the cases, each one of the 147 interviewees' utterances was assigned to one single thematic area. In eighteen cases, though, utterances were overlapping between two areas, and they were assigned to both of them.
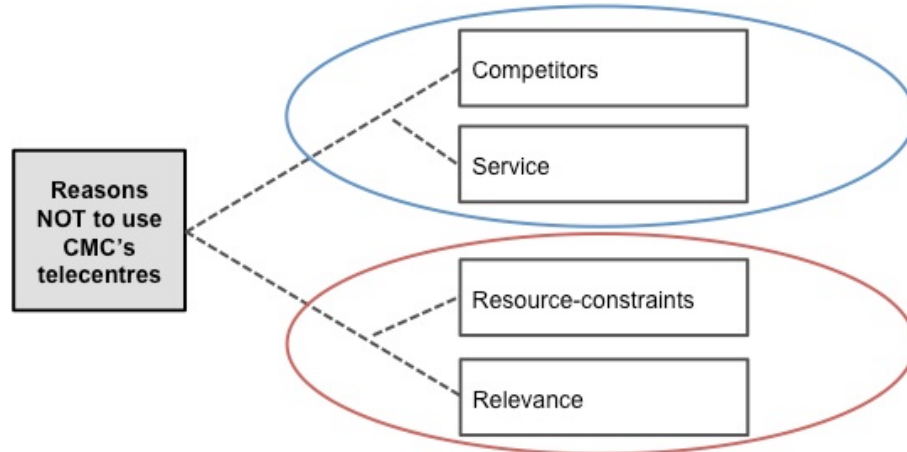

Figure 2 Reasons for not using CMCs.

Table 1 Overview of the reasons for not using CMC's telecentres according to the interviews. The total number of references to reasons not to use them is 147. Eighteen (18) references were assigned to two thematic areas.

PERSONALLY OR CMC-RELATED	THEMATIC AREAS	# of references	SUB-REASONS	# of references
PERSONALLY	RESOURCE-CONSTRAINTS	70	Cost	34
			Time	26
			Distance	10
CMC-RELATED	SERVICE	44	Not well promoted	17
			Useless	11
			Not available/missing	5
			Quality not good enough	5
			Opening-time	3
			General/not specified	3
PERSONALLY	RELEVANCE	32	Not for me	13
			Not interested	12
			Not challenging enough	3
			Not a priority	2
			Too difficult	1
			Unprofitable	1
CMC-RELATED	COMPETITORS	19	Offer better service	8
			Cost – less expensive	5
			General/not specified	3
			Habit to go there	2
			Synergies with them	1

The next sections will explain into detail local people's narratives for each one of the four issues identified.

Competitors

One of the issues why people do not take advantage of the services telecentres of CMCs offer is related to the presence of other businesses or local services in the communities where the same services are available.

Competitors can be chosen because of *cost*-related reasons:

> *As there are computers in the school, students prefer to go there because in the radio[2] they have to pay. (Chiure, non-user 6)[3]*

---

[2] "Radio" is the name many people in the communities refer to, when talking about CMCs.

> *Because it is cheaper, as they say [...] they prefer to go to the Salesianas⁴. (Quelimane, user 5)*

…or because they offer a *better service*:

> *Computers are always busy in the telecentres [...], so it is better to use places where there are free computers, and in the TDM⁵ they always have free computers, and in the library, too. (Chokwe, non-user 7)*

> *Besides the TDM, there are other places where the Internet is working properly, and people prefer to go to the TDM because there they get quality. (Dondo, staff 1)*

… or because they have *synergies* with other institutions (that the CMCs has not):

> *It's different because there it's more used by students, because there they have a lot of school material. (Chokwe, staff 10)*

Finally, competitors are chosen because people *are already used* to go there:

> *Almost, in my opinion [...] it is that they learned it in another place, as I learnt here, and to go somewhere else it's not easy. (Xinavane, user 1)*

Service

Some reasons accounted directly for the services offered by telecentres of CMCs. Some interviewees found the *quality* of CMCs' services not being good enough:

> *The place is not well organized because when I went there in 2008 I didn't see any computer. The place was dirty, not well organized. Even the guys that work there, they are not organized. (Chitima, non-user 3)*

> *Someone told me the computer course is not good. (Quelimane, user 1)*

Others judged that services offered are *useless* for them and for the rest of the community:

> *Someone else simply never thought about typing a document into a computer, so they never needed to come here. (Sussudenga, staff 6)*

> *Because I have the facilities in my office, and I have internet on my phone. (Cuamba, non-user 3)*

In other cases, instead, people complained that the services they would need and would like to find are not *available* at their CMC.

---

³ All quotes were translated into English by the Authors for the purpose of writing this paper. Original interviews are in Portuguese.

⁴ "Salesianas" is the name of the order of Catholic nuns who, in the city of Quelimane, run another telecentre.

⁵ Internet Café of Telecommunication of Mozambique.

> *That is a multimedia centre, and it could offer also a fax service, and also the Internet connection. When we want to receive a fax we are forced to ask it somewhere else, but we have a multimedia centre, so it is essential that they start to offer the services of fax and the Internet. (Chiure, user 2)*

> *My goal was to search something on the Internet, but when I got there they told me that the system was down, so that I could not do anything. (Morrumbene, non-user 3)*

Also, interviewees' narratives seem to suggest that often telecentres cannot *communicate and promote* their services properly. As a result, people don't know about their existence:

> *Some people do not have concrete information of what the radio is, there are people who don't even listen to the radio, so they don't know. (Chokwe, staff 9)*

> *Maybe they need more information, they need to be told that, in the end, this is for students but also for peasants, who can take advantage of the books and read different books, and stay informed. (Dondo, staff 3)*

Resource-constraints

Resource-constraints reasons include location, time, and cost-related issues. A first reason why people do not use telecentres is *distance*:

> *Maybe because they live outside the city. (Chokwe, user 8)*

> *Many people leave far away. (Dondo, staff 3)*

Distance is related with time and costs:

> *What it brought me not to go is that the place where I am living is in the countryside, and going from there to Morrumbene costs 50 mzn[6] for the return ticket, and there, where I live, for someone to have money it is very difficult. (Morrumbene, non-user 8)*

> *I reckon it is because of distance. Distance is huge [...]. Coming to learn [how to use] computers and you have to come everyday, back and forth, back and forth, so it's a lot of money, but people feel like coming here and learn more. (Chiure, staff 1)*

A second reason for not using telecentres relates to *time* constraints…:

> *I don't have time for that. (Chiure, non-user 4)*

> *I think it's because of time, I am off from work from 12 to 14, so my break is short. (Ilha, non-user 1)*

… a lack of time that, however, can be attributed also to the limited service offering in terms of opening hours:

---

[6] Mzn = meticais, local currency.

> *...Because of time. I am busy from 7h30 to 15h30 and at that time it is already too late to go there. (Ilha, non-user 2)I don't use the service because I work a bit far and I always get there in the afternoon, after the normal time. (Cuamba, non-user 1)*

Time relates also to ensuing priorities people have to establish:

> *I have to be busier with school than other things. (Chokwe, non-user 2)*

Third, telecentres' services *costs* are frequently mentioned as the main reason why people cannot afford to use them, despite probably being interested in going there:

> *I would like to go, but I don't have the [financial] possibility to do it. [...] I reckon that to go there I need [financial] conditions. (Chiure, non-user 7)*

> *I don't know but I also think that to learn computers there you have to pay, and it is possible that people don't have the money to pay and have the course. (Chiure, user 4)*

> *Maybe because of financial conditions. Maybe people don't have the money to come and subscribe to the course. (Cuamba, user 5)*

Staff members seem aware of this fact, but usually cannot find sustainable solutions:

> *Some people do not appear because they lack financial conditions, because they are not having the money to use these facilities. (Chokwe, staff 10)*

> *I am still wondering, because we have both paid and free services, maybe the paid ones... it may be exactly because of that. (Morrumbene, staff 1)*

Relevance

The last issue adduced and identified as reasons not to use telecentres is relevance of the services offered for interviewees and other people from the community. In some cases, spending time at telecentres is judged as either *not profitable* for the person…:

> *I don't catch anything relevant there. (Chiure, non-user 10)*

… or *not challenging* enough, as the interviewee already know what they teach at telecentres and has nothing more to learn there:

> *I don't go to the computer room [at the telecentre, n.d.a.], because the packages they teach I already know them [...]. There they need just people who don't know. (Chiure, non-user 3)*

…alternatively, *too difficult*:

> *Some people do not come [...] because they think it is demanding, but for someone who has will it is not demanding. (Chiure, user 9)*

Also, other people declared *no interest* in the services offered by telecentres:

> *I am not interested in computers and all this things. (Chiure, non-user 4)*

…and going there is *not a priority* for them:

> *I usually am in my field, because of hunger. (Sussundenga, non-user 9)*

Finally, some people think services telecentres offer are *not for them*, and people feel inadequate to go and use them:

> *The problem is that I did not study, so what would I do there. (Chiure, non-user 5)*

> *But, how can I go there, I don't know how to read and write. (Ilha, non-user 7)*

> *The computer, I don't know anything because I am already an oldie, I only know that computers exist, I see young students fiddling with computers, I don't know what is the meaning of a computer. (Morrumbene, non-user 4)*

CONCLUSIONS

In conclusion, the study confirms how the deployment of ICT-centered solutions for development requires a deep investigation of local needs, especially when initiatives (at least partially) fail to respond to expected policy and community goals. This element is particularly important to review the development model itself towards a more inclusive, sustainable and holistic framework – with Academia being an active stakeholder of such change.

Particularly, the study allowed identifying four main clusters of motivations for non-use of telecentres of CMCs that are relevant for the context of Mozambique. Out of them, two are linked with deficiencies of the venue (i.e. competitors and service), and two (i.e. resource-constraints and relevance) to people.

The presence of competitors does confirm the need of access and of venues that permit it, need which is not fulfilled by alternative and personal technologies or media. Hence, investigating how to improve telecentre services is a desirable way forward to capitalize the investment carried out by Governments so far – rather than disregarding telecentres as ineffective solutions to bridge the digital and developmental divides. Among telecentres' services to be improved, interviewees identified marketing and communication strategy issues. Interestingly, it appears that informing the local communities about the availability of services – and how they could be benefited by using them – is considered a bottleneck as much as service quality and availability.

Among resource constraints, most of the interviewees mentioned time and space (i.e. the distance from the CMCs), which suggest that an appropriate improvement measure could consist in expanding services, rather than dismissing or limiting them. In addition, financial barriers to access are overcome by choosing other venues rather than CMCs, showing that also in Mozambique, as in other contexts (see [7]) people are genuinely interested in such services and willing to find alternative ways to obtain them when they have constraints.

Relevance of services as motivation for non-use are also mentioned: again similarly to other findings in the literature, Mozambican non-users indicate a broad sense of self-inadequacy and detachment from the services that, according to the authors, may be settled in some cases with both adequate awareness-raising initiatives, and more targeted trainers' training. Personal conditions are an important subset of motivations why users do not access to telecentres of CMCs services, and these motivations may be presumably considered valid with alternative technological mediums, such as mobile phones.

A limitation of this study is its exclusive focus on CMCs' telecentres, while other public access computing venues are considered as "competitors". Further studies could look at other venues as part of the ecosystem of the public access phenomenon, in which different types of venues complement each other. This would allow for recommendations to address the problems by focusing on the strengths of telecenters when compared to other PAVs.

At the same time, further research focused on CMCs is needed and recommended to improve the way these venues can effectively provide relevant and contextualized services to the rural people of Mozambique,. On the one hand, mapping different social groups who do not access to the services offered by telecentres of CMCs, and understand relationships between demographic variables and motivation for non-use would help developing targeted services to potential users. On the other hand, comparing diffusion and use of mobile versus telecentres among different social groups would be recommended to inform the academic community on their respective adoptions.

ACKNOWLEDGMENTS

cooperation project between the NewMinE Lab – New Media in Education Laboratory of the Università della Svizzera italiana (Lugano, Switzerland), and the Department of Mathematics and Informatics and the Centre of African Studies of the Universidade Eduardo Mondlane (Maputo, Mozambique). The aim of the project is to study the conceptualisations that different social groups have of CMCs and propose specific actions to improve their activity. RE-ACT is funded by the Swiss National Science Foundation (SFNS) and the Swiss Agency for Development and Cooperation (SDC).

REFERENCES

[1]   D. N. Townsend, D. Espitia G., S. N. Jorge, and C. B. Lee, "Telecenters and Telecommunications Development: Options and Strategies," DNTA, 2001.

[2]   A. V. T. Whyte, *Assessing community telecentres guidelines for researchers*. [Ottawa, Ont., Canada]: IDRC, 2000.

[3]   R. Heeks, "Most eGovernment-for-Development Projects Fail: How Can Risks be Reduced?," School of Environment and Development - The University of Manchester, Working Paper 14, 2003.

[4]   S. Parkinson and A. C. Lauzon, "The Impact of the Internet on Local Social Equity: A Study of a Telecenter in Aguablanca, Colombia," *Inf. Technol. Int. Dev.*, vol. 4, no. 3, pp. pp. 21–38, Mar. 2008.

[5]   R. Kuriyan, I. Ray, and K. Toyama, "Information and Communication Technologies for Development: The Bottom of the Pyramid Model in Practice," *Inf. Soc.*, vol. 24, no. 2, pp. 93–104, 2008.

[6]   J. Rhodes, "Using Actor-Network Theory to Trace an ICT (Telecenter) Implementation Trajectory in an African Women's Micro-Enterprise Development Organization," *Inf. Technol. Int. Dev.*, vol. 5, no. 3, pp. pp. 1–20, Oct. 2009.

[7]   A. Sey, C. Coward, F. Bar, and G. Sciadas, "Connecting people for development: Why public access ICTs matter," Technology & Social Change Group, University of Washington Information School, Seattle, WA., 2013.

[8]   J. Pal, "Examining e-literacy using telecenters as public spending: The case of Akshaya," in *International Conference on Information and Communication Technologies and Development, 2007. ICTD 2007*, 2007, pp. 1–9.

[9]   R. P. Fuchs, "Little engines that did," IDRC Study/Acacia Initiative, 1998.

[10]   R. Gómez, "Inviting Success: Lessons from public access computing experiences around the world," in *iConference 2010 Papers*, Urbana-Champaign, IL, 2010, pp. 1–11.

[11]   Walton, M. & J. Donner, "Public access, private mobile: The interplay of shared access and the mobile Internet for teenagers in Cape Town". Global Impact Study Research Report Series. Cape Town, South Africa: University of Cape Town, 2012.

[12]   R. Gómez, "The Changing Field of ICTD: Growth and maturation of the field, 2000-2010," *Electron. J. Inf. Syst. Dev. Ctries.*, vol. 58, no. 0, Jul. 2013.

[13]   W. Vota, "4 Reasons Why Desktop Computers Are Better Than Mobile Devices in ICT4D," *ICTworks*, 2012. .

[14]   W. Chigona, D. Beukes, J. Vally, and M. Tanner, "Can Mobile Internet Help Alleviate Social Exclusion in Developing Countries?," *Electron. J. Inf. Syst. Dev. Ctries.*, vol. 36, no. 0, 2009.

[15]   H. Mpogole, H. Usanga, and M. Tedre, "Mobile Phones and Poverty Alleviation: A Survey Study in Rural Tanzania," in *M4D 2008*, Karlstad University, Sweden, 2008, pp. 62–72.

[16]   R. Gómez, Ed., *Libraries, Telecentres, Cybercafes and Public Access to ICT*. IGI Global, 2011.

[17]   M. L. Best and R. Kumar, "Sustainability Failures of Rural Telecenters: Challenges from the Sustainable Access in Rural India (SARI) Project," *Inf. Technol. Int. Dev.*, vol. 4, no. 4, 2008.

[18]   C. Fraser and S. Restrepo Estrada, "Community Radio Handbook," UNESCO, 2001.

[19]   S. Vannini and I. Rega, "Inbound and Outbound Information and Communication flows: Perspectives from Community Multimedia Centres in Mozambique," in *CIRN 2012 Community Informatics Conference: "Ideals meet Reality" Monash Centre*, Prato, Italy., 2012.

[20]   República de Moçambique, "Plano de acção para redução da pobreza (PARP) 2011-2014." 2011.

[21]   Ministerio das Ciências e Tecnologías de Moçambique, "Programa Nacional de Centros Multimedia Comunitários, Ver 4.5." MCT, Republica de Moçambique, 13-Jun-2008.

[22]   Vannini, S., Rega, I., Cantoni, L. (forthcoming). "Information and Communication Flows through Community Multimedia Centres: Perspectives from Mozambican Communities". Submitted to Information Technology for Development (ITD), Special Issue on ICT and Development in Africa.

[23]   Rega, I., Cantoni, L., Vannini, S., David, S., Baia, A., Macueve, G., (2011) Community Multimedia Centres in Mozambique: a map. NewMinE Lab Working Paper, Ver. 1.0, December 2011.

[24]   Vannini, S., Rega, I., (2012), Inbound and Outbound Information and Communication flows: Perspectives from Community Multimedia Centres in Mozambique, in Proceedings: CIRN 2012 Community Informatics Conference: 'Ideals meet Reality' Monash Centre, Prato Italy 7-9 November 2012.