

**Public Access Venues and Community Empowerment in Mozambique:
A Social Representation Study**

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Abstract

This article uses the theoretical construct of Social Representations to investigate how Community Multimedia Centres (CMCs) – venues that offer public access to Information and Communication Technologies (ICTs) to underserved communities – are perceived by communities in Mozambique, and it discusses how the local population understands these venues as means to foster community empowerment and socio-economic development. In total 113 participants took part in the study, from six CMCs in different towns of Mozambique. Participants were represented from three different social groups, according to their use of the CMC: staff members, users of both CMC components – telecenter and radio - and radio-only users. The article analyses the Social Representations' structure, using a Prototypical approach. Findings show that CMCs are seen by local communities as places at which they can receive and exchange information, and also as learning spaces, with the telecenter part focused on the delivery of ICT training and the radio component engaging with educational activities and services in a broader sense. Furthermore, CMCs are perceived as places dedicated almost exclusively to children and young people. The results of this study can help policy makers, practitioners, funding agencies and other relevant stakeholders to improve Mozambican CMCs and leverage their community empowerment potential.

Keywords: Community Multimedia Centres, Mozambique, Social Representations, Community Empowerment, Education

1. Introduction

This article explores how Community Multimedia Centres (CMCs) – venues that offer public access to Information and Communication Technologies (ICTs) to underserved communities – are perceived by communities in Mozambique, and discusses how the local population understands these venues as means to foster community empowerment and socio-economic development.

Community Multimedia Centres are community-based venues for public access to ICTs, formed by a community radio and a telecenter. Community radios are managed by local staff, and broadcast information that is relevant to the communities that they serve both in local and national languages. Telecenters are places where people can access and learn how to use a number of different ICTs, such as computers, the Internet, printers, photocopy machines, etc. Created in 2000, the CMC model was conceived as an inclusive tool to support underserved communities, especially in developing countries, and to offer them relevant information and communication means to support their development through newly generated information chains, promoting education, encouraging knowledge exchanges, and strengthening public participation (UNESCO, 2004).

UNESCO established the CMC program in 2001 in Africa, Asia and the Caribbean and its scale-up phase was launched at the World Summit of the Information Society of Geneva in 2003 (WSIS, 2003). Mozambique, together with Senegal and Mali, was one of three African countries to be chosen for this initiative, due to the success of the previous pilot phase in the country. Supported also by the Swiss Agency for Development and Cooperation (SDC), the scale-up phase envisaged building 50 new centers in each country in subsequent years (UNESCO,

2004).

In 2010, the program for CMCs in Mozambique was taken over by the local Ministry of Science and Technology (MCT), with the goal of providing access to ICTs to all 128 districts of the country within five years (MCT, 2008). In 2013, when this study was conducted, Mozambique had a total of 43 CMCs, which, despite variable resources and services, accounted for the prevailing typology of Public Access Venues (PAVs) in the country (Vannini, 2014), and, according to the plans of the MCT, this number was meant to grow.

Despite Mozambique's beliefs in CMCs, scholars have pointed out how PAVs often suffer from social sustainability failures (Bailey, 2009; Rega, 2010b), where they are not socio-culturally compatible with the communities they serve. Social sustainability issues also include communities not recognizing PAVs as empowering for them (Mat Aji, Mohd Yusof, Sheik Osman, & Yusop, 2010). The concept of empowerment as we use it in this article draws from the literature definition as the individuals' ability to understand and control their lives and their environments, and to improve their conditions in terms of expanding their horizons, achieving their goals and being satisfied with their lives (Lee, 2007; Wilson, 1996). Furthermore, community empowerment is not defined as simply a collection of empowered individuals, but it also refers to communal, organized action to improve the quality of life in a community (Perkins & Zimmerman, 1995; Wilson, 1996).

This article explores ways through which social actors co-construct, negotiate and share representations of CMCs as a social and cultural phenomenon through the socio-psychological paradigm of the Social Representations Theory (Moscovici, 1961); in particular, it will shed light on how CMCs are perceived as means able to

empower the local communities they serve. Social Representations (SR) as a theoretical framework has been chosen to analyze local perceptions on CMCs as self-empowering tools for their communities. SR theory was proved, in fact, to be a particularly useful construct to account for socio-cultural and contextual elements (Rega, Vannini, Fino, & Cantoni, 2013; Rega, 2010a; Vannini, 2014), crucial factors when dealing with ICT projects in developing countries (Brunello, 2010; Tedre, Sutinen, Kähkönen, & Kommers, 2006; Unwin, 2009).

We will approach SR by investigating the Social Representations' structure (Abric 1994), discussing the core and peripheries dimensions of the social representations related to CMCs, telecenters and community radios, highlighting how these initiatives are perceived as empowering tools by the local communities. This approach will allow us to reflect on possible implications for governments, policy makers and stakeholders in the development field.

2. Theoretical approach

Social Representations (Moscovici 1961) are “systems of values, ideas and practices” (ibid, p. IX) shared in a social group and enabling social actors to interpret their world and to communicate. Rather than being cognitive products of individuals' minds, SRs are a product of social interaction and negotiation between an individual and their social group (Bauer & Gaskell, 1999; Billig, 1996; Byford, 2002). This interaction is described through a semiotic triangle with vertexes indicating an “ego–alter–object” relationship, which implies no separation between individual perceptions and the socio-cultural context where meaning is created. SRs are always resulting from a co-construction of meaning.

When confronted with new phenomena, social actors tend to link these phenomena to categories of concepts that are familiar to them, through the processes of “anchoring” and “objectification” (Moscovici, 1961, 2000). However, competing and contradictory SRs can coexist even within the same social groups, due to the agency of different social actors. Moscovici translated these multi-layered facets of SRs with the concept of “cognitive polyphasia” (Moscovici 1961). Similarly, SRs can have different phases and evolve in time (Bauer & Gaskell, 1999; Maury, 2007). According to Markovà (Markovà, 2003), SRs are dialogical: similar to culture, language, and cognition, SRs are dynamic phenomena able to account for social change.

(Camargo & Wachelke, 2010)) explored the interplay among social representations, investigating how one representation contributes to shaping or has traits in common with other representations, so as to form a representational system. This is particularly relevant when looking at Community Multimedia Centres, by nature composed of two components, telecenters and rural radios, which should work together offering an interplay of services and information and communication opportunities for the local communities, cross-fertilizing one another and shaping a facility able to contribute to the local socio-economic development. This article, therefore, also explores the interplay between the three representations and how each representation contributes to shape the others.

The structural approach to SRs, which we employed in this study, deals with SRs’ dual aspects of inter-individual differences, i.e. fluidity and change on the one hand, and consensuality and rigidity on the other. According to Abric, SRs are organized in two systems: a central structure (central nucleus, or core) and a

peripheral one (periphery). This two-fold structure accounts for the apparent contradictions of SRs: the *central nucleus* of a SR is defined by a few cognitive elements that are responsible for its stability, rigidity and consensuality, which are related to the history and collective memory of a social group, and thus resistant to change. This central system generates the overall meaning of the social object and determines how other elements of the representations are organized. The *peripheral system* is composed of all the elements that allow for mobility, flexibility, agency and individual differences. In this way, the periphery permits SRs to integrate individual experiences, contradictions, as well as the heterogeneity of different social groups, contexts and practices, and provide the basis for SRs to evolve. While the central nucleus is moulded around absolute and non-negotiable propositions, providing the representation core meanings, the peripheral system is conditional, and mirrors contexts and daily life variations (Abric, 1994; Pereira de Sá, 1996).

The structural approach to SRs seemed particularly useful to investigate the CMCs phenomenon, then, because (i) it allows us to compare two or more sub-populations who share different social practices and are exposed to different communication systems in relation to a social object (such as CMC staff, users and partial users) (Pereira de Sá, 1996), and (ii) it allows us to understand conditional and unconditional cognitive elements of a SR, which, according to the authors, can be useful to evaluate, adjust and redesign community development interventions.

Although prior investigations have extensively studied SRs of ICTs (Contarello, Fortunati, & Sarrica, 2007; Contarello & Sarrica, 2007; Sensales, 1990) and their reflection on identities, cultures, and social changes (Contarello, Nencini, & Sarrica, 2007; Durieux, 2003), to date few studies have incorporated such a

perspective into endeavours devoted to the use of ICTs for promoting socio- and economic development (Bailey & Ngwenyama, 2011). Nevertheless, the study of SRs is particularly interesting in the field, where technology-related phenomena are often new and exogenous to specific communities. As the emergence and evolution of social representations around ICTs are contingent on the cultural context in which they are generated (Jovchelovitch, 2007; Voelklein & Howarth, 2005), the study of SR in the field of ICTs for Development (ICT4D) responds to the repeatedly claimed need for a deeper understanding of the often neglected socio-cultural dynamics underlying ICT4D initiatives (Brunello, 2010; Heeks, 2002, 2003; Kleine & Unwin, 2009; Tedre et al., 2006). In fact, only a deep understanding of the specific and contextual ways in which ICTs are appropriated and have an influence in different contexts has proven relevant to guarantee the impact and sustainability of ICT-based interventions for development (Avgerou & Walsham, 2000; Unwin, 2009). Similarly, SRs are well suited for investigating ICT phenomena in communities because of their approach to dynamics of power, inter-individual interaction, communication, and social actors' engagement in the making of social reality (Sarrica, 2011).

3. Method

3.1 Data collection

From May 2013 to November 2013, 113 participants took part in the study: they were from six CMCs in six different towns of Mozambique (see section 3.2), and belonged to three different social groups according to their use of the CMC (staff members, users of both CMC components – telecenter and radio, and radio-only users). Participants were instructed to fulfill a free evocation task (Pierre Vergès, 1992) by an enumerator who was personally trained by the researchers. Enumerators

asked participants to tell them the first five words or expressions that came to mind when thinking, in turn, about *Community Multimedia Centre*, *Telecenter*, and *Community Radio*. Enumerators transcribed participants' answers, in order, into five blank fields. The sections below present details on the locations and on the participants.

3.2 CMCs' locations

The six CMCs that agreed to participate were selected in order to be as representative as possible of the reality of CMCs in the country. Of the six CMCs, three were located in the north of the country (Ilha de Moçambique, Cuamba and Chiure), two in the center (Chitima and Quelimane), and one in the south (Morrumbene). One CMC serves an urban area (Quelimane), while the other five are located in small or medium, semi-rural towns, with sufficient access to power but serving mostly rural communities. The venues included are on a different scale in terms of the variety of services they offer, going from a big variety and access to many computers connected to the Internet (Morrumbene, Quelimane) to venues with few, basic services and limited access to computers and the Internet (Ilha de Moçambique, Chiure). Similarly, the sample includes both newer venues (e.g. Morrumbene) and older ones (e.g. Cuamba, Chiure), venues that started operating as Community Radios and then became CMCs (Quelimane, Cuamba), and venues that were constituted as CMCs since their beginning (e.g. Morrumbene).

3.3 Participants

A total of 113 respondents (M = 76; F = 35; n / a = 2) aged 14-61 years (mean age 24.41; SD = 8.51) participated in the study of CMCs (see Table 1). Respondents provided oral consent and participated voluntarily in the study. They belonged to three groups: Staff (N. 22), (mean age = 30.32; SD = 7.84), namely individuals working in the CMC; CMC Users (N. 46) (mean age = 21.11; SD = 6.49), composed of individuals regularly using both the telecenter and the community radio facilities of the CMC; and Radio-Only Users (N. 45) (mean age = 24.91; SD 9.12). The socio-demographic characteristics of the respondents and locations are synthesized in Table 1.

Table 1 - Socio-demographic Characteristics of Participants

	Staff (N = 22)	CMC Users (N = 46)	Radio-Only Users (N = 45)
Age (years)	30.32 ± 7.8 ^a	21.11 ± 6.4 ^a	24.91 ± 9.1 ^a
Gender			
Males (%)	68.2	67.4	66.7
Females (%)	31.8	32.6	33.3
Years of Education			
≤ 10 (%)	90.9	87.0	73.3
≥ 11 (%)	9.1	13.0	26.7
Location			
Chiure	18.2	21.7	20.2
Cuamba	22.7	26.1	22.2
Ilha	0.0	10.9	11.1
Morrumbene	27.3	21.7	22.2
Quelimane	9.1	19.6	24.4
Chitima	22.7	0.0	0.0

^a Values shown as mean \pm SD

3.4 Data Analysis

We applied *Prototypical Analysis* (Vergès, 1992), aimed at identifying the structure of the representations investigated, namely central system and peripheral elements (Abric, 1994), in line with the structural approach to SRT (Abric, 1994; Pierre Vergès, 1992). According to the theoretical postulate of this type of analysis, the lexemes that are more frequently evoked and present lower average evocation rank constitute good hypotheses of possible central elements of the representation, while the others can be considered as peripheral (Vergès 1992). This analysis was performed by means of the software *Evocation 2000* (Vergès, Junique, Barbry, Scano, & Zeliger, 2002), as this is not a statistical method, rather a way of organizing the data so as to identify some useful patterns, and the resulting quadrants were re-organized by privileging frequencies on ranking.

4. Results

In this section, we will present the results of this study for each one of the three verbal stimuli separately (i.e. Community Multimedia Centre, Radio, Telecenter). This will allow us to describe the social representations of Community Multimedia Centres as a whole, according to their model, as well as of each of its components, telecenter and radio, and to discuss how and to what extent their representation by the local community includes CMCs' role as tools to empower the community itself.

4.1 Community Multimedia Centre

Results from the Prototypical Analysis reveal that CMCs are perceived as a combination of their two main components: a community radio with a telecenter, offering information and communication-related services. The three most cited words are radio (51), computer (39), and information (32), showing that respondents associate the CMC primarily with the radio and with the most common piece of technology in place in telecenters: computers. The first clear function expressed in the core of the representation is that CMCs are a place in which to receive (and exchange) information. The second clear function is related to the telecenter component: a place in which to acquire informatics competences and skills. It is interesting to note that in the core of the representation the photocopying service is also mentioned; this is a common and key service for many CMCs, often more important and widespread than access to computers. The representation also has a close connection with the physical space in which the venues are located, as referenced by the term “church” (preponderantly from Quelimane, the CMCs managed by a Catholic order of nuns).

In the first periphery, there is a reference to school, possibly related to the fact that CMCs are seen as places mostly connected with and interesting for young people and children (childhood and CMCs as places in which to acquire knowledge and study are two themes re-emerging again in the third and fourth peripheries). Prevalent here is the function of the radio as an entertaining medium, through the music that it plays and as a tool to enable intra-community communication, allowing members to communicate with one another (via “announcements”). This function of the radio as a communication tool for the community is reckoned to be especially relevant for people who live in more isolated areas, who have to work in the fields

far from the central areas, and who cannot rely on efficient transportation means to be connected to the rest of the community. Being able to receive and transmit information in a timely manner often means for them sparing money, being able to work, and receiving and providing help in a timely and efficient manner when needed. The alternative often means being isolated, wasting money on travel or not being able to dedicate their time to their work or other activities. Finally, the internet is mentioned here, as a service offered by the CMC.

In the third and fourth periphery, CMCs' representation starts to be moulded around the themes of knowledge and education. Educating the youngsters and training adult staff members also appear at this level. Finally, the reference to "childhood" (preponderantly from Morrumbene) indicates how CMCs predominantly offer services directed to children and young people over other community members. CMCs are strictly perceived as educative places: children and young people can receive training both at the telecenters, where they use computers and learn about "informatics" and can do their homework and research themes connected to their school work, and within the community radio activities, where they have an active role in designing, presenting and participating in programs specifically dedicated to their age and issues.

The second and third periphery relate to the training and educational experiences received at CMCs and connect it to the professional path that people from the community can undertake after receiving it. CMCs have witnessed various experiences of success in this sense: stories are proudly narrated and diffused within the CMCs and their communities about several community members who were hired by the national radio and television broadcasts, thanks to the training they received

and the experience they gained as speakers at the community radios. This shapes the representation of the CMC as a launch pad that enables people to have access to better jobs and more prestigious positions in their communities.

These two last peripheries contain mostly instrumental words connected to the technology of the services offered in the telecenter and their physicality, related to staff's and users' everyday use (e.g. monitor, mouse, scanner, processor, hospital, desks, club). The people involved in the CMCs are also mentioned and seem to cover a discrete role in people's representations (e.g. listeners, speaker).

It is interesting to note the mention of the word "freedom", suggesting that CMCs are places where the community is free to address its concerns, as well as where individuals can gain freedom through education and training. Finally, it is also worth mentioning that the word "community" only appears in the fourth periphery.

Table 2 - Prototypical Analysis for CMC

Object	Rank <= 3				Rank > 3			
	F >= 10	Words	Freq.	Rank	Words	Freq.	Rank	
CMC		<i>radio</i>	51	1,784	<i>internet</i>	14	3,571	
		<i>computer</i>	39	2,103	<i>music</i>	13	3,308	
		<i>information</i>	32	2,781	<i>announcement</i>	11	3,364	
		<i>communication</i>	15	2,800	<i>school</i>	10	3,600	
		<i>photocopier</i>	12	2,833				
		<i>center</i>	11	1,636				
		<i>informatics</i>	10	1,800				
		<i>church</i>	10	2,400				
		<i>telecenter</i>	10	2,500				
		F < 10	<i>journalist</i>	9	2,556	<i>knowledge</i>	8	3,875
			<i>community</i>	9	2,889	<i>typing</i>	8	3,625
			<i>childhood</i>	7	2,000	<i>printing</i>	9	3,222
			<i>advertisement</i>	7	2,571	<i>microphone</i>	9	3,778
			<i>station</i>	6	3,167	<i>study</i>	7	3,286
			<i>mc(microphone)</i>	4	2,000	<i>training</i>	6	3,833
			<i>profession</i>	4	2,250	<i>dedication</i>	6	3,667
			<i>television</i>	3	2,000	<i>program</i>	6	4,333
			<i>hospital</i>	5	2,800	<i>learning</i>	4	4,000
			<i>mouse</i>	4	2,750	<i>chair</i>	3	4,667
			<i>broadcasting</i>	3	2,667	<i>centralization</i>	3	3,333
						<i>club</i>	3	4,000
						<i>disco</i>	3	5,000
						<i>entertainment</i>	3	3,000
						<i>fax</i>	4	3,750
						<i>photocopy</i>	3	3,333
						<i>freedom</i>	5	3,000
					<i>speaking</i>	3	4,333	

						<i>speaker</i>	4	3,750
						<i>table</i>	3	3,667
						<i>monitor</i>	3	4,667
						<i>necrology</i>	5	4,800
						<i>listener</i>	4	4,250
						<i>person</i>	3	4,000
						<i>processor</i>	3	3,333
						<i>scanner</i>	3	4,667
						<i>service</i>	5	3,400
						<i>keyboard</i>	3	3,667

4.2 Community Radio

Results from the Prototypical Analysis describe the core of the representations of Community Radio as a place in which to receive information from within the community and from outside it, in terms of local and national “news” and “advertisements” from locally-based businesses and initiatives, and as a place promoting the circulation of information within the community, through “announcements”. The amusement component is also relevant; the radio is the means by which music is broadcast throughout the community borders, enabling entertainment and fun. Finally, the core of the representation also put in the forefront the staff of the radio, the journalists volunteering in the facility who make possible the existence of this medium and the broadcast of the services mentioned above.

As long as the representation is moving from the nucleus to the first periphery, other content and services offered by the radio are mentioned (programs, dedications, and once again, news), as well as the staff working there (speakers). The “community” receiving the services starts to have a role in the representation of the radio, as well as “computers”. Overall, the first periphery seems to highlight the role of the radio journalist (using computers, transmitting news and other programs) for the community.

The third and fourth peripheries highlight the benefit that volunteers and staff working in the radio receive from this experience: having chances for a future

“employment” thanks to their work in the community radio. The radio, indeed, is an important place for them to get “training”, in fact, several radio staff members, once trained at the CMCs, are able to find jobs in local and national radios as journalists.

These two periphery bring to light the educational dimension of the radio, that seems very connected to staff and community professional lives: the community radio is a professional training venue both for staff members, who hope to be employed by regional or national broadcast services, and for the rest of the community, who receive education on themes that are important to them. The term “luck” is mentioned here, and refers exactly to the opportunity that the radio offers to community members to improve their social status through working there.

The dimension of the community and of the “audience” (listener, people) is important in this periphery, and the word “telephone” is a reminder of the two-way communication that community radios are able to establish within their communities (communities often call the radio to intervene in programs or to communicate information to staff members, who are then able to broadcast it to the rest of the community; similarly, staff members use the telephone to report news and information they find, transmitting it in a sort of live news streaming from the field).

The physical venue in which the radio is located is also important (church, hospital): this indicates how that institution is well connected to the local reality, and the huge importance that the physical venue has for the community, constituting a place for encounter, a social space for learning. The importance of the physical place and the characteristics of the physical space that make it important meeting points for the communities are much less studied in PAVs scholarship. Some references, however, can be found in the studies of Gómez and Gould (Gómez & Gould, 2010)

and some of our previous works (Rega et al., 2013; Vannini, Rega, Cantoni, & Aguirre, 2012).

Table 3 - Prototypical Analysis for Community Radio

Object	Rank <= 3				Rank > 3				
	F > = 10	Words	Freq.	Rank		Words	Freq.	Rank	
		<i>information</i>	40	2,300		<i>program</i>	36	3,111	
Radio		<i>music</i>	47	2,660		<i>computer</i>	13	3,385	
		<i>announcement</i>	10	1,900		<i>community</i>	11	3,182	
		<i>communication</i>	16	2,125		<i>dedication</i>	14	3,357	
		<i>journalist</i>	12	1,917		<i>speaker</i>	18	3,111	
		<i>radio</i>	12	2,000		<i>news program</i>	19	3,211	
		<i>station</i>	10	2,800					
		<i>newspaper</i>	11	2,818					
		<i>news</i>	17	3,000					
		<i>advertisement</i>	14	2,929					
		F < 10	<i>study</i>	9	2,222		<i>training</i>	7	4,429
			<i>interview</i>	6	3,000		<i>center</i>	4	3,500
			<i>speaking</i>	6	2,667		<i>church</i>	3	4,667
			<i>microphone</i>	8	2,500		<i>person</i>	3	4,000
			<i>broadcast</i>	4	2,250		<i>reportage</i>	4	3,250
			<i>employment</i>	3	2,333		<i>secretary</i>	3	4,667
			<i>receptor</i>	3	2,333		<i>luck</i>	3	5,000
			<i>service</i>	3	1,667		<i>telephone</i>	4	3,500
			<i>education</i>	4	2,750		<i>work</i>	3	3,333
			<i>hospital</i>	3	2,667				
		<i>listener</i>	4	3,000					
		<i>production</i>	3	3,000					
		<i>profession</i>	3	3,000					
		<i>transmission</i>	4	2,750					

4.3 Telecenter

Telecenters are perceived as places to access information- and communication- based services, with their educational component being predominantly represented in the nucleus: telecenters are places in which to attend “informatics” “training” “courses”, they are perceived mainly as places in which to access technologies (“computers” and “photocopiers”) and to become computer literate through formal training. Photocopy machines are at the utmost core of telecenters’ social representations in the country, which does not correspond to any definition and ultimate goal of telecenters that development works and scholarships has ever worked towards. Telecenters, in fact, were conceived as spaces to access information through digital technologies, in particular computers and the Internet

(Creech, 2006). Interestingly, Mozambican communities do not include the Internet in their core representations of telecenters; in fact, infrastructural problems mean that the Internet is not a common service in Mozambique CMCs.

It is worth mentioning that the term “radio” is a component of the core representation, showing how the telecenter is perceived as a facility attached to a rural radio; this may be because some of the telecenters have been created as add-ons to already existing community radios or because the radio is indeed the most well-known and popular component of a CMC in Mozambique (Rega et al., 2013).

The first periphery presents, once again, terms connected to the educational dimension of the telecenter, having at stake the actors of the training initiatives: “trainers” and “trainees”. The term “internet” makes its appearance here, as well as another popular service, the possibility of “typing” documents.

The third and the fourth peripheries document the educational function of the telecenter (training, professor, classroom, study, education). The CMC of Quelimane plays an important role in shaping this first periphery, especially for the dimensions of training and information. A variety of technologies and services, related both to the telecenter’s component as well as to the CMC and the community radio (printer, cinema, music, telephone, television, fax), also enter into the realm of these last two peripheries, showing how the telecenters’ representation is anchored and has borrowed elements from the other two objects at stake in this research. The community aspect is reiterated in the third periphery (community, encounter). Finally, the aspect of entertainment and fun (music) enters here in the representation, indicating that it is (still) part of the representation of a niche of community members.

Table 4 - Prototypical Analysis of Telecenter

Object	Rank < = 3			Rank > 3					
		Words	Freq.	Rank		Words	Freq.	Rank	
	F > = 10	<i>computer</i>	61	2,574		<i>internet</i>	32	3,656	
Telecenter		<i>informatics</i>	41	2,707		<i>typing</i>	10	3,300	
		<i>communication</i>	15	2,200		<i>trainer</i>	11	3,273	
		<i>photocopier</i>	19	2,105		<i>trainee</i>	13	4,077	
		<i>course</i>	21	2,810		<i>monitor</i>	15	3,467	
		<i>training</i>	10	2,600					
		<i>information</i>	17	2,529					
		<i>radio</i>	16	2,750					
		F < 10	<i>fax</i>	9	2,000		<i>printer</i>	9	4,111
			<i>center</i>	6	2,833		<i>brother</i>	6	3,500
			<i>television</i>	7	2,714		<i>chair</i>	5	3,800
			<i>class</i>	3	1,000		<i>training</i>	4	3,500
			<i>community</i>	3	2,333		<i>cinema</i>	4	4,750
			<i>call/job opening</i>	3	2,333		<i>document</i>	3	4,000
			<i>education</i>	3	2,000		<i>e-mail</i>	5	4,000
			<i>encounter</i>	3	2,333		<i>study</i>	3	4,000
			<i>church</i>	5	1,800		<i>desk</i>	4	3,750
			<i>program</i>	4	2,000		<i>microphone</i>	5	4,200
			<i>reprography</i>	3	2,000		<i>mouse</i>	5	3,600
			<i>telecommunication</i>	4	1,000		<i>professor</i>	5	3,400
			<i>telephone</i>	4	1,250		<i>classroom</i>	3	5,000
			<i>alumn</i>	3	3,000		<i>technology</i>	4	3,250
			<i>copier</i>	3	2,667		<i>ups</i>	4	3,250
			<i>printing</i>	4	2,750		<i>word</i>	3	2,667
			<i>machine</i>	3	3,000				
			<i>music</i>	3	3,000				
			<i>paper</i>	4	3,000				
			<i>keyboard</i>	3	2,667				
		<i>worker</i>	3	3,000					

5. Discussion

The study of Mozambican CMCs' social representations reveals important information about how the local communities perceive these venues in terms of their functions as community empowerment enablers.

When summarizing the results, we can see that the CMC is perceived as a learning space, introducing the community to digital literacy with its telecenters component and providing educational activities for children and staff members with its radio component. Children, young people and staff members are the populations that are definitely perceived as benefitting from CMCs, and no other social group is mentioned. Facets regarding knowledge and education in general terms are,

interestingly, connected mostly to the community radio component, often serving as a launch pad and professional development opportunity for radio journalists and speakers. Education, training and the possibility of improving one's reputation and career is connected to the theme of freedom of speech, and of improving one's life.

Both distinct elements of individual empowerment processes, such as a sense of control on one's own life (e.g. the possibility of proceeding in their career mentioned by staff members) and community empowerment processes, such as the access to knowledge and information (Zimmerman, 2000), are presented in the findings, suggesting that CMCs are indeed promoting community empowerment.

The community radio is perceived, at its core, as the place that enables information and communication activities to happen in the community, both permitting community members to exchange information with one another, and connecting the community to the outside world. This core and stable part of the representation is strongly related to community empowerment, as it enables the community to have access to information and resources, and promotes the growth of participatory skills among its members (Zimmermann, 2000). The peripheries, starting from the first one, are very much connected with educational opportunities, and personal and professional development for the members of the staff.

Finally, the telecenter, at its core, is also perceived as a place offering information and communication services, but this is articulated only in the provision of informatics training; it is a place in which to gain informatics skills and become digital-literate. The educational dimension, which is strongly present both at the core and at the periphery, is only related to this specific area of training: informatics. The

educational potential, also in terms of community empowerment, that telecenters hold is not explored and used at its fullness.

Table 5 – Summary of the Prototypical Analysis for the three stimuli words for community empowerment-related meaning

	CMC	Radio	Telecenter
Core	A place to receive (and exchange) information	A place to receive (and exchange) information	A place to receive ICT training (education)
	A place to acquire informatics skills	Community Radio as an information gatekeeper	A place to receive (and exchange) information
Peripheries	Community Radio as a gateway to knowledge and education	Communication enabler within the community	A place to receive ICT training (education)
	A place for children to learn	Journalists as public officer for the community	A place to devoted to entertainment (cinema)
	A place for staff to learn and to advance in their career	A place for staff to learn and to advance in their career	
	A place to receive ICT training (education)	Community Radio as a gateway to knowledge and education	

Finally, if looking at the three representations from a systemic perspective, we notice that “information” and “communication” are two terms that are present in the core of all three objects: CMCs, radios, and telecenters. This shows that the community recognizes the two components and the provision of information and communication services within CMCs. On the other hand, the term “community” did not form the core of any of the representation of the three objects at stake: in the case

of the radio, it is part of the first periphery, but for both the telecenter and the CMC it enters only the fourth periphery. This shows something already observed in other studies (Vannini, Rega, & Cantoni, 2013), which is that the communitarian component of the CMC is indeed the radio, virtually bringing together the whole community: during this field trip and in the previous one, it was almost impossible to track any member of the community who was not aware of and not listening to the community radio. The pervasiveness of the radio in the representation of the local residents is also shown by the anchoring mechanisms in this systemic representation: radio and telecenter forms the core of the CMC's representation, but while the term "radio" also shapes the core of the representation about telecenters, the contrary is not true: no trace of the term "telecenter" is present in the representation of the radio.

6. Conclusions

This study investigated how CMCs are perceived as a means for community empowerment by the local people they serve by using the theory of Social Representations (Moscovici 1961), using a structural approach (Abric 1994).

The exploration of CMCs' Social Representations by local communities prompts reflections and suggestions that could help policy makers, practitioners, funding agencies and other relevant stakeholders to improve Mozambican CMCs so as to foster their partial perceptions as community development tools.

Firstly, CMCs are community empowerment enablers thanks to their educational activities. A particularly clear representation of the CMC as an educational space emerged, which potentially constitutes a strong leverage of which policy makers and practitioners could take advantage. On the one hand, the

community radio component of CMCs is seen as a privileged and inclusive place (or even “the privileged place”) to circulate information from, to and within the community; this puts the radio in a very good place to continue and expand its mission of spreading any kind of relevant knowledge at the community level.

On the other hand, telecenters’ components of CMCs are seen only as places in which to learn how to use technologies. In terms of information sharing and education possibilities, telecenters are not perceived as inclusive places as much as community radios are, and the central nucleus of their representations, remarkably, does not contain any reference to community empowerment practices. CMCs’ stakeholders, then, could also work on turning the telecenter component into a place perceived as promoting community development, by leveraging two elements emerging from the analysis: (i) the shared representations of the radio component as an all-rounded educational place could be used to inform strategies aiming to enrich telecenters’ – and digital technologies’ – perceptions as learning spaces even beyond ICT-related classes; (ii) the perception of CMCs as places for entertainment and the fun factor related to technologies could be used to attract more people and show them the potential of ICTs.

Secondly, reflecting on the groups within the community that the CMCs want to reach and engage with might be beneficial. The analysis performed in this study showed that CMCs are perceived as places dedicated to children and youngsters. While this group is indeed essential for communities’ development and future, and reflecting on services and ways to engage and empower children and young people is certainly a priority, CMCs’ stakeholders could consider whether to invest in strategies aimed at widening the populations reached by CMCs and to make CMCs

as inclusive as possible, so as to promote the empowerment of the whole community.

References

- Abric, J. C. (1994). L'organisation interne des représentations sociales: système central et système périphérique. In *Structures et transformations des représentations sociales* (C. Guimelli, pp. 73–84). Neuchâtel: Delachaux et Niestlé.
- Avgerou, C., & Walsham, G. (2000). *Information Technology in Context: Studies from the Perspective of Developing Countries*. Ashgate Pub.
- Bailey, A. (2009). Issues affecting the social sustainability of telecentres in developing contexts: A field study of sixteen telecentres in Jamaica. *The Electronic Journal on Information Systems in Developing Countries*, 36(4), 1–18.
- Bailey, A., & Ngwenyama, O. (2011). The challenge of e-participation in the digital city: Exploring generational influences among community telecentre users. *Telematics and Informatics*, 28(3), 204–214.
- Bauer, M. W., & Gaskell, G. (1999). Towards a Paradigm for Research on Social Representations. *Journal for the Theory of Social Behaviour*, 29(2), 163–186.
- Billig, M. (1996). *Arguing and Thinking: A Rhetorical Approach to Social Psychology*. Cambridge University Press.
- Brunello, P. (2010). ICT for education projects: a look from behind the scenes. *Information Technology for Development*, 16(3), 232–239.

- Byford, J. (2002). Anchoring and objectifying “neocortical warfare”: Representation of a biological metaphor in serbian conspiracy literature. *Papers on Social Representations, 11*(3), 1–14.
- Camargo, B., & Wachelke, J. (2010). The study of social representation systems: relationships involving representations on aging, AIDS and the body. *Papers on Social Representations, 19*(21), 1–21.
- Contarello, A., Fortunati, L., & Sarrica, M. (2007). Social Thinking and the Mobile Phone: a Study of Social Change with the Diffusion of Mobile Phones, Using a Social Representations Framework. *Continuum, 21*(2), 149–163.
- Contarello, A., Nencini, A., & Sarrica, M. (2007). Sé Identità e Cultura. In B. M. Mazzara (Ed.), *Prospettive di psicologia culturale: modelli teorici e contesti d'azione* (1. ed). Roma: Carocci.
- Contarello, A., & Sarrica, M. (2007). ICTs, social thinking and subjective well-being – The internet and its representations in everyday life. *Computers in Human Behavior, 23*(2), 1016–1032. <https://doi.org/10.1016/j.chb.2005.08.013>
- Creech, H. (2006). *Evaluation of UNESCO's Community Multimedia Centres*. United Nations Organization for Education Science and Culture. Retrieved from http://portal.unesco.org/pv_obj_cache/pv_obj_id_BE7A0D92CAAF9399898BB8BE86A10234676C0500/filename/CMC+Evaluation_Final.pdf
- Durieux, D. (2003). *ICT and social inclusion in the everyday life of less abled people* (LENTIC). Liege, Belgium: University of Liege.

- Gómez, R., & Gould, E. (2010). The “cool factor” of public access to ICT: Users’ perceptions of trust in libraries, telecentres and cybercafés in developing countries. *Information Technology & People*, 23(3), 247–264.
- Heeks, R. (2002). i-development not e-development: special issue on ICTs and development. *Journal of International Development*, 14(1), 1–11.
- Heeks, R. (2003). *Most eGovernment-for-Development Projects Fail: How Can Risks be Reduced?* (Working Paper No. 14). School of Environment and Development - The University of Manchester. Retrieved from http://www.sed.manchester.ac.uk/idpm/research/publications/wp/igovernment/igov_wp14.htm
- Jovchelovitch, S. (2007). *Knowledge in Context: Representations, Community and Culture*. Routledge.
- Kleine, D., & Unwin, T. (2009). Technological Revolution, Evolution and New Dependencies: what’s new about ict4d? *Third World Quarterly*, 30(5), 1045–1067. <https://doi.org/10.1080/01436590902959339>
- Lee, J. C. (2007). *Empowerment, Access, and Rights: Introducing Information and Communication Technology to Women in Costa Rica, Mexico, and Nicaragua*. UMI.
- Markovà, I. (2003). *Dialogicality and Social Representations: The Dynamics of Mind*. Cambridge University Press.
- Mat Aji, Z., Mohd Yusof, S. A., Sheik Osman, W. R., & Yusop, N. I. (2010). A Conceptual Model for Psychological Empowerment of Telecentre Users. *Computer and Information Science*, 3(3). <https://doi.org/10.5539/cis.v3n3p71>

- Maury, C. (2007). *Social representations: a tool box* (Literature review No. 1) (pp. 1–15). Know&Pol - Knowledge and Policy in education and health sectors. Retrieved from <http://knowandpol.eu/IMG/pdf/lr.11.maury.pdf>
- MCT. (2008). *Programa Nacional de Centros Multimedia Comunitários, Ver 4.5*. Maputo, Mozambique: Ministerio das Ciências e Tecnologias de Moçambique.
- Moscovici, S. (1961). *La Psychanalyse, son image et son public*. Paris, France: Presses Universitaires de France - PUF.
- Moscovici, S. (2000). *Social Representations: Studies in Social Psychology*. (G. Duveen, Ed.). Polity Press.
- Pereira de Sá, C. (1996). *The central nucleus approach to social representations*. Retrieved from <http://www2.lse.ac.uk/methodologyInstitute/pdf/QualPapers/CELSO-Coreperiphery.pdf>.
- Perkins, D. D., & Zimmerman, M. A. (1995). Empowerment theory, research, and application. *American Journal of Community Psychology*, 23(5), 569–579.
- Rega, I. (2010a). Investigating Social Representations of Telecenters: Location does Matter. Presented at the IDIA2010.
- Rega, I. (2010b). *What do local people think about telecentres? A key issue for sustainability* (Doctoral dissertation). Università della Svizzera italiana - USI, Lugano, Switzerland. Retrieved from <http://amala.rero.ch/record/17990?ln=de>
- Rega, I., Vannini, S., Fino, E., & Cantoni, L. (2013). Exploring the Meanings of Community Multimedia Centers in Mozambique: A Social Representation

- Perspective. *Information Technologies & International Development*, 9(4), pp. 35–54.
- Sarrica, M. (2011). ICTs Meanings and Practices: Contributions from the Social Representation Approach. *The Journal of Community Informatics*, 6(3), 1–10.
- Sensales, G. (1990). *L'informatica nella stampa italiana: le comunicazioni di massa nel processo psico-sociale delle rappresentazioni*. F. Angeli.
- Tedre, M., Sutinen, E., Kähkönen, E., & Kommers, P. (2006). Ethnocomputing: ICT in cultural and social context. *Communications of the ACM*, 49(1), 126–130.
- UNESCO. (2004). *Scale up Initiative for Community Multimedia Centres in Mozambique* (UNESCO document). United Nations Organization for Education Science and Culture. Retrieved from http://portal.unesco.org/ci/en/ev.php-URL_ID=17568&URL_DO=DO_TOPIC&URL_SECTION=201.html
- Unwin, T. (Ed.). (2009). *ICT4D: Information and Communication Technology for Development* (1st ed.). Cambridge, UK: Cambridge University Press.
- Vannini, S. (2014). *Social Representations of Community Multimedia Centres in Mozambique* (Doctoral dissertation). Università della Svizzera italiana - USI, Lugano, Switzerland. Retrieved from <http://doc.rero.ch/record/210253?ln=en>
- Vannini, S., Rega, I., & Cantoni, L. (2013). Information and Communication Flows through Community Multimedia Centers: Perspectives from Mozambican Communities. *Information Technology for Development*, 0(0), 1–14.
- Vannini, S., Rega, I., Cantoni, L., & Aguirre, L. (2012). *Photo-elicited perceptions of Community Multimedia Centres in Mozambique*. (White Paper No. 1.0). Lugano, Switzerland: NewMinE Lab. - USI. Retrieved from

<http://www.newmine.org/publications-2/working-papers/white-paper-photo-elicited-perceptions-of-community-multimedia-centres-in-mozambique>

Vergès, P. (1992). L'évocation de l'argent: une méthode pour la définition du noyau central d'une représentation. *Bulletin de Psychologie*, *XLV*(405), 203–209.

Vergès, P., Junique, C., Barbry, W., Scano, S., & Zeliger, R. (2002). Ensembles de programmes permettant l'analyse de similitude de questionnaires et de données numériques. *Aix En Provence: Université Aix En Provence (Manual)*.

Voelklein, C., & Howarth, C. (2005). A review of controversies about social representations theory: a British debate. *Culture and Psychology*, *11*(4), 431–454.

Wilson, T. (1996). *The Empowerment Manual*. Aldershot, England ; Brookfield, Vt., USA: Gower Publishing Ltd.

WSIS. (2003). *Declaration of Principles: Building the Information Society: a global challenge in the new Millennium*. Geneva: World Summit of the Information Society (WSIS). Retrieved from <http://www.itu.int/wsis/docs/geneva/official/dop.html>

Zimmerman, M. A. (2000). Empowerment Theory. In J. Rappaport & E. Seidman (Eds.), *Handbook of Community Psychology* (pp. 43–63). Springer US. Retrieved from http://link.springer.com/chapter/10.1007/978-1-4615-4193-6_2