Social Representations of Multimedia Community Centers (CMC) in Mozambique

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Abstract

This article presents an extensive research conducted on ten Community Multimedia Centers (CMC) in Mozambique, aimed at understanding different perspectives on them by Staff members and Users. By applying the Social Representations theory, social meanings attached to the CMC, and its individual components (Telecentre and Community Radio) have been investigated, unveiling that only a few of them are shared within or among individual stakeholders' groups. Such analysis has been done through personal semi-structured interviews, and further supported and expanded thanks to photo-elicited interviews, which enable researchers to "see" elements otherwise not accessible to them. The presented research is of interest not only for its theoretical value, but also for the contribution it provides to CMC managers and policy makers, as well as to the ICT4D methodologies' toolbox.

Keywords: Social Representations, Community Multimedia Center (CMC), Telecentre, Community radio

Introduction

Information and Communication Technologies (ICT), defined in this article as computer-related technologies (hardware, software and applications, internet) and mobile technologies, are currently being used worldwide. In some cases they
have reached remote areas and are bringing local benefits in developing countries, such as, for instance, facilities to communicate with other family members, easy business processes in the "informal sector" (Macueve et al., 2009), access to money through M-PESA - mobile banking service in Kenya (DANIDA, 2012), closer access to Government services (DANIDA, 2012; World Bank, 2011) through e-government.

Due to the belief that ICT can bring these and other benefits, governments in developing countries including Mozambique are implementing ICT projects and initiatives. The rapid penetration of ICT in the population is inevitable and requires commitment on the governments' side to include ICT in their agenda, so that benefits for country's development are met, and ICT implementation is smooth.

The government of Mozambique recognizes the contribution that ICT can bring to the country's development, therefore, the five years' Government Program 2010-2014 has reserved specific space for ICT activities. As part of government commitment to ICT, on one side there are normative documents enacted to support ICT implementation, such as ICT Policy (approved in 2000), Public Sector Reform (approved in 2001), ICT Policy Strategy (approved in 2002), Science, Technology and Innovation Strategy (approved in 2006), e-Government Strategy (approved in 2004), government interoperability framework (approved in 2009), ICT Plan for schools developed by the Ministry of Education and approved in 2012. On the other side, a set of ICT projects and initiatives are being implemented. These projects are informed by the above mentioned documents. To name just a few projects and initiatives taking place in the country, we can mention the government network that aims to link physically all the government institution in the same network and manage local data traffic, the extension of the physical internet network to provide access to the internet to schools and health units, the training in ICT for different people: parliamentarians, kids, teachers in order to reach a critical mass in ICT in the country, the implementation of e-government applications (civil identification system, state management financial
system, land management information system), the creation of the Mozambique Research Network for Research and High Education Research institutions, and the Community Multimedia Centers (CMC), which are the very topic of this article.

CMCs are public places that offer access to ICT, related services, and radio community broadcasting (UNESCO, 2004). Initially, when established the first time in Mozambique, back in 1999, they were named telecentre. Since 2004, with the incorporation of community radio component, the telecentre concept in Mozambique has had an evolution to CMC, while UNESCO has brought this new concept in 2001. Within the Government endeavor to bring ICT closer to the community, in 2009, the CMC project turned into a government program run by the Ministry of Science and Technology. This program aims at establishing at least a CMC per district (128 districts in total), and 45 in the period from 2009 to 2014. Currently (2013), there are 42 CMC around the country, in which 11 were built under government program. The implementation of CMCs and the respective program has been supported by government funds, World Bank, local governments, and STIFIMO (Science, Technology and Innovation program between Finland and Mozambique), so that several actors interplay in the CMC program, mainly in top down perspective.

Although the objectives of these actors seem to be directed to the same end, that is, the use of CMC to contribute to the country’s development, we believe that each of them carry on their own interpretation and attribute their own meaning and representation of what a CMC is, and should be. This situation can be extended also to the current and potential beneficiaries of CMCs. Thus, we would like to know what are the social representations that different CMC stakeholders and local people have, and identify aligned or conflicting representations that may impact the goal of CMCs.

In order to achieve these objectives, an interpretative paradigm has been adopted (Whalsham 2006, Orlikowiski & Baroudi, 1991). The research design is a multiple cases study (Yin, 2002), covering 10 CMCs, one per each Mozambican
province. Semi-structured interviews (241), questionnaires (328), observations, pictures (361), and focus groups with community stakeholders have been used to get insights about stakeholders’ representations of CMC, and the context in which they have been implemented. The study is longitudinal (Sahay & Walsham, 1995), and is run within a three years research project – RE-ACT: Social REpresentations of Community Multimedia Centres in Mozambique and ACTions for Improvement. Data analysis has been both qualitative and quantitative; the software NVivo (ver. 9.2) has been used to analyze data, supported also by a manual analysis on interview transcriptions aimed to identify thematic areas and recurrent topics and let the data “talk” (Krippendorff, 2003).

The lens to understand and explain findings is the social representations theory, and its related concepts (Moscovici, 1961; Farr & Moscovici, 1984; Marková, 2010). Social Representations are defined as a stock of values, ideas, beliefs, and practices that are shared among the members of groups and communities (Moscovici, 1976).

While Social Representations theory is commonly used in social sciences, only few scholars so far have applied it to explain ICT phenomena, e.g. the relationship between gender and ICT (Gloria Bonder 2007); gender in the teaching of mathematics with multimedia devices (Muñoz and Legovich); media and communication (Birgitta Höijer 2011); information systems (Gal and Berente 2008); ICT meanings and practices (Sarrica, 2011), but, except Rega’s study (Rega, 2010), not many publications have been found applying this approach to the ICT4D (ICT for Development) field.

This article is organized as follows: first, a literature review is offered, covering the theoretical framework of social representations, as well as a strategy – applied by this research – to elicit social representations through photos. A second section presents the research methodology applied in this study, for both data collection and analysis. A third section presents the results of interviews, regarding alignments and misalignments in the conceptualizations of CMCs. A fourth section discusses the results, and provides some concluding remarks.
Literature Review

The following paragraphs present the Social Representations construct, which is the theoretical approach used in this study, and the methodological contribution that the project gave to the theory and the field of research: photo-elicitation.

A brief introduction to Social Representations

The theory of Social Representations investigates how people interpret their world to make it meaningful in their everyday lives. The underlying assumption of the theory is that interpreting the world is a social process that takes place through interpersonal communication, by shaping the values, ideas and practices of a given social group (Breakwell, 1993; Duveen & Lloyd, 1993; Moscovici, 1976).

Within the framework of this theory “an object is social not by virtue of some immanent characteristics, but by virtue of the way people relate to it. In talk people attribute features and meanings to an object which make this object a part of their group’s social world. In the same vein, people’s actions are often concerted and coordinated by bearing on shared conceptions of the world. The view which group members maintain about a social object is specific for the group and, hence, also the object itself takes on group specific social characteristics. Talk and overt actions provide the frame of description within which the relationship between objects and subjects is defined.” (Wagner et al, 1999, p.96).

Social Representations exist because people need to share their thoughts, beliefs, feelings, etc. with other people in the same community of reference at a given place and in a given moment in time (Emler and Ohana, 1993).

Social Representations have been investigated by using qualitative and quantitative methods, both in the field and in experimental settings (Breakwell, 1993); Moscovici himself claims that social representations are a theoretical concept that should not be tied to any particular empirical methodology.
(Duveen & Lloyd, 1993). So far, the data collection methods most commonly used in Social Representations have been: field observations to study behavioral habits; questionnaires, free associations of words, and interviews to explore individual cognition; group interviews to investigate informal communication; and documents or mass media content analysis to investigate formal communication. Nevertheless, the authors are not aware of any Social Representation study which used auto-driven photo-elicitation: the following paragraph is dedicated to understand the potential of the method for the study of shared meanings, especially in the field of ICT4D.

**Photo-elicitation**

Photo-elicitation is an interview technique used in social and ethnographic research, which is based on the idea of inserting a photo (a photograph or another kind of image) into a research interview (Harper, 2002). It can be defined as a supporting method, i.e., photos are used as a further evidence to answer a given research question (Rose, 2007). Generally associated with Collier’s research on preliterate Navajo indigenous in New Mexico (Collier, 1967), photo-elicitation is recognized to achieve results that methods relying only on oral and written data are not able to, by generating wider and different insights into given phenomena, encouraging talks and stimulating memories.

Photo-elicitation can be performed by using different approaches, depending on whether photos are taken (or chosen) by the researcher and showed to the interviewees, or they are taken by the interviewees themselves. In both cases, photo-elicitation is believed to prompt reflection, carry information, stimulate affective reactions by people (Collier, 1967; Rose, 2007), and to constitute a useful tool to triangulate between different information sources (Bignante, 2010).

For the purpose of this research, interviewers chose to let participants take their own photos and comment on them. This approach is called in different ways in the literature: Elisa Bignante (2010), in her study on the use of natural
resources in a Maasai village in northern Tanzania, calls it “native image making technique”. She stresses that images are able to involve more actively and consciously interviewees in the research, by stimulating and empowering their ability to express themselves, and to challenge researchers’ mindsets to seek specific pre-conceived replies. She concludes that the technique not only offers new viewpoints and opportunities to the researcher, but it provides additional validity and depth to other more conventional research methods. In ethnography, the approach is normally defined as “autodriven” (Clark-Ibáñez, 2004; Samuels, 2004) or “participant-driven” photo-elicitation (Rose, 2007). In applying it to an ethnographic study among school children in California, Marisol Clark-Ibáñez argues that photos can ease the relationship between researchers and interviewees, and are able to shed light on data previously invisible to the researcher. She also reckons photo-elicitation as a good methodology to use whenever dynamics of power can intrude into data collection: this seems to be particularly interesting for our case, as local communities do often perceive researchers as potential donors, and tend to please them in order to obtain further funding and material (Dodman, 2003). Samuel (2004) also states it is a good approach to bridge two culturally distinct worlds: the one of the western researcher, and the one of the non-western interviewees (in his case, Sri Lankan Buddhist monks).

The advantages of the use of photo-elicitation in the ICT4D field, where it is still quite underexplored, seem to be many. Miles and Kaplan (2005) suggest that the method can be useful to foster reflection in action-research studies, in particular in the ones that take place in oral cultures, where the mediation of written text can inhibit research participants. In their study aimed to improve access to education in Zambia and Tanzania, they reported how “image-based reflection was one the most promising methods” (p.82) to help participants to reflect on their experience. Another important element that makes this method interesting for the field has been highlighted by Dodman in a study on the relation between young people and their urban environment in Kingston, Jamaica (Dodman 2003). Together with other authors (Dodman, 2003; Young & Barrett,
2001), he claims photo-elicitation, and in particularly participant-driven photo-elicitation, to be an important instrument to increase empowerment, and to decrease the risk of getting pre-expected answers, quite a major risk when dealing with children and teenagers, or in donor-recipient relationships.

Methodology

Sample Selection

For the research sample, 10 CMC were selected, one per province (excluding Maputo City). In the choice of the CMC, the following factors were crossed: location (rural/urban area), ownership (associative, private, public or community), functioning (if operates up to the begining of this study) and year of installation. Based on these criteria it was constituted a sample with the CMC of Ilha de Moçambique/Nampula, Cuamba/Niassa, Chiúre/Cabo Delgado, Quelimane/Zambezia, Chitima/Tete, Dondo/Sofala, Sussundenga/Manica, Morrumbene/Inhambane, Chókwe/Gaza, and Xinavane/Maputo.

Data Collection

During March and April 2011, the research team undertook three different field trips: one to the Southern provinces of the country (Inhambane, Gaza, and Maputo), one to the Central provinces (Tete, Manica, Sofala and Zambezia), and one to the Northern provinces (Cabo Delgado, Nampula, and Niassa). The first field trip was undertaken by four members of the team: two senior researchers and two PhD students, the aim of this first field trip was to assure that all the team members would conduct the interviews in an harmonized way, and to fine tune the interview protocol. The other two were undertaken by couples of researchers: one senior and one PhD student.

During the field work, 230 semi-structured interviews have been collected, divided as follow:

- 57 Staff members of the CMCs: individuals from the community
who were working (as employees or volunteers) at the CMC.

- 93 CMC full users (hereafter, U-CMC): people using both components of the CMC (Telecentre and Community Radio).
- 72 Radio-only users (hereafter, U-RC): individuals who listened and interacted with the radio, but never used the Telecentre component.
- 8 Non-users: people in the community who never listened to the radio nor accessed the Telecentre.

It is important to notice that – even if in theory possible – the category of people using only the Telecentre component of CMC does not exist: those using this component do always use also the Radio.

Different interview protocols, corresponding to different interviewees’ categories, have been prepared and validated by the research team, by following a semi-structured interview approach (Harcourt, 2006). The interview protocols were intended to investigate values, ideas and practices (Moscovici, 1976) that interviewees attribute to CMCs. Interviews were structured into four main parts, as explained in Table 1

<table>
<thead>
<tr>
<th>About the interviewee</th>
<th>Demographics</th>
</tr>
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<tbody>
<tr>
<td>Interviewee experience in the CMC</td>
<td></td>
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<tr>
<td>Interviewee exposure to media and ICTs</td>
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<tr>
<th>CMC identity</th>
<th>CMC history, structures, and goals</th>
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<tr>
<td>Benchmark, models, rites and future plans of the CMC</td>
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<tr>
<td>Services offered by the CMC</td>
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<table>
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<tr>
<th>Community and the CMC</th>
<th>The CMC and the Community</th>
</tr>
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<tbody>
<tr>
<td>People working at the venue</td>
<td></td>
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<tr>
<td>People visiting the venue</td>
<td></td>
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</tbody>
</table>

| Perception | Perception of the CMC and ICTs |
Interviews lasted from a minimum of seven minutes to a maximum of two hours, depending on the typology of interviewee; overall, 109 hours and 19 minutes of recorded interviews have been recorded, each interview has been transcribed and coded.

The interview protocols for Staff members and U-CMC included a beginning part dedicated to photo-elicitation. In this part, participants were asked to take two photos, then to explain what they portrayed and why. The first photo they were asked to take had to portray what they liked of the venue ("Take a photo of what you like about this place"), while the second one had to capture what they did not like or could be improved ("We are also interested in shortcomings and downsides of this place. Take a photo of what you don't like of this place, or about something that can be improved here").

Participants were given a digital compact camera and told they would have had to come back after each photo and explain what they wanted to capture and why. When they came back, they were asked to show their photo to the interviewer (through the camera screen), who asked both what the photo represented and the reasons why the interviewee had portrayed that particular subject.

Each interviewee was given approximately 2 to 3 minutes to take each photo, which had the following methodological implications: first, interviewees had to make a quick decision on the subject they wanted to portray; second, they could not choose exactly in which moment of the day/week take their photo (e.g.: they could not choose whether to portray the radio production studio with a particular journalist, or the telecentre while there was a computer course happening). Interviewees' explanations of their photos were digitally recorded, and subsequently transcribed and coded. Photos were collected and named according, on the one hand, to the name and number of the interview they refer to, which itself indicates place, interviewee typology and number of the interview (i.e., "Cua_Staff02" stands for Cuamba CMC, Staff member number 2), and, on the other hand, with a code indicating if the photo referred to what a person liked (01) or to what she did not like (02).
In total, 194 photos have been collected from 102 interviewees, 95 of which were taken by Staff members and 99 by Users. 48 Staff members and 54 Users participated in the photo-elicitation part of the interviews, taking a total of 101 photos about what they liked of the venue (hereafter, “photo 01”), and 93 photos about what they did not like (hereafter, “photo 02”).

**Data Analysis Methods**

To analyze the interviews, a qualitative content analysis approach has been chosen, with a first bottom-up phase leading to a preliminary explorative analysis done by using paper and pencil on a small number of interviews. This explorative analysis aimed to identify thematic areas and recurrent topics. At this point, a first formalization of the interpretative model was drawn. To manage such large body of data, and to perform further analyses, a qualitative content analysis software (NVivo, version 9.2) was used. A second phase of analysis included a top-down approach, moving from the first formalization of the interpretative model built. During the coding process, the interpretative model has been continuously refined, in a constant shift between a top-down and a bottom-up approach meant to let the data “talk”.

The final result of this coding process is an interpretative model structured in eighteen different macro-themes, each of which divided into sub-themes. While two of the macro-themes refer to people, the remaining sixteen ones inform the complex social representation system attached to CMCs in Mozambique, by depicting interviewees’ values, ideas and practices regarding them. The structure of the model is presented in Table 2.
Table 2 – CMCs interpretative model based on content analysis

<table>
<thead>
<tr>
<th>Values</th>
<th>Ideas</th>
<th>Practices</th>
<th>People</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefits of the Telecentre</td>
<td>Definitions of CMC, Community Radio, Telecentre, computers, Internet</td>
<td>Community involvement/support in the CMC</td>
<td>Interviewee media exposure</td>
</tr>
<tr>
<td>Benefits of the Community Radio</td>
<td>Improvements needed in/ challenges for the CMC</td>
<td>Promotion of CMC</td>
<td>Staff Training</td>
</tr>
<tr>
<td>Benefits of ICTs</td>
<td>Local denomination of CMC</td>
<td>Synergies the CMC is able to create</td>
<td></td>
</tr>
<tr>
<td>Motivation to work in CMC</td>
<td>Services of the Telecentre</td>
<td>Usages of the Community Radio</td>
<td></td>
</tr>
<tr>
<td>Motivation to use the Telecentre</td>
<td>Services of the Telecentre</td>
<td>Usages of the Telecentre</td>
<td></td>
</tr>
<tr>
<td>Motivation to use the Community Radio</td>
<td>Services working properly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reasons not to use the Telecentre</td>
<td>Services working properly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reasons not to use the Community Radio</td>
<td>Services working properly</td>
<td></td>
<td></td>
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</tbody>
</table>

For the aim of this article, only the macro-themes Benefits of the Telecentre, Benefits of the Community Radio, Motivation to use the Telecentre, Reasons not to use the Telecentre, Services of the Telecentre, Services of the Community Radio, and Community involvement/support to the CMC have been taken into consideration.

As regards the part related to photo-elicitation, a content analysis was performed on both the photos as well as on the transcribed interviews about them. The analysis was twofold. On the one hand, a triple top-down categorization (Community Radio, Telecentre, and Community Multimedia Centre) was used on the photos themselves, based only on what images portrayed. Thanks to this analysis, researchers wanted to shed light on which component of CMCs
was mostly represented for each question and by each interviewee typology. Photos, which represented radio locations, tools, or signs were categorized as "Community Radio"; photos representing telecentre locations, technologies or signs as "Telecentre". All the photos that were taken outside the CMC building or in common spaces between the radio and the telecentre, and the ones that showed technologies that belong, potentially, to both components (e.g.: the TV) were classified as "CMC".

On the other hand, interviews' transcriptions (related to photos) were coded and analyzed according to an Interpretational Framework that derives from Cantoni & Tardini (2006). The framework, called WCM (Website Communication Model), is mainly used in the field of web design, and was adapted by Rega (2010) to interpret telecentres. According to this adapted model, telecentres are composed by four pillars, two ones regarding people, and two ones regarding objects and physical infrastructures. The same way, the framework is considered suitable to describe CMCs, and is useful to respond to the necessity of an "integrated approach" based on a supply and demand model, according to which a telecentre depends not only on the technologies it owns, but also on the services and facilities that is capable to offer, and on the demand of its publics (Townsend et al., 2001). The four pillars included in the framework are:

- **Pillar 1: Services.** This pillar was assigned whenever the interviewees stressed the services offered by the CMC: "In our centre we have only the photocopy machine, and I would like to improve it so to have all the activities of a full telecentre" (Ilha_Staff05_02);

- **Pillar 2: Facilities & Tools.** This pillar was assigned when the focus of the explanation was rather on the technological object itself: "This [photocopy] machine stopped working two weeks ago, and it is not working well. According to the technicians, we have to change some pieces" (Chiu_Staff01_02);

- **Pillar 3: People managing the CMC.** This pillar was assigned when interviewees focused on the members of the Staff and their activities or when Staff members stressed their own roles: "I came to learn computers, this is what is important, and they are teaching us very well" (Cho_User07_01);
• Pillar 4: People using the venue. This pillar was assigned when the stress was on the users or the community in general: "It represents the study centre in the community radio of Chiure. It is where young people learn information technologies [...]... furthermore, they have other activities of interest for the young people and for the community in general" (Chiu_User02_01).

Each transcription (and, consequently, photo) was therefore associated to one pillar. In 27 cases, however, interviewees did further articulate their thoughts, and developed a more complex argumentation about their photo, so researchers had to assign it to two pillars).

Perceptions of Mozambican Community Multimedia Centres

Demographics of the sample

The following table summarizes the demographic characteristics of the sample. In general, the sample presents more males than females in all interviewees' categories, with a stronger difference within the staff. Regarding age, all categories present a majority of interviewees 20-29 years old, U-CMC are younger than all other categories, with 38.7% of people between 10 and 19 years old. Finally, Staff members are the more educated category, while U-RChave the lower instruction levels.
Table 3 — Demographics of the sample

<table>
<thead>
<tr>
<th></th>
<th>Sex</th>
<th>Age</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>10-19</td>
</tr>
<tr>
<td>Staff members</td>
<td>72.2%</td>
<td>27.8%</td>
<td>11.1%</td>
</tr>
<tr>
<td>Users whole CMC</td>
<td>60.6%</td>
<td>39.4%</td>
<td>38.7%</td>
</tr>
<tr>
<td>Users Radio only</td>
<td>63.4%</td>
<td>36.6%</td>
<td>42.8%</td>
</tr>
</tbody>
</table>

**Conceptualizing CMCs**

In the following paragraphs results of the interviews are presented; only themes cited by at least 25% within a category are taken into consideration, as this has been considered the minimum level of sharing within each category in order to consider a theme as social representation of that category. Based on the Social Representation theory, we considered a theme shared among different interviewees’ categories, instead, when the difference in percentage among the different categories is not more than 25%.

In general, not many themes present a very high level of sharing even within a single category, only in two cases a theme was cited by more than 70% of the interviewees of that category (which can be considered a high level of sharing), while in all other cases results may reach a maximum of 50% (which can be considered a quite low level).

**Telecentre and Radio Benefits**

The most shared theme among all categories refers to *learning* when speaking of the telecentre component. According to Staff members, the benefits of the
telecentre component are predominantly economic, such as shorten the distance to get a photocopy or to digitize a document, and the possibility to have access to ICT; these two themes, however, are not shared by the other categories of interviewees.

All categories referred to access to information as a benefit offered by the Community Radio. Staff members mentioned also participation, economic benefits, such as the possibility for merchants to advertise their services and products, and learning, viewing the radio as an informal learning mean.

Graphic 1: Benefícios das Rádios Comunitárias

Graphic 2: Benefícios dos Telecentros
Motivations to use or not to use the telecentre component

Considering the reasons why to use telecentres, both Staff members and Users of the whole CMC agree on the fact that it is because of their services. Some interviewees mentioned that telecentres are the only place in the community where a given service, such as the possibility of digitize documents or attending a digital literacy course, can be accessed:

"Era de forma aí que porque eu nunca tive acesso e eu gosto de escrever poemas, contos, mas não tenho acesso, não tenho patrocínio de ninguém, [...], mas o refúgio foi a rádio comunitária e com o telecentro posso gastar um pouco de dinheiro mas ter aquilo." (Chiure, User3)

"Primeiramente decidi mais pelo curso de informática, era o único sítio que havia curso de informática."(Ilha, User5)

Others mentioned the quality of services, which is higher if compared with other places offering the same products and services:

"E o único lugar que eu confio para tirar fotocopia. [...] Outros lugares, epa não saí bem." (Ilha, User4)

"O centro luta para ser um centro de qualidade. Há uma boa prestação de serviços." (Xinavane, Staff3)

"Ali só se dá 4 pacotes, aqui não. Aqui se dá 5 pacotes. Então eu vim fazer aqui porque são 5 pacotes." (Chokwe, User3)

"Exemplo na minha escola eu tenho aulas de informática, sim mas lá temos mais teoria prática de vez em quando nem sempre estamos na prática assim para ser mais atual no computador a pessoa tem que tirar o curso a que na Multimédia CMC." (Mostrumbene, Non-user2)

Finally, Staff members also considered that the promotion strategy of CMCs has been valued by the population:

"Vem para aqui por ser um local público conhecido da comunidade, ao qual as pessoas se habituaram, tirar cópias, fazer uso do telecentro, imprimir documentos."(Sussundenga, Staff2)

"Ao mesmo tempo que nós prestamos um serviço nós queremos que aquela pessoa possa voltar, e para poder voltar nós temos que informar dos demais serviços que também são
However, services, together with economic reasons, are also one of the two main declared reasons for not to use them. In fact, interviewees mentioned the fact that services are not working properly, or that services which could satisfy information and communication needs of the community, are not present in the telecentres:

"Agora é difícil porque temos problemas de reprografia, não esta a funcionar [...] E aparecem talvez duas, três ou quatro pessoas para digitar e meter no flash, mas já não aparece muita gente porque a pessoa digitava e imprimia, agora sem aquela parte de reprografia fica complicado, a pessoa só pode digitar" (Morrumbene, Staff3)

"Aquilo é um centro multimédia, aquilo podia ter também serviço de fax, internet faz parte e fax também. A gente quando quer receber um fax aqui, somos obrigados a ir pedir aí na solidar mi dizer que queremos receber fax, mas temos um centro multimédia que é aquele, então é essencial que ponham serviços de internet e serviços de fax" (Chiure, User4)

"O meu objectivo eu lá não alcançai porque o meu objectivo era de fazer algumas pesquisas na internet mais quando lá cheguei disseram me que o sistema estava avariado então pronto eu fiquei assim já nada mais podia fazer." (Morrumbene, Non-user3)

Furthermore, some interviewees do not use the telecentre because they have access to the same services offered by the telecentre somewhere else:

"Porque tenho facilidades no meu escritório tenho netmóvel tenho internet assim da TDM, então fica difícil lá vão as pessoas mais necessidades nem não vem onde ir então podem ir a rádio." (Cuamba, Non-user3)

"Porque o meu serviço também tem máquina de cópias." (Ilha, Non-user2)

Finally, some people stressed that the services offered by the telecentres are not for them, since they consider their level of education too low to be able to profit from such services and technologies:

"O problema ela disse que não estudei então o que é que eu vou fazer lá." (Chiure, Non-user5)

"Eu gosto quando sobesse eu sabia falar bem portugues ia, mas enquanto não sabe falar portugues não estudei é isso mais para aquele que vai para ali para mim gosta." (Ilha, Non-user7)
Telecentre and Radio Services

Regarding telecentres, digital literacy courses are the only shared reference to services among Staff members and Users of the whole CMC. Photocopies are the most mentioned service by Staff members, the second most cited by U-CMC, and the third by U-RC. Staff members do also mention access to the internet, digitizing texts, access to computers, and printing services, while U-RC mention in the second position access to computers. However, the only shared service remains learning.

Regarding the Community Radio, the only shared service mentioned is news. Second and third services in the rank are dedicatoiras e anuncios, and programassobrededucacao, however, these two last services are not shared among the groups. Staff members also mention publicidades, and programas de agricultura.

Graphic 3: Serviços da Rádio Comunitária

<table>
<thead>
<tr>
<th>Serviços da Rádio Comunitária</th>
<th>• Funcionários</th>
<th>• Usuarios do CMC (RC+TC)</th>
<th>• Usuarios da Radio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dedicatoiras e Anuncios</td>
<td>55.6%</td>
<td>20.2%</td>
<td>26.2%</td>
</tr>
<tr>
<td>Noticias</td>
<td>40.7%</td>
<td>36.2%</td>
<td>35.5%</td>
</tr>
<tr>
<td>Publicidades</td>
<td>35.2%</td>
<td>29.6%</td>
<td>9.9%</td>
</tr>
<tr>
<td>Programa sobre Educação</td>
<td>29.6%</td>
<td>4.3%</td>
<td>9.9%</td>
</tr>
<tr>
<td>Programa sobre Agricultura</td>
<td>27.9%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>
Elements to be improved

The two most frequently mentioned elements to be improved in the telecentres are related to their services and technologies. When referring to services, people mentioned things that are not functioning properly, such as the internet connection, or an outdated digital library, or services that should be improved or added, such as the need for more digital literacy courses, courses non only related to digital skills (e.g. language courses), or fax services. Also when referring to technologies, interviewees differentiated between things that do not work properly, usually computers, and the need to increase the number or the palette of technologies, such as having more computers or further devices, for example, printers or photo-cameras.

The same goes for the Community Radio. As regards services, people mentioned the need of enlarging the program choice, increasing programs for children and young people, broadcasting more hours in local languages, or involving local musicians or local institutions in the creation of radio programs. Among others, they also stated the need of bettering the accuracy and objectivity of transmitted information, the need of broadcasting for free social announcement, and to notify the audience in case of changes in the radio program schedule. Taking
into consideration technologies, interviewees stated the desire of having more equipment, such as an antenna able to broadcast farer, audio and video recorders to enhance the programs of the radio, a better internet connection, and faster computers. When considering technologies not working properly, interviewees mentioned the computer and the antenna of the radio, and audio recorders.

However, in the case of the Community Radio, only Staff members are concerned with technology, while U-CMC and U-RC only focus on services.

**Community involvement**

When talking about how the community is involved in the activities of the CMC, all interviewees focus on aspects related to the community radio, without mentioning the telecentre. Let us investigate more in depth how people think that the radio involves the community, focusing on themes going beyond the mere listening activity. First of all, the community interacts with the radio in a variety of ways, such as calling to intervene in programs, participating as guest speakers, suggesting news and events happening in the community, proposing new radio programs, giving feedbacks on existing ones, and presenting local music:

"Participam ligando porque nos abrimos linhas sim de correspondências os ouvintes ligam para nos enquanto no estamos num dado programa, ou nos passamos um convite a eles nos dissemos que este semana vamos tratar do tema X vimos que o alvo é você gostaríamos que você falasse lá fora para as pessoas entenderem, as pessoas participam." (Chiure, Staff1)

"Participam dando contribuições em ideias, outro tem ido lá contribuir em ideias a minha maneira de ver de participar e essa." (Chitima, Non-User9)

"Na rádio eu fui lá uma vez porque sou um DJ, me convidaram um dia para ir lá foram me fazer entrevistas apresentar um pouco dos meus trabalhos." (Morumbene, Non-user10)

Furthermore, the community contributes to the sustainability of the radio, paying in order to broadcast ads and announcements, sponsoring programs, or through donations:
"Se você for a rádio publicitar o seu negócio [...] e temos alguns que até pagam um valor ficam 30 minutos a falarem o que vendem." (Chitima, Staff)
"Só a comunidade pelo que eu acho mesmo só pelas dedicatórias eles participam, enviam mensagens pela rádio e muito mais." (Ilha, Non-user10)
"Participa mesmo nos nos o nosso bairro a vezes que somos pedido uma contribuição um valor simbólico para pelo menos a rádio poder continuar a funcionar." (Cuamba, Non-User1)

**Picturing CMC**

In the following paragraphs, results of the analysis of both photos taken by the interviewees, and interviews related to the pictures are presented. Results are presented according to what people appreciated (photo1) and what they did not like or wanted to improve in the venue (photo2).

**Photo 1: what they like**

First of all, content analysis has highlighted that the Community Radio component is the most portrayed one by Staff members when speaking about something they like. The result is in contrast with the aggregated one, and with what was portrayed by U-CMC. As mentioned before, if the findings about U-CMC are not striking, since in most cases they have been interviewed while they were using the telecentres, the fact that Staff members pictured mostly the Community Radio is surprising: Staff members work or volunteer in both components of the CMC, nevertheless, apparently they value the most its Rural Radio component.

Both groups – Staff members and Users – represented themselves in the first place: Staff members portrayed U-CMC only in the third place, thus revealing the limited importance they attribute to them in their representation of the CMC; the same (and opposite) happens in the representations of U-CMC, who portrayed Staff only as their last WCM pillar.

Figure 1 sums up the results related to what people, divided by typology of
interviewees, like in the CMC, including both the content analysis on the photos as well as the related interviews. Only those results that are shared by at least 10% of the group are displayed in the picture.

Figure 1. Photo 1 – Sum up of the results by typology

Note: The first icon in the first box represents the telecentre of the CMC, the second one represents the radio component

Photo 2: what they do not like

Photo 2 makes the selected social groups agree in their representations. When thinking about something related to what they don’t like, or something they would change in the CMC, both Staff members and U-CMC focused their attention first of all on the whole CMC, and then on the Telecentre component. Only few of them considered portraying something related to the Community Radio, which appears to be the part of the CMC that works better. No differences are noted in the order of importance (by frequency) of the aggregated results versus those split by gender and interviewee typology. The same way, when explaining their photos, both Staff members and U-CMC agree on speaking mostly on the second Pillar of the WCM (Facilities and Technologies). In both analyses, U-CMC appear to be more extreme in their positions.
As the absolute majority of the interviewees portrayed something related to the second Pillar, it seemed worth discovering whether they had a particular focus on facilities or technologies, or if the results were evenly distributed. Surprisingly, the majority of the interviewees were focused on the Facilities of the location, and, again, this showed to be particularly true for U-CMC, while Staff members were more worried about missing or not working technologies.

The results of this photo seem particularly interesting: here one can witness a case in which the photo-elicitation methodology was able to grab different insights on the studied phenomenon: the importance of the facilities of the CMCs is something that ICT researchers and policy makers may often underestimate or take for granted. Without asking to take this particular picture, the interview protocol would have been focused on other aspects of the place (like, for example, the technologies in use) and we would not have had any data on the importance of the facilities for the communities.

At the same time, it is quite surprising to notice that very few people considered talking about technologies, and that, among them, almost only Staff members did so. This might depend on the fact that Staff members are more worried by the malfunctioning of their machines, as this affects directly the economical sustainability of the CMC. However, it is curious how U-CMC do not seem to be worried at all about it. One reason for this is, probably, that U-CMC do not have any other way to access ICTs except the telecentre of the CMC, so they do not have many ways to compare the CMC with competitors.

One last remark regards the fact that Pillar 1 (Services) was mentioned by Staff members in only 17.0% of cases. Again, it is surprising to notice that Staff members were more concerned about Facilities and Technologies than about more or better services they could offer with available facilities and technologies.

Figure 2 sums up the results related to what respondents, divided by typology of interviewees, do not like in the CMC, including the content analysis on both the photo and the interviews. For the text part, it takes into consideration only results related to Pillar 2, split in the two components: facilities and technological
tools. Only those results that are shared by at least 10% of the group are displayed in the picture.

Figure 2. Photo 2–Sum up of the results by typology, especially for Pillar 2

Note: The first icon in the first box represents the telecentre of the CMC, the second one represents the radio components

Conclusions

In this article, a research on Mozambican Community Multimedia Centers has been presented. The research, through interviews and pictures taken by the interviewees themselves, has explored the social meaning attached by different stakeholders' groups to the CMC as a whole, and to its Telecentre and Radio components.

Results show that Staff members and Users, when thinking of the benefits of CMC, have in common the meaning information for the community radio, and the meaning education for the Telecentre; all other meanings are not shared, in particular, Staff members do value economic benefits of both CMC components, while they are not considered by Users.
When thinking of Telecentres' services, digital literacy courses are the only shared reference among Staff members and Users of the whole CMC. Photocopies are the most mentioned service by Staff members, the second most cited by U-CMC, and the third by U-RC. Staff members do also mention access to the internet, digitizing texts, access to computers, and printing services, while U-RC mention in the second position access to computers. Regarding the Community Radio, the only shared service mentioned is news. Second and third services in the rank are dedicatórias e anúncios, and programas sobre educação, however, these two last services are not shared among the groups. Staff members also mention publicidades, and programas de agricultura.

The research has integrated within its protocol also pictures done by the interviewees, as well as the explanations they provided about the taken pictures. Thanks to those pictures, perspectives by Staff members and Users have been detected; in particular, Staff members do picture the Radio component the most, while Users provide more pictures of the Telecentres. Both stakeholders groups do particularly value the CMC premises themselves, while only Staff members focus on the technologies available (or not available).

The added value of this research is three fold.

First of all, it provides a theoretical contribution to the study of CMC, community radios and telecentres in Mozambique, unveiling the understanding of them by different stakeholders groups.

Second, it provides a practical contribution to CMC managers and concerned policy-makers, by showing their advantages and limits as seen by different groups within the interested local communities.

Third, it provides a methodological contribution to ICT4D, applying Social Representations theory to a new and promising area, as well as integrating photo-elicited interviews within this approach.
References


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