What do local people think about telecentres?
A key issue for sustainability

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Abstract

This PhD thesis embraces the field of research that focuses on the application of information and communication technologies (ICT) to socioeconomic development in transition or developing countries. The subject of the study are telecentres, public places where people can access information through ICT, and which should fulfill the communication needs of the communities in which they are located, in particular, networked telecentres belonging to a wider regional or national system will be analyzed.

The central question of this thesis sprang from the study of the available literature and from nine exploratory field studies carried out in West Africa (in Burkina Faso, Benin, Guinea and Mali).
The literature brings to light that, to reach sustainability, it is important to take into consideration not only technological factors thwarting the use of ICT, but also psychological, economic and sociological issues which are reflected in the need to create awareness of the contribution that access to information (through ICT) can have in improving living conditions. However, few guidelines and theoretical models have been used or developed to assess extra-technological issues, shaping a gap in the research field.

The nine studies in West Africa highlighted discrepancies in the conceptualization of telecentres in terms of activities and functions between the founding organization and the local staff; and between the the founding organization and the rest of the community. It was noted how the existence of these conceptualization misalignments can first and foremost compromise the ability of the founding organization and of the staff to create awareness and, consequently, it may compromise other sustainability criteria highlighted in the literature such as the supply of relevant content and services and the involvement of the local community.

This thesis aims at developing a cognitive tool to capture the extra-technological dimensions, which have an impact onto sustainability, studying the awareness and the understanding that different social groups have of telecentres. The social groups taken into consideration are the representatives of the founding organization, local staff, users and non-users of a telecentre.

The research was undertaken in South Africa, namely in 4 eGovernment telecentres, called Cape Access Centres, set up by the Western Cape Government in communities throughout the region. In particular, semi-structured interviews were conducted with staff members, users and non-users at 4 centres (Bitterfontein, Vanrhynsdorp,

Oudtshorn, Struuisbaai) along with an interview with the program director as representative of the founding organization.

The information obtained from these interviews was analyzed in three separate stages: the first stage aimed to illustrate the individual representation of the CAC, the second aimed to establish the most frequently shared nodes of representation among the given social groups, while the third aimed to compare the social representation of the defined social group. To this end techniques to represent mental models with cognitive mapping were used.

This thesis explored the adoption of the theory of social representation and concept mapping techniques in telecentre-related researches and developed a cognitive tool to study and analyze telecentre conceptualizations. This approach brought interesting results in deepening the knowledge the research community has of telecentres. Furthermore, the developed tool is a useful instrument to detect interesting case studies and to assess telecentres effectiveness. In fact, fully understanding how the founding organization's conceptualization of a telecentre is perceived by people working in the telecentres, by people using it, by non-users (members of the local community who do not use the telecentre yet) and at the different locations (in the case of networked telecentres) could help the founding organization defining ways of guaranteeing greater success and integration of the telecentre in the local community and it could also raise the telecentre's potential to contribute to the socio-economic development of the local community.

The cognitive tool, developed in the thesis and driven from the social representation theory and from the recognition of the existence of misalignments in the conceptualization of telecentres could be used in two ways by telecentre practitioners:

- As was done in this thesis, on a one-spot basis to determine the social representation of the telecentre and to identify areas of action to improve the impact of the telecentre in the local community
- In a longitudinal way, to regularly check how the telecentre is perceived by people working in it, by users and by non-users, and how these representations relate to the goals and strategies of the founding g organization. In this way, first of all, adjustment actions can be taken and the impact on the local community can be monitored and improved.

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Introduction

This PhD thesis embraces the field of research that focuses on the application of information and communication technologies (ICT) to socioeconomic development in transition or developing countries. The subject of the study are telecentres, public places where people can access information through ICT, and which should fulfill the communication needs of the communities in which they are located, in particular, networked telecentres belonging to a wider regional or national system will be analyzed. According to telecentre.org the estimated number of telecentres in 2012 will be of 300'000 all over the world. This impressive number explains the interest shown by both practicioners and academics in the phenomenon and in the issue of the sustainability of this kind of centres.

The central question of this thesis sprang from the study of the available literature and from nine exploratory field studies carried out in West Africa (in Burkina Faso, Benin, Guinea and Mali).
The literature brings to light that, to reach sustainability, it is important to take into consideration not only technological factors thwarting the use of ICT, but also psychological, economic and sociological issues which are reflected in the need to create awareness of the contribution that access to information (through ICT) can have in improving living conditions. However, few guidelines and theoretical models have been used or developed to assess extra-technological issues, shaping a gap in the research field.

The nine exploratory studies in West Africa highlighted discrepancies in the conceptualization of telecentres in terms of activities and functions between the founding organization and the local staff; and between the the founding organization and the rest of the community. It was noted how the existence of these conceptualization misalignments can first and foremost compromise the ability of the founding organization and of the staff to create awareness and, consequently, it may compromise other sustainability criteria highlighted in the literature such as the supply of relevant content and services and the involvement of the local community.

This thesis aims at developing a cognitive tool to capture the extra-technological dimensions, which have an impact onto sustainability of telecentres, studying the awareness and the understanding that different social groups have of telecentres. The social groups taken into consideration are, local staff, users and non-users of a telecentre and the representatives of the founding organization.

To study discrepancies and misalignments of conceptualization, the thesis moves from the perspective of the theory of social representation. The main research question it aims to answer is: What is the social representation of a telecentre in the community where the telecentre has been established? Is it consistent with the one of the founding organization?

Answering this question entails investigating the social representation of a telecentre as perceived by social groups defined by their interaction with the telecentres (that is, representatives of the founding organization, local staff, users and non-users) and, because we are investigating telecentres belonging to a network, social groups defined by their location.

The abovementioned research question was studied in South Africa, namely in 4 eGovernment telecentres, called Cape Access Centres, set up by the Western Cape Government in communities throughout the region. In particular, semi-structured interviews were conducted with staff members, users and non-users at the Cape Access Centres of Bitterfontein, Vanrhynsdorp, Oudtshorn, Struuisbaai along with an interview with the program director as representative of the founding organization.

The information obtained from these interviews was analyzed in three separate stages: the first stage aimed to illustrate the individual representation of the CAC, the second aimed to establish the most frequently shared nodes of representation among the given social groups, while the third aimed to compare the social representation of the defined social group. To this end techniques to represent mental models with cognitive mapping were used.

This thesis explored the adoption of the theory of social representation and mental models techniques to investigate telecentres, and the cognitive tool developed to study and analyze telecentre conceptualizations brought interesting results in deepening the knowledge the research community has of telecentres. Furthermore, it is a useful instrument to detect interesting case studies and to assess telecentres effectiveness. In fact, better understanding how the founding organization's conceptualization of a telecentre is perceived by people working in the telecentres, by people using it, by non-users (members of the local community who do not use the telecentre yet) and at the different locations (in the case of networked telecentres) could help the founding organization defining ways of guaranteeing greater success and integration of the telecentre in the local community and it could also raise the telecentre's potential to contribute to the socio-economic development of the local community.

The thesis is divided into two parts: the first presents a literature review of the subject of study and (chapters 1 and 2), introduced the exploratory field studies that led to hypothesize the existence of misalignemnts in the conceptualization of telecentres (chapeter 3), defines the theoretical background (chapter 4) and research questions and hypotheses (chapters 5) while the second part presents the case study in which the hypotheses were tested (chapters 6), the methodology used (chapter 6) and the results (chapter 8 and 9).

More in detail, the thesis has nine chapters: chapter 1 provides a contribution to the development of a comprehensive literature review of telecentres, giving an overview of the works published to date and identifying current research trends as well as gaps. The chapter begins with an overview of telecentre definitions and typologies as presented in the literature (1.1); paragraph 1.2 highlights the key steps in the short history of telecentres; it then continues, underscoring the role of telecentres in the field of international development (1.3) and identifying the main international players in the field (1.4). An attempt is then made to present an holistic view of telecentres (1.5) and the chapter ends with a discussion of current research trends in the telecentre movement (1.6).

Chapter 2 looks at sustainability and how this relates to the success of telecentres around the world. Paragraph 2.1 gives a brief definition of success while paragraph 2.2 discusses the importance of sustainability in this kind of projects. Paragraphs 2.3 to 2.5 present sustainability divided into factors related to the internal organization of telecentres, to the relationship between telecentres and their local environment and to the relationship between telecentres and their national (and international) environment.

The first two chapters introduce the telecentre from the point of view of the research and studies conducted so far; chapter 3 instead illustrates nine exploratory field studies which allowed the author, in combination with the literature review, to formulate the existence of conceptualization misalignemnts. This chapter begins with a description of nine telecentres visited during two trips to Burkina Faso, Benin and Guinea in February 2003 and April 2004 (3.1). During the first mission, the researcher visited and conducted interviews at some telecentres in the capital of Burkina Faso and in Benin (3.2, 3.3, 3.4, 3.5, 3.7). During the second field mission the researcher visited some telecentres in the Conakry area (3.6, 3.8, 3.9, 3.10). The chapter ends with some considerations arising from these two field missions (3.11).

Chapter 4 is the last chapter of the first part; it briefly summarizes the conceptualization misalignments detected in the previous chapter (4.1) and introduces the theory used to investigate them, the Social Representation Theory (4.2 to 4.4).

Chapter 5 sets the research questions and hypotheses of the thesis.

Chapter 6 presents the case study chosen to test the abovementioned hypotheses: the Cape Access Project developed by the Western Cape Government in South Africa is introduced (6.1) and the Cape Access Centres (CAC) considered in this research are presented (6.2).

Chapter 7 outlines the methodology used to perform the research: the protocols used for the semi-structured long interviews with the director of the Cape Access Initiative, staff members, users and non-users of CAC in Vanryhnsdorp, Bitterfontein, Struuisbaai and Oudtshoorn are explained (7.1), the sample is described (7.2), the data collection techniques are discussed (7.3), and the design of the qualitative analysis is presented (7.4).

Chapter 8 presents the results of the analysis, delineating the individual representations of the 36 interviewees divided according to their typology. (8.1 to 8.4)

Chapter 9 discusses the social representations of the interviewees divided by type of interviewee, i.e. director, staff members, users and non-users (9.1) and by location, i.e. Vanryhnsdorp, Bitterfontein, Struuisbaai and Oudtshoorn (9.2). Two other elements are presented in this chapter: the representation of staff members regarding the training received and planned for them by the institution (9.3) and the representations of staff members, users and non-users regarding their personal motivation for accessing the CACs (9.4).

Finally, conclusions are drawn.

I. Telecentres: Exploring the Field

1 Telecentres: Definition, Typologies, History and Trends

Telecentres came onto the international cooperation scene less than 25 years ago and only very recently did they begin to attract the interest of academics. This chapter will provide an overview of the literature published on this topic, highlighting research trends and current gaps.

1.1 Telecentres: definitions and typologies

Authors have attempted to define and classify telecentres adopting different criteria but these efforts have not always been unanimously endorsed by the community of academics and practitioners. Over the years and around the globe telecentres have been given different names: from public access point to telecottage, from infocentre to digital clubhouse, from community technology centre (CTC) to community access centre, from multi-purpose community centre (MPCC) to community learning centre (CLC), from electronic village hall to tele-village or cybercafé. (Colle and Roman 1999; Fillip and Foote 2007)

This paragraph reviews the literature to find definitions and taxonomies used to describe these projects which all have one common element: internet as a key service.
One of the first attempts at classification was made by Gomez et al. (1999) based on criteria such as location, services offered and type of hosting organization. The authors describe the following typologies:

- Basic telecentre. usually located in rural areas where there is limited access to basic services in general and where, in addition to internet access, training of potential users is a popular service;

- Telecentre franchise: a chain of independently owned and managed yet interconnected telecentres usually supervised by a local organization, offering technical and, on occasion, financial support;

- Civic telecentre: set up by public organizations, such as universities, which open up their facilities such as computer labs to the public; the telecentre services tend to be accessory to the organization's other everyday activities;

- Cybercafé: commercial in nature and found in rich neighborhoods or hotels and in major towns and cities;

- Multi Purpose Community Centre: "the newest model" when Gomez et al. (1999) drew up their taxonomy; this is the type of telecentre on which the international

community has focused its efforts in recent years. It offers more specialized services such as tele-medicine.

Townsend et al. (2001) proposed a different classification of telecentres based on a mix of criteria: size, technologies and services offered and describe the following models of telecentres:

- Tele-shop or Micro-telecenter: the tele-shop is a micro-business providing access to an individual phone for community use, comparable to a public payphone. The tele-shop is inspired by the successful micro-enterprise business model developed by the Grameen Bank in Bangladesh;

- Mini-Telecenter: the mini-Telecentre is a one-person micro-business operation. The mini-telecentre consists of a wooden console containing a range of ICT accessories including one or two telephone lines and instruments; one full service personal computer; an operating system and software applications; dial-up Internet access; and one 3-in-1 or 4-in-1 device for printing, faxing, photocopying and/or scanning;

- Standard Telecenter: a Standard Telecentre is a small business offering the community a range of services. A standard telecentre facility consists of the following: 4 to 6 telephone lines; 4 to 6 computers with software; one dedicated fax line; one dedicated Internet access line; an overhead projector; a large production printer/photocopier (in some cases color); and a cash register machine. In general, this model will evolve into, and be replaced by, one of the MCT models;

- Multi-purpose Community Telecenter: the Multipurpose Community Telecenter (MCT) is a medium to large sized business venture. An MCT is a complete service facility that includes, at the very least all of the services of the standard telecentre; additional capacity (telephone lines, computers, human resources, physical space, etc.) to expand the scope of use; and potential additional facilities for local broadcasting, tele-health, tele-education, e-commerce, tele-government information systems, and other value added services;

- ICT Cooperatives: the concept of an ICT Cooperative derives from the rural telephone cooperatives that exist in some developing countries. The main characteristics of this model are: some degree of community/customer ownership of the business; supply of advanced ICT services such as those contemplated for MCTs; connection of local businesses, institutions and, eventually, private homes to the network.

A more exhaustive definition of the Multi Purpose Community Centre typology is given by Ernberg (2001, p.3):

> "[telecentres are] intended for all members of a rural community or a deprived urban area with the objective to provide universal access to ICT. […] MCTs will provide a wide range of ICT-based services, ranging from simple information services, government/community-on line and e-learning to e-commerce and tele-medicine, besides user training and support. In addition they may provide many other services, such as library services, business support and a forum for all those involved in community development, which are not necessarily ICT-based."

Roman and Colle (2002, p.4) defined telecentres as "a public place where people can get a variety of communication services" as a general umbrella term for the experience of shared access, and grouped them into the following three categories according to two main criteria: their public or private orientation and the services offered:

- Cybercafé: these are usually privately owned and focus primarily on offering customers the use of computers and connection to the internet. Their clients tend to be urban, educated and economically well off; they may also offer training on computer and web use;

- Telecenter: typically, these offer a wide range of communication services depending on the needs of the community; some of these services are free or subsidized by external bodies such as governments or NGOs. Telecentres tend to be publicly owned and geared towards more isolated people (like villagers), low income earners and people with little formal education; they may offer training on computer and web use, but also other kinds of training including non-formal education and distance learning in agriculture, health, basic education, entrepreneurship and other fields specifically related to community development;

- Information access point (IAP): these fall somewhere between the cybercafé and telecentre models. They have a narrow focus on the Internet but tend to have a public service mandate.

Owen and Darkwa (2000), whose research focuses on Ghana, divided telecentres into two broad categories based on their public or private orientation:

- Commercially-Oriented Communication Centres provide basic communication services such as telephones and fax, photocopying, secretarial and computer-based services; while

- Community/education-oriented communication centres provide basic services to address the needs of a given community. The aims of these centres are:

> "[…] to tap the untapped potential of the people they serve, to organize resources and expertise nationwide, […] to foster the emergence of local capability, […] and to promote a unique and comprehensive approach to servicing the multiple needs of people they serve through the innovative use of IT." (p.2)

Etta and Parvyn-Wamahiu (2003) working for the IDRC (International Development Research Centre), one of the most active organizations in the field of ICT for development, focused on Multi Purpose Community Telecentres calling them "the modern type of telecentre":

> "a telecentre is an integrated information and communication facility that houses a combination of both new and not so new ICT (e.g., television, video, facsimile, telephone, computers with Internet connectivity, and sometimes books). This type of facility in which a number of different information and communication technologies are housed and used in an integrated manner is seen as the modern telecentre and is called a multipurpose telecentre. There is, however, a certain variety in the form, facilities, and functions available at telecentres, from the simple telecentre with only one or two telephones and no link to the World Wide Web, to a centre with numerous telephones, facsimile machines, printers, and computers connected to the Internet. Telecentres provide public access to communication and information for economic, social and cultural development or telecommunication and information services for a range of developmental aims."(p. 13)

The distinction made by Etta and Parvyn-Wamahiu (2003) between "simple telecentre" and more complex centre can be likened to Gomez et al. distinction (1999) between Basic Telecentre and Multi Purpose Community Centre.
From this viewpoint the mere provision of free or low-cost access to ICT is not the essential characteristic of telecentres; what makes a telecentre, as it is intended in this thesis, is the community dimension (WSISPapers, 2005).

Several authors take the technologies in place as a starting point for their description of telecentres. Oestmann and Dymond (2001), for example, give the following definition:

> "Telecentres may be defined as strategically located facilities providing public access to ICT-based services and applications. They are typically equipped with some combination of:
>
> - telecommunication services such as telephony, fax, e-mail and Internet (via dial-up or ISDN, high-speed telecommunications network);

- office equipment such as computers, CD-ROM, printers and photocopiers;
- multimedia hardware and software, including radio, TV and video; and
- meeting spaces for local business or community use, training and so on." (p.3)

Another technology-oriented author is Jensen (2001) who classifies telecentres according to the technology in place:

- Micro Telecentres are small standalone multi-function appliances, usually located in a public space or in a shop or other business. They are usually pay-phones with a built-in web browser and possibly a smart card reader and receipt printer. Others are basically a PC housed in a specially designed case that provides protection against sun and rain and are coin or banknote operated;

- A Mini Telecentre will usually offer a single phone line (possibly mobile) with a 3-in-1 scanner/printer/copier, a fax machine and a PC with a printer, Internet access and call meter;

- A Basic Telecentre will usually offer several phones, a fax machine, photocopier, several PCs with a printer, Internet access and perhaps a scanner or a call management system;

- A Full Service Telecentre will probably contain most of the following: many phone lines and multi-media PCs with Internet access, a high-volume black and white printer, a color printer, scanner, digital camera, video camera, TV, overhead projector, photocopier, laminator, meeting rooms, and a telediagnostics and video conferencing room.

Bearing in mind the taxonomies presented above, it is clear that Colle and Roman's (2001) concept of telecentre is similar to the Gomez et al. concept of Multi Purpose Community Centre (1999), to Ernberg's (2001) concept of Multi Purpose Community Telecentre and to Owen and Darwa's concept (2000) of the Community/education-oriented communication centre. Analysis of these definitions and classifications brings to light some commonalities:

- Telecentres are Community Development Instruments; telecentres (such as Multi Purpose Community Centres, Multi Purpose Community Telecentres and Community/education-oriented Communication Centres) have a community development purpose for people living in rural and disadvantaged areas;
- Telecentres provide Communication Services which are relevant for the Local Community; telecentres use a range of both digital and non digital information and

communication technologies and offer a range of services related to those technologies which, adopting the terminology used by Colle and Roman (2001), can be defined "communication services" and which vary from basic training on the computer and internet to more sophisticated services such as information and education services related to matters of interest for the local community and community based services such as library or meeting place facilities.

We agree with Etta and Parvyn-Wamahiu (2003) that the most efficient way of codifying the multi-faceted world of telecentres was provided by Colle (2000) who suggested a few key variables to describe telecentres instead of trying to classify them.

- Narrow-Focus vs. Multipurpose: some centres simply offer individuals access to information technologies while others offer a broader range of services: access, ICT training for groups, healthcare information, distance learning, etc.;

- Community-based vs. Establishment: some centres are owned and managed locally by the community in which they are set up while others are managed and owned by governments, business organizations or NGOs;

- Stand-alone vs. Attached: some telecentres are stand-alone entities while others are part of other community institutions such as schools, medical centers, community centres or libraries;

- Thematic vs. Universal: some centres respond to a specific need (heath, education, etc.) of a certain community group while others tend to meet the information needs of an entire community;

- Independent vs. Networked: some centres are set up as independent entities while others are part of broader projects and the experiences of each telecentre are shared within the network;

- Profit-Oriented vs. Service-Oriented: some centres are business enterprises and their primary aim is to make a profit while others are devoted to providing services to the community;

- Publicly-Funded vs. Privately-Funded: telecentres are funded by a variety of entities: NGOs, international organizations, governments, private entrepreneurs, private charities, etc;

- Commercial (fee-based) vs. Free: some centres make users pay for the services they receive while others offer their services free of charge;

- Urban vs. Rural: telecentres are located both in urban and rural contexts.

1.2 History of Telecentres

According to Molnár and Karvalics (2002), the first community technical centre was opened in Harlem, USA, in 1983, with the primary aim of bridging the growing digital divide between the upper and lower levels of society; community technical centres offered free access to technologies and placed great emphasis on training.
However, the idea of creating places where the members of a community could access Information and Communication Technologies (ICT) can be traced back to 1985 in the villages of Vemdalen and Harjedalen in Sweden (Short 2001, Molnár and Karvalics 2002, Parkinson 2005).
Molnár and Karvalics (2002) distinguish between two telecentre models in Europe, the Scandinavian model with a specific social aim:

> "the telecentres must provide information and communication technologies for the population of the small settlements in the long run, supporting by this the development of the rural and village societies"(p.1)

and the more profit-oriented Anglo-Saxon model :

> "initiatives that provide long-term access to the ICT devices primarily aiming at profit production"(p.2)

Molnár and Karvalics (2002) point out that at the outset of the history of telecentres the name Telecottage prevalently indicated the Scandinavian model, highlighting the community and development aspect of the centre, while telecentre denoted the Anglo-Saxon model, underscoring the commercial goal of the centre. However, in the following years this terminological distinction gradually disappeared and telecentre became the most commonly used name for all the different types of centres described above except for Hungary, wehere Telecottage became the household name for telecentres.

Telecentres of both types were soon imitated by the governments of Canada, Australia, Great Britain and Hungary. The adoption of the Scandinavian model aimed to give disadvantaged communities new educational and economic opportunities through ICT. For example, the Western Australia Telecentre Network (Short 2001) aims to give rural communities access to higher education and the Telework, Telecottage and Telecentre Association aims to meet the employment needs of rural and economically

disadvantaged communities in Britain (Bertin 2001). By 1994 there were more than 230 telecentres in Australia, Austria, Canada, Denmark, Finland, Germany, Ireland, Japan, Norway, Sweden, the UK and the USA as reported by Oestmann and Dymond (2001).

In the 1990s International Organizations first, and then non-profit organizations, began to adopt the Scandinavian model also in developing countries. In 2001 Colle and Roman in their special issue on telecentres in the Journal of Development Communication discussed experiences, lessons learnt, case studies and best practices of the so-called incubation phase around the world. In the same year, the same effort was undertaken by the Commonwealth of Learning (Latchem and Walker 2001) in a publication in which case studies in the developed and developing world were presented.

Fillip and Foote (2007) developed a timeline for telecentres, defining three periods and optimistically looking towards the future:

- The past (the 1990s): the phase which in this thesis is called incubation, characterized by isolated pilot telecentres funded by large donors and led by development players;

- The present (2000-2010): the period in which networks of telecentres are reinforcing the movement and characterized by a host of new players: governments, academic institutions and the private sector. In these years new connectivity opportunities and hardware technologies are being explored and in many countries a favorable regulatory environment is being developed;

- The future (2010-2020): the period in which a common policy and regulatory framework will be adopted throughout the world and a bottom-up supply of services will be coupled with top-down delivery of connectivity and, above all, the socioeconomic impacts of telecentres will be demonstrated.

1990s	
	• Isolated pilots, primarily donor funded, often lacking long-term sustainability, each trying to deal with all aspects of telecenters on its own • Led by NGOs and development agencies • Limited services, content, and applications • Challenging policy and regulatory environment
2000–2010	
	• Emergence of networks and telecenter ecosystems • Larger-scale pilots in some countries—increased geographical reach • New connectivity and hardware technologies and new business and organizational models • Increased involvement of government, the academic community, and the private sector • Broader range of services and applications across sectors • Improved policy and regulatory environment (in many countries)
2010–2020	
	• Fully developed and dynamic telecenter ecosystem at national, regional, and international levels • Large-scale capacity building • Documented socioeconomic impacts (increased economic opportunities, access to health, education, government services, etc.) • Self-priming pump • Top-down delivery of connectivity and bottom-up approach to the supply and demand of relevant services • Extensive partnerships and the unbundling of services • An enabling policy and regulatory environment in all but a handful of countries

Figure 1.1 Evolution of the Telecentre Movement by Fillip and Foote (2007, p.13)

In other words, Harris (2007) upholds Fillip and Foote's point of view (2007), professing that the telecentre movement has now moved on from its pilot phase to the so-called Telecentre 2.0 phase. Harris points out that the Telecentre 2.0 phase exists within the telecentre ecosystem; i.e. "a network of telecentres, information providers and support institutions that serves to strengthen the movement towards widespread enjoyment of the benefits that telecentres bring."(p.1) His idea is that countries lagging behind in telecentre deployment can now skip the pilot phase thanks to the experience of those countries which have already gone through it and are now implementing Telecentre 2.0.
The Telecentre 2.0 phase has its own unique features, or environmental characteristics:

- First of all, policymakers must acknowledge that technologies can have a role in poverty reduction strategies.
- It follows a wise telecommunication sector deregulation strategy where universal service obligations are not overlooked and the public sector builds partnerships with the local organizations running telecentres to deliver eGovernment services to rural areas.
- Furthermore, Telecentre 2.0 requires a national alliance that includes the government, the private sector and civil society representatives, working together to provide ICT to citizens.
- A very important issue is financial sustainability; in the Telecentre 2.0 phase funds should come from a mix of investment, subsidy and revenue.
- Content and services are pertinent and tailored to local needs while the staff managing the centre are locals with community development skills, periodically trained and networked with staff from other telecentres.
- The network component is very important. "Telecentre 2.0 belongs to a national and/or international network of telecentres which facilitates the sharing of experiences and resources. Personnel gather regularly at district, regional and/or national meetings during which they learn from each other and solve problems of common interest."(p.3)
- The evaluation factor is the final crucial factor highlighted by Harris as being essential, both for the single telecentre and for the network of telecentres built in a country.

According to Florencio Ceballos[1], director of Telecentre.org, even if there is no a global map of telecentre yet, an estimate number of existing telecentre at January 2009 could be 150'000, with other 150'000 planned for the next three years.

1.3 Telecentres and Development

Telecentres fall within the framework of global initiatives grounded in the belief that the creation and sharing of information and knowledge represents a key to economic and social development International development activities should therefore address the digital divide since access to telecommunication services, and the Internet above all, will help bring prosperity to the most disadvantaged sectors of society.

[1] Interviewed by the online magazine Telecentre:
http://www.telecentremagazine.net/interview/interview-details.asp?interviewid=79

Oestamnn and Dymon (2001) indicate the following goals of telecentres in transition and developing countries:

- expand access to ICT-based services;
- extend the reach of public services such as education, health and social services; provide information of general interest to the local community including government information and information of interest to specific groups such as farmers, local businesses and non-governmental organizations (NGOs); and
- provide access to infrastructure, technology support and advice for the growth of businesses.

One of the targets of Goal 8 (Develop a Global Partnership for Development) of the United Nations Millennium Development Goals focuses specifically on ICT:

> "Target 18. In cooperation with the private sector, make available the benefits of new technologies, especially information and communications technologies." (http://www.unmillenniumproject.org/goals/gti.htm#goal8)

In the same year that the UN Millennium Development Goals were declared, the G8 members signed the Okinawa Charter on the Global Information Society[2]. The charter claims that the commitment of all, both the public and private sectors, is needed to bridge the international information and knowledge divide. It also renews the commitment of the G-8 nations "to the principle of inclusion: everyone, everywhere should be enabled to participate in and no one should be excluded from the benefits of the global information society" (Colle and Roman 2001).
Many global initiatives have been set up to tackle the digital divide on the heels of the UN Millennium Development Goals and the Okinawa Charter and many focus on the implementation of telecentres in places where the paradigm "one household, one computer" is not feasible or desirable.

During the World Summit on the Information Society held in Geneva (2003) and Tunisia (2005), lessons learnt from ICT projects in developing countries were discussed and three needs were defined: the need to include ICT related projects in wider-ranging poverty reduction strategies; the need to switch from small pilot projects to more extensive programs on a regional and national scale; and the need to work in partnership with stakeholders belonging to different sectors such as governments, private companies and local organizations. (Amariles et al. 2006)

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[2] The charter can be consulted at: http://www.g7.utoronto.ca/summit/2000okinawa/gis.htm

Despite the abovementioned underpinnings and international statements, the optimistic assumption that ICT and information and knowledge sharing will further the socioeconomic development of local communities is not taken for granted by everyone in the telecentre community. One of the most scathing critics of this approach is Dragon (2001) who slates the idea that knowledge from the northern hemisphere represents the solution to development and challenges the effectiveness of telecentres claiming that

> "only one out of every one hundred telecentres are really useful for the local community where they have been set-up, in terms of supporting development and social change"(p.2).

More bitterly he claims that

> "thousands of telecentres have been planted during the past five years and millions of dollars have been invested in buying computers and ensuring Internet connectivity; however, every time we are to mention the successful experiences, the same five or six places come to mind."(p.2)

like the Nakaseke Telecentre in Uganda, opened in 1999 as the first rural telecentre in Africa and founded by many international donors such as IDRC – International Development Research Centre, ITU – International Communication Union, and UNESCO – United Nations Educational, Scientific and Cultural Organization.

Dragon stresses the need for more accurate and rigorous study of telecentres - he is not alone in this (Parkinson and Ramirez 2006, Chigona and Licker 2008) - and indicates some factors that could jeopardize the positive socioeconomic impacts of telecentres: (1) the language barrier (both in terms of the spoken language, since the most used language in the internet is English, and in terms of computer literacy); (2) the lack of relevant content for the local community; (3) the need to choose appropriate technology; (4) and the excessive importance given to financial sustainability. According to Dragon, telecentres will be seen by local and national government as a public service to offer to communities; that is, services that provide essential information and fundamental knowledge for communities in the same way as public libraries and schools.

1.4 Main Players

This paragraph provides an overview of the main international players and their telecentre programs. Colle and Roman (2001) highlighted the main international donors in the incubation phase of the telecentre movement: UNESCO – United Nations Educational, Scientific and Cultural Organization, ITU – International Communication

Union, USAID – United States Agency for International Development, IDRC – International Development Research Centre and FAO – Food and Agriculture Organization which are all still important today. Each of these players defined its own strategy and drew up its own programs.
Some key players will now be introduced: ITU as the first organization implement telecentres; UNESCO as one of the most important players in the African region and IDRC for its innovative approach and contribution to the sector. The main telecentre networks acting regionally and globally will then be introduced.
Government initiatives and private sector foundations and multinationals (such as Microsoft, Intel, etc.) are not mentioned in this paragraph: the former because it would be too long and laborious to cover each state's universal access initiatives and the latter because they usually support national or global players in implementing their plans, such as the case of Microsoft with telecentre.org (see below).

ITU was the first International Organization to become involved in the foundation of telecentres in developing countries as a way of achieving the Buenos Aires Action Plan which aims to

> "develop best-practice, sustainable and replicable models of ways to provide access to modern telecommunication facilities and information services, particularly to people in rural and remote areas. To this end pilot projects are implemented in a number of countries in different regions, at different stages of development and with different geographical, social, economic and cultural conditions" (http://www.itu.int/itudoc/itu-d/wtdc/wtdc1994/baape.html)

ITU has set up and supported telecentre projects around the world and has used the Multipurpose Community Telecentres (MCTs) model in 24 countries (Ernberg, 1998, Benjamin 2001).

UNESCO's mission as regards telecentres is to provide and expand communication and information facilities in local communities in order to offer basic tools for the introduction and management of community-centred development and change. UNESCO (with the support, *inter alia,* of SDC – Swiss Agency for Development and Cooperation) created the Community Multimedia Centres (CMCs) model which combine community radio managed by locals broadcasting in local languages with community telecentre facilities. The program got off the ground in 2001 with 40 CMCs set up in over 15 developing countries in Africa, Asia, and the Caribbean during the pilot phase. The scale-up phase of the CMCs then began in 2004 with three countries in Africa (Mali, Mozambique and Senegal) selected for the development of a national network of 50 CMCs. (IISD 2006)

IDRC – International Development Research Centre – is the most active player in the field. Rather than merely setting up telecentres, this Governmental Organization's commitment has been to support and to network telecentres around the world. IDRC has developed ICT and telecentre projects throughout the world: the ACACIA program focuses on sub-Sahara Africa; Ballanet and the Institute for Connectivity focus on the Americas and the Pan Asia Networking project operates in Asia.

As will be explained in the next chapter, one of the crucial factors affecting the sustainability of telecentres is the possibility of networking and of sharing knowledge and experience gained. Therefore, telecentre networks operating in different continents can also be considered main players in the telecentre movement. Latin America is the continent which first understood the importance of networking. The most important telecentre network in the region is Somos@Telecentros, which was set up in 1999, gathers together community telecentres (telecentres with a local development purpose) in the Caribbean and Latin America and functions as a knowledge sharing hub. Somos@Telecentros provides access to resources, organizes events, manages a lively mailing list and at present has more than 800 member telecentres.
The UgaBYTES Initiative was set up in Africa in 2000 and promotes rural access to ICT for development purposes by reinforcing the telecentre community in East and Central Africa.
The Asia-Pacific Telecentre Network (APTN) was set up in Asia in 2008. This network is a collaboration venture set up by telecentre.org (see below) and the United Nations Economic and Social Commission for the Asia-Pacific (UN-ESCAP). The network aims to promote innovation and knowledge-sharing among telecentre organizations in the Asia-Pacific region.
Today (2009) the most powerful telecentre network is Telecentre.org[3], created in 2005 and backed by Microsoft, IDRC and SDC (Swiss Development Cooperation). In just a few years this global initiative has brought together almost all the telecentres, regional and national networks and hundreds of non-networked telecentres around the globe. At the moment more than 60 telecentre networks have congregated in telecentre.org and the venture has become a reference point for sector practitioners and researchers.

1.5 An integrated view of telecentres

In 2001 Townsend et al. was the first to use an integrated approach to define telecentres based on a supply and demand model. The authors claimed that a telecentre

[3] www.telecentre.org

> "[…] depends upon both those technologies and services that is capable of providing to the public, and the demand for applications that will meet the needs of the specific community or market it targets. […]The supply side of the telecentre refers to what the telecentres can offer, both in terms of infrastructure as well as services. The telecenter infrastructure also reflects the technological capacity available, which is a main determinant of the types of services that can be offered. […] The demand side is the primary driver of a telecenter project. For a telecenter to be successful, it must address the economic demand and social needs of the community and markets it serves." (p.4-5)

One year later Roman and Colle (2002) provided another contribution to this approach:

> "Telecentres are systemic entities composed of interrelated elements, including: research (feasibility studies, needs analysis, evaluation), organisational planning (for example, clarification of telecentre goals and objectives), the challenges of sustainability, community social structure and demographics, capacity-building (regarding both the community and the telecentre), partnerships, participation and staffing, and various other elements. Each element is linked in some important way with each other element." (p.24)

The integrated view used to describe telecentres in this thesis, adapted from the WCM - Web Communication Model (Cantoni and Tardini 2006) - used in the web design sector, is presented below.

Based on the WCM model, telecentres are composed of four pillars, two regarding people and two regarding objects:

1. A cluster of services: e.g. training activities, photocopying service, telephone service, internet surfing, healthcare information service, etc.
2. A collection of technical instruments that make the services accessible: e.g. scanners, computers, servers, telephones, etc.
3. A group of people who manage the telecentre: e.g. the director, the board, the founding organization, the trainers, etc.
4. A group of people who access the centre: users

To complete the picture, another element to consider is the context, the environment in which the telecentre is set, both locally and on a national and global perspective.

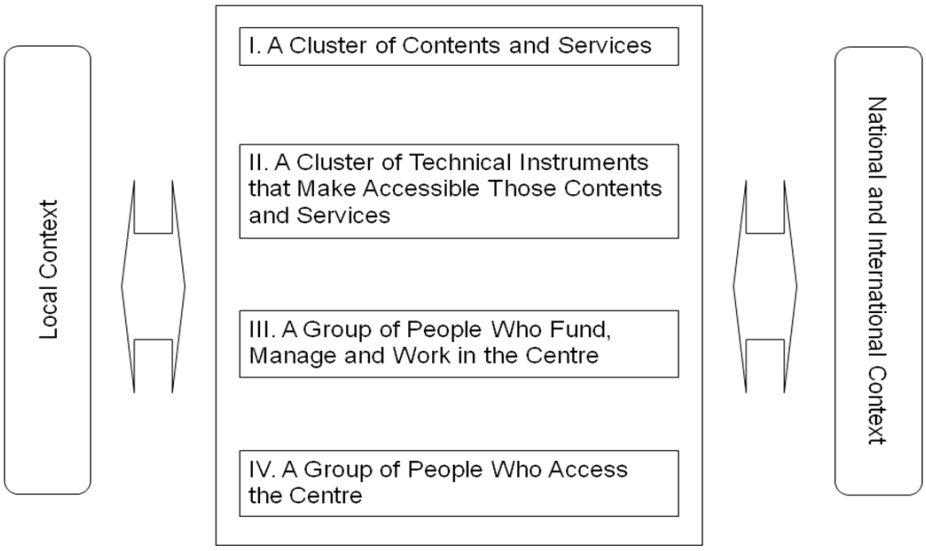

Figure 1.2 An holistic view of telecentres

1.5.1 A cluster of contents and services

Most of the literature (Etta and Parvyn-Wamahiu 2003; Roman and Colle 2002; Heeks and Kanashiro 2009, Rajalekshmi 2008) emphasizes the importance of having services and content designed around the community in which the telecentre is located.

In general, one of the main roles of telecentres is to offer training and education. Frequently, telecentres offer courses on computer related subjects; however, for most of them their mandate includes a broader educational purpose. The importance placed on training is inspired by the general aim of contributing to the socio-economic development goals that the founding organizations generally have. As Murray, Murray and Brooks (2001) point out

> "training continues to be a key feature in the telecentres being set up around the world, particularly in the developing world as the least-advantaged have to fight to avoid becoming even more disadvantaged in the Information Age". (p.199)

Also other authors, such as Ulrich (2004) and Clic (2005), highlight the importance and potential of telecentres as educational and training centres.

Training has two main target groups: users and staff/managers. Murray, Murray and Brooks (2001) list the types of training offered by telecentres: formal secondary and tertiary education studies; literacy and numeracy skills development; language skills; instruction for farmers on new agricultural techniques; ongoing professional development for remote specialists such as doctors and nurses; development of new information

industry employment skills (e.g., in web design and call centre training); specific courses using computer-based training methods; and training in ICT.

1.5.2 A cluster of technical instruments

Of all the authors who have studied telecentres Jensen (2001) is the one who focused most on the technological aspect, defining the four technologies a telecentre requires to provide its services:

- a telecommunication network for voice, fax and Internet connections,
- a service management system,
- computer systems to allow users to access the Internet and other computer-based applications, and
- a power supply.

In their contribution to The Commonwealth of Learning, Jensen and Walker (2001) list the technologies which can be found in a telecentre: radio systems, telephony equipment (telephone, fax, etc.), computer systems (computers, internet, modems, software, educational and training software, etc.) and other equipment such as photocopiers, binding machines, projectors, etc. The two authors stress the importance of considering the following issues when deciding which technology to adopt: (1) the users' needs; (2) the income generation potential; (3) the recurrent costs and costs of upgrading; (4) compatibility; (5) possible redeployment at other locations; and (6) maintenance and repairs.

1.5.3 A group of people managing the telecentre

As we will see in the following chapter, one of the critical issues for a telecentre's success is the involvement of the local community and community ownership. For this reason founding organizations often employ local community members to run the centres.

Second-rate staff training significantly affects the palette of services and the local significance of a telecentre as shown by the literature (see below), by the exploratory case studies conducted by the author in 2003 and 2004 (cfr. Chapter 3) and by the results of this thesis. (cfr. Chapter 8)

The first pillar of the WCM model (a cluster of services) shows how the literature stresses the important role that telecentres can have in providing education and training in their community. As illustrated by Murray, Murray and Brooks (2001), the educational services that telecentres offer the local community should not merely focus on technologies but should use technologies as an enabling tool to foster local development: telecentres should, therefore, focus on the needs of everyday life. However, to deliver

such a varied palette of services telecentres have to be run and managed by a competent and trained staff. Once again Murray, Murray and Brooks (2001) stress the lack of staff and manager training that would enable local communities to manage telecentres and make them sustainable. This same shortcoming was noted by Roman and Colle (2002):

> "training for telecentre staff has, to a large extent, focused particularly on operating the hardware and software of computers and networks. Yet training is the key to reaching out to the community and strategically building a clientele that can make a telecentre demand-driven. Skills like needs analysis techniques, marketing, methods for training the community, production of software and "value-added" practices address the kinds of access issues discussed earlier."(p.19)

1.5.4 A group of people accessing the centre

As stated by Colle (2002) in his *Thematic vs. Universal* concept, telecentres can aim to reach the whole community, offering a range of services able to reach different segments of the population, or can be specifically focused on chosen community groups. Bearing this parameter in mind is essential when defining the other three elements of the WCM: defining which technologies are the most appropriate, understanding which services to provide depending on the information needs of the target public, and understanding which competences are required for the telecentre's management and staff.

1.5.5 The context

The national context and the ICT policies formulated by individual states are crucial for the development and the sustainability of telecentres. The lack of support caused by a bad national ICT policy can seriously reduce the chances of survival of telecentres in a given state. Many developing nations are now formulating national policies to promote market competition and foster universal access to ICT and see telecentres as pivotal to this goal. (Fillip and Foote 2007).

The local context also plays a key role in shaping the two pillars mentioned above: (i) services and content, which must be conceived according to the needs of both the local population and the intended users; and (ii) technical instruments, which have to be chosen according to the infrastructure existing in a given village or neighborhood. Heeks (2005) defined three categories of local contexts from a financial sustainability point of view and which are useful in determining how to shape the WCM four pillars:

- *High telecentre e-Readiness locations*: places where the private sector can set up businesses such as cyber-cafés and the population is able to pay for the service;
- *Medium telecentre e-Readiness locations*: places where there are potentially sustainable development benefits from investment in telecentres; and
- *Low telecentre e-Readiness locations*: places where the limited demand and lack of viable markets make a telecentre project financially unsustainable.

1.6 Research Trends

Most of the literature on telecentres is based on case studies and lessons learnt (Fuchs R.P. 1997; Delgadillo K. and Borja R. 1999; Gomez and Ospina 2001; Oestmann S. and Dymond A.C. 2001; Latchem C. and Walker D. 2001; Proenza F.J., Bastidas-Buch R. and Montero G. 2001; Delgadillo K, Gomez R. and Stoll K. 2002; Etta F.E. and Parvyn-Wamahiu S. 2003; Falch M. 2003; Mayanja M. 2003; Menou, M.J., Poepsel K.D. and Stoll K. 2004; Kumar 2004; Parkinson S. 2005; Click 2005; Amariles 2006).

As Savita Bailur (2006) pointed out, there are two main issues around which research on telecentres is developing: sustainability and impact. This paragraph deals with impact while sustainability, as a key factor of success for telecentres, will be discussed in depth in the following chapter.

1.6.1 The question of access

Before being able to discuss impact or sustainability the question of access has to be tackled. Roman and Colle (2002) distinguish between *connectivity* "as the physical availability of information and communication technologies" (p.4) and *access* "as the economic, sociological and psychological factors that influence people's opportunities to use the technologies."(p.4).

The authors define 7 major obstacles to access:

1. *Literacy*: without literacy people cannot access ICT even if there is connectivity;
2. *Relevance*: telecentres need to be locally relevant to their community groups. Content should be relevant in terms of themes, language and reliability.
3. *The culture of information*: creating awareness of the importance of access to information in improving living conditions.
4. *The cost of information*: telecommunication services in the developing world still cost too much compared to per capita income, especially in rural areas.
5. *Technophobia*: there will be some members of any population who are reluctant to use ICT technology. They may be afraid or suspicious of the new technology and this technophobia raises a barrier to broader use of ICT, also in telecentres.
6. *Complexity of ICT protocols*: like technophobia, the psychological stress of wading through less than user-friendly Internet and computer procedures can be intimidating and hinders access.
7. *Power*: power is a two-faceted issue. Firstly, there is the problem of electrical power and telephone lines, a connectivity-related issue. Secondly, there is also the problem of community power and who controls the ICT. For example, those in power may discourage or obstruct the community's use of technology because this could potentially to lead to challenges to their authority.

Gomez and Ospina (2001) share the same vision; they stress the social vision of ICT fostered by founding organizations saying that it

> "implies programs aimed not at the installation of infrastructure but at the improvement of people's capacity to effectively use ICT resources and combine them with other appropriate forms of communication, implement them as tools to resolve practical problems and improve people's living conditions, as well as provide follow-up and evaluate actions, results, and lessons." (p.6)

This is one of the central issues in the history of telecentres. Access, as defined by Roman and Colle (2002), was the driver behind the creation of telecentres in the early days in the developed world. Governments in Australia, Canada and Scandinavia were enthusiastic about giving citizens living in disadvantaged or rural areas a real possibility to access ICT. However, when the telecentre model was applied in developing countries, the focus was on technologies rather than on services and therefore on connectivity rather than on access. Once again, Roman and Colle (2002) recognized that much of the attention to ICT and telecentres concentrated on connectivity and they claim that the sustainability of telecentres depends on recognizing the importance of access.

Heeks and Kanashiro (2009) carried out a very interesting study at a telecentre in Pazos, Peru, investigating reasons why people did not use the telecentre. They identified three main issues that hindered the use of the centre or access to it: lack of awareness, lack of motivation and lack of information skills; that is, the ability to find relevant information using ICT. The same issue was tackled by Selwyn (2003) who claimed that a personal perspective is necessary if we are to understand non-use of ICT: that is, the perceived meaning, impact and consequences of ICT .

1.6.2 Impact

Research on impact aims to answer two main questions (Whyte 2000):

- Does a telecentre meet the communication and information needs of the communities it serves?
- What impact does/will it have on local equity and economic development?

These questions are often addressed in case studies; researchers focus on specific telecentres to determine the impact they have on the local community. Despite the mass of information obtained about telecentres over the last 20 years, there is still not much evidence of their success. Non-use or ineffective use of telecentres by the local community was recently documented once again by several authors (Heeks and Kanashiro 2009, Amariles et al. 2006, Kumar and Best 2006).

In 1998 Ernberg presented the first findings of a method developed to evaluate the pilot Multipurpose Community Telecentre (MCT) projects set up by the ITU. In May-June 1998 the first field study was carried out by the ITU, investigating the ITU MCT pilot project set up in Suriname in 1996. The two Suriname telecentres studied using this method have apparently failed to achieve their objectives. A milestone in the literature on impact was published in 2000 by IDRC within the ACACIA project (Whyte 2000). This book is a guide for practitioners and researchers in setting up evaluation plans, choosing consistent indicators and defining the best method to evaluate the impact. Another Impact Assessment Framework developed by IDRC is the Outcome Mapping methodology presented by Earl S. and Carden F. (1999). In this methodology Outcomes are defined as changes in behavior, relationships, activities and/or actions that the initiative helped bring about.

One of the few serious attempts to quantitatively evaluate the impact of telecentres in poor areas of developing countries involved a network in 22 Chinese rural villages and was made by the Chinese Ministry of Science and Technology and UNDP in 2003 (Ulrich 2004).

Recently, Telecentre.org, in partnership with the Center for Information & Society at the University of Washington Information School, developed "Investigating the Social and Economic Impact of Public Access to Information and Communication Technology (IPAI)"[4], a five-year (2007-2012) massive research project sponsored by Canada's International Development Research Centre and the Bill & Melinda Gates Foundation for a total of US $7.2-million. The project examines the impact of ICT access in a number of areas including employment and income, education, civic engagement, democracy and governmental transparency, cultural and language preservation, and health.

Although attempts have been made to adopt impact assessment approaches in some telecentre programs, authors in the field agree that little has been done to evaluate the socioeconomic impact that telecentres have in local communities (Oestmann and Dymond 2001, Wakelin and Shadrach 2001, Gomez and Ospina 2001, Roman and Blattmann 2001, Heeks 2002, Heeks and kanashiro 2009, Chigona and Licker 2008)

1.6.3 The lack of a theoretical framework

The field of Information and Communication Technologies for Development in general lacks sound theoretical frameworks, and telecentres are no exception. Raul Roman (2003) highlighted this issue, claiming that "no particular conceptual model seems to

[4] http://www.globalimpactstudy.org

guide telecenter planning, and no specific theory is inspiring research questions either." (p. 53) The same problem is reported by Parkinson (2005) who claims that "while there is a wealth of detail in various case studies, little of this information has been analyzed at a more general level". (p.129)

A few models have been used to explain the telecentre phenomenon and its impact: one is the Diffusion of Innovation Theory. Rogers (2003) defines an innovation as:

> "a process in which an innovation is communicated through certain channels over time among members of a social system" (p.5)

According to Rogers (2003), an innovation has five perceived characteristics that contribute to its adoption: relative advantage, complexity, compatibility, trialability, and observability. Each of these characteristics incorporates aspects of the economic, social and psychological environment in which the innovation is introduced, and each innovation changes and influences the context in which it is placed.

The first author to suggest the Diffusion of Innovation Theory as a useful starting point for researchers and practitioners was Roman in 2003:

> "diffusion of innovations is a suitable theoretical framework for telecenters for at least three reasons: (1) the predictive potential of diffusion theory makes it useful for telecenter planning and design, (2) diffusion theory provides a fertile incentive to stimulate telecenter research— research that, in a circular way, can contribute to further shape the theory, and (3) diffusion theory is versatile and can be adapted to fit the needs of multidisciplinary inquiry." (p.55)

On his heels other authors tried to apply elements of this theory to telecentres; in particular, Chigona and Licker (2008) used this framework to describe the adoption patterns of communal computing facilities in poor urban areas in Cape Town, South Africa, while Kumar and Best (2006) applied it to kiosks set up under the SARI project in rural India.

Another approach used to assess the impact of telecentres is the Sustainable Livelihoods Approach, a model that focuses on poor people's priorities and the strategies they use to face poverty instead of taking the development experts' perspective (Parkinson and Ramirez 2006, Parkinson and Lauzon 2008). In this model the term livelihood refers to the means used to make a living and comprises assets (human, natural, financial, social and physical capitals), access to institutions and process and strategies. (Ashley and Carney 1999). The term sustainable refers to the ability to survive context changes and

shocks and it does not follow survival strategies that destroy the context in the long term (Chambers 1987). In the opinion of the authors that apply it, this model is useful in identifying unforeseen impacts.

This approach was also used by Parkinson and Ramirez (2006) and Parkinson and Lauzon (2008) to assess the impact of the Aguablanca Telecentre in Colombia.

Other authors have attempted to use other theoretical frameworks; for example Bailur suggests introducing the Stakeholder Theory (2006, 2008) or the Postcolonial Theory (2008), while Heeks and Kanashiro (2009) used the Resource Movement and Information Chain theories to investigate impacts in rural Peru. However, the implementation and operationalization of theories is still hazardous and no theory prevails over the others yet.

2 The Sustainability Issue

This chapter focuses on sustainability, considered by telecentre researchers and practitioners to be a crucial success factor. Different types of sustainability are discussed and social sustainability factors are then presented, divided into factors related to the telecentre internal organization, factors regarding the relationship between the telecentre and the local environment and factors regarding the relationship between the telecentre and the national/international context.

2.1 Definition of Success

Like any other development (or other) project, a major challenge faced by telecentres is that of success: has the project achieved its goals? However, as stated by Heeks (2002) Van Belle and Trusler (2005), it is not easy to determine the success or failure of development initiatives based on objective elements:

> "Who set the goals? For whom are the outcomes undesirable? Some authors contend that success should be seen in the light of those who fund or implement the project while other authors prefer to look at success from the perspective of the participants of the project" (Van Belle and Trusler 2005, p.116)

In this chapter success is considered from the point of view of sustainability in its broadest sense; thus, not based only on financial issues but also management issues and how the telecentre is able to establish itself in a given context.

2.2 The Issue of Sustainability

The issue of sustainability, defined as

> "the ability of a project or intervention to continue in existence after the implementing agency has departed" (Harris et al. 2003, p.2)

is crucial nowadays. Telecentres around the world are struggling to survive and over the last ten years academics and practitioners have been debating how telecentres can achieve sustainability. If we consider sustainability as a mere financial issue, there are two main schools of thought: those who claim that a telecentre has to find a way to be financially independent and self-supporting as a business (Fuchs 1997, Townsed 2005); and those who claim that a telecentre should be considered in the same way as other public information services (e.g. libraries) and should be sustained by local and national authorities (Dragon 2001, Wellenius 2003).

Recent literature focuses on models that can be used to achieve financial sustainability. The new idea is to achieve sustainability through entrepreneurship; (Meddie 2006, Kuriyan et al. 2008). Meddie (2006) refers to three models:

- The Social Development Approach has the main aim of helping people and communities address their social needs. Thanks to this approach people develop awareness and the ICT culture grows. In this model the main goal is the development of social capital; services are provided free of charge to foster the abovementioned goal. Typically, this approach is the one used by governments, NGOs or international organizations such as UNESCO.
- The Enterprise or Information Kiosk Approach is about delivering fee-paying services. The focus is on the selling value of a service more than on the benefit that it will bring to a community. This is the typical cyber-café model.
- The Social Enterprise Approach is described by Meddie as being half-way between the two approaches described above. It blends the two models, assuming that there are people in the community who do not have the possibility of paying for services while there others willing to pay for more advanced services. Therefore, the telecentre can support itself and services can be offered to the poorest group of the population by means of the services conceived for the wealthier members of the community.

In recent years researchers have tended to consider sustainability as more complex and multidimensional "dependent on more than just the availability of financial resources. Factors commonly associated with sustainability include the operating environment, ownership and management styles, community participation, relevance of services and content."(Etta and Parvyn-Wamahiu 2003, p.32).

Nowadays, four types of sustainability are considered when talking about telecentres (Kumar 2004, Bailur 2006, Ali & Bailur 2007, Bailey 2009):

- Financial sustainability which is reached when a project achieves revenue equal to or greater than the expenditure and economic return of a project.
- Social sustainability which is seen as ongoing support deriving from the positive impact of telecenters on the social and economic development of the local community.
- Political sustainability which refers to the ongoing support of policy-makers and regulators.
- Technological sustainability which is closely related to financial sustainability as equipment represents the main cost item for a telecentre.

Several authors (Colle and Roman 2001, Roman and Colle 2002, Etta and Parvyn-Wamahiu 2003, Oestmann and Dymond 2001, Sabien 2001, Kumar and Best 2006) have addressed the issue of sustainability, listing what they consider to be the most salient factors.
This paragraph groups these factors into three macro categories:

1. the telecentre and its internal organization,
2. the telecentre and its local context (i.e. the local community), and
3. the telecentre and its national/international context.

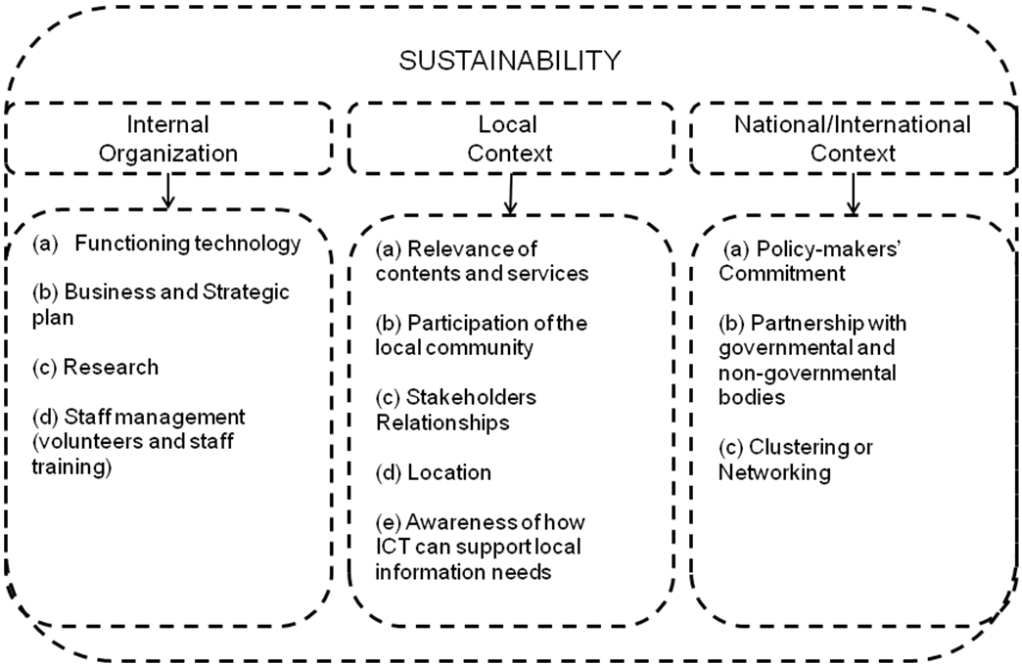

Figure 2.1 Sustainability Factors

2.3 Sustainability factors related to the internal organization of telecentres

Two main areas can be identified in this macro category: (1) how to manage content and services and (2) how to manage people.
The factors underscored in the literature for the first area are listed below.
Besides the obvious need to have functioning technologies in place (Jensen 2001), there is also the need for *a sound and long term business plan* (Colle and Roman 2002, Colle 2005, Sabien 2001, Townsed 2005). Indeed, after the initial incubation phase, donor agencies often cut or block financial subsidies to telecentres, meaning that the telecentre has to become financially self-supporting in just a few years (e.g. 3 to 5 years). Management must therefore have a clear and sound idea of how to generate income or

how to find financial support after the initial financed phase. On this issue Sabien (2001) reports lessons learnt by the Western Australian Telecentre project, highlighting how important it is to

> "establish a mixed pool of funding sources and try to keep at least one as a "core" funding source for as long as possible" and the importance of effectively costing all services". (p.3)

However, if a telecentre operates in a disadvantaged area the question is how to generate income while serving poor communities.
Sabien (2001), then, stressed the need for *a strategic plan***,** declaring the goals and activities of the telecentre and the need to record each year's activities. Roman and Colle (2002) and Colle (2005) highlight the role that *research* plays in each telecentre and claim that

> "telecentre personnel should have simple, reliable tools to use in on-going operations - tools that (1) help them discover and continuously monitor the needs of the community, (2) get a reliable picture of the demographics of the area, (3) systematically monitor ongoing operations, and (4) help check systematically on outcomes and consequences." (Roman and Colle 2002, p.10)

On the other hand, two major people management questions emerged from the literature review: the first is *to efficiently manage volunteers* as Roman and Colle (2002) and Sabien (2002) highlight:

> "The challenge for telecentres is to move from largely spontaneous use and management of volunteers to developing an explicit strategic plan for recruiting, training, retaining and rewarding volunteers." (Roman and Colle 2002, p.7)

Roman and Colle (2001, 2002) explain that, besides helping in everyday activities and allowing the telecentre to cut its labour costs, volunteers come from the community and so can help put users at their ease and can provide useful insights for "decision-making in the telecentre because they reflect a variety of community constituencies." (p.5)
The second crucial issue is *training*; (Kumar 2004, Colle 2005, Heeks and Kanashiro 2009); as Colle (2005) pointed out:

> "People in telecenters need to be trained in how information can contribute to development. We have found telecenter managers who know a lot about computers but don't know how to link telecenter potential to health clinics, schools, agricultural extension, or local government." (p.3)

2.4 Sustainability factors in the relationship between telecentres and their local environment

A key aspect of sustainability is the relationship that telecentres are able to forge with the community in which they operate and their full integration in it.

One of the biggest challenges now faced by practitioners is the need to provide *relevant contents and services* which meet the needs of the local community (Colle 2005, Kumar and Best 2006, Heek and Kanashiro 2009, Rajalekshmi 2008). For example, this can entail finding ways of delivering content in the local language and using communication codes that even the most disadvantaged groups can understand. Offering services and content which can have a real impact on the daily life of the community is the primary goal a telecentre needs to have if it is to achieve its social, economic and cultural development aims. Closely related to this is the range of services the telecentre should offer; these have to go beyond computers and internet and embrace the information needs of the local community and find creative solutions for them. Etta and Parvyn-Wamahiu (2001) call these "communication services" while Roman and Colle (2002) call them "information services." As Dorsey, Hess and Fuchs (2000) claim "a robust centre will provide a range of traditional, non-electronic resources as well" (cited by Roman and Colle 2002 p. 8), in an attempt to build "a local institution more fully woven into the fabric of the community" (p.8) (Roman and Colle 2002)

Many authors (Roman and Colle 2002, Colle 2005, Bailur 2006) stress the fact that the *participation of the local community* can foster "activities such as assessment of information needs, planning, and operations."(Colle 2005, p.9.)

However, community participation is not unanimously considered a key factor of sustainability: Bailur (2008) is the first to challenge this idea and to claim that there is no evidence that community participation leads to greater success.

According to Colle (2005), one of the best strategies for community participation is to find "local champions" (referring to the Diffusion of Innovation Theory) who can "increase the credibility and potential spreading of the telecenter initiative". (p.11) Rajalekshmi (2008) calls them local human intermediaries who make the telecentre a success and focuses on the role of trust between them and the citizens.

Another factor highlighted by Sabien (2001) is that of maintaining "*strong links with key stakeholders*" and remembering the key role that intermediary community groups can have in promoting the use of telecentres in the community (Colle 2005)

Key stakeholders could be other information providers operating in the community (Roman and Colle 2002, Rega and Pagani 2005, Clic 2005). A good example of possible synergies between a telecentre and another information provider is the model developed

by UNESCO with its Community Multimedia Centers; i.e. telecentres connected to existing rural radios. Other examples could be the setting up of a telecentre in a health care information centre or in a library, enhancing the power of gathering information from existing information provider centers while at the same time helping the local community understand the value of information, focusing on an established and pre-assessed information need (e.g. health care information).

Connected to this is the choiceof the right location, while some authors suggest to set up telecentres in already existing public facilities such as schools libraries and hospitals, in order to cut costs and because the local community already see these places as information providers (Jensen and Esterhuysen 2001) others claims that the hosting organization can also limiting the types of users accessing the telecentre (Chigona 2006).

Many authors (Colle and Roman 2001, Colle 2005, Harris 2005, Heeks and Kanashiro 2009, Van Belle and Trusler 2005, Chigona 2006) suggest that a systematic, persistent effort towards community awareness of information and ICT as a valuable resource is needed in order to achieve sustainability; telecentre staff members should help the community to understand and express its information needs and should show people how they can reach this information through new technologies. Related to this issue is the role that Roman and Colle (2002) and Kumar and Best (2006) - adopting the Diffusion of Innovation Theory - attribute to local champions as those "innovators who can mobilise others (early adopters, opinion leaders) to accept the vision of an ICT telecentre programme." (Roman and Colle 2002, p.6)

2.5 Sustainability factors in the relationship between telecentres and the national/international context

The third group of factors regards a favorable or unfavorable macro environment (Townsed 2005). According to Roman and Colle (2002) the first key element is "*a national commitment by policy-makers* who recognize the value of connecting the people of the country through the modern tools of the Information Society, and follow up that commitment with funding and organisational support for multi-year programmes." (p.4) The national policy-makers should therefore facilitate a "favourable regulatory and tariff climate" (p.5).

However, a favorable national policy is not enough; this policy has to be translated into action through *partnerships with governmental and non-governmental bodies* at both local and regional level. (Colle 2005)

Another important factor highlighted by several authors (Roman and Colle 2002, Colle 2005, Sabien 2001, Parkinson 2005) is the importance of maintaining an "eyes wide shut" approach; that is, always being aware of the need to look for *clustering or networking* opportunities in order to develop and share resources and to set in motion a common sharing and learning process both at a national and an international level.

3 Exploratory Field Studies

Besides the literature review, exploratory research was carried out on nine telecentres in Western Africa to gain more direct insight into the telecentre movement. This chapter begins with a description of the nine telecentres visited during two trips to Burkina Faso, Benin and Guinea in February 2003 and April 2004.

The first field mission (February 2003) fell within the context of a workshop organized by Intermedia Consultants for UNECO Community Multimedia Centres (CMCs) managers of Benin, Mali and Burkina Faso held at Ouagadougou, Burkina Faso. During the one-week workshop and the following week the researcher visited and carried out interviews at telecentres in the capital of Burkina Faso and in Benin and with CMC managers participating to the workshop. The second field mission took place during the closing ceremony of the Progetto Guinea, funded by ISPFP (Istituto Svizzero di Pedagogia per la Formazione Professionale) in collaboration with ISSEG (Institut des Sciences de l'Education de Guinée). During the two-week mission the researcher visited telecentres in the Conakry area.

3.1 The 9 Telecentres Visited

During these exploratory field studies different types of telecentres, based on the bipolar variables described by (Colle, 2000) and presented in chapter 1, were investigated.

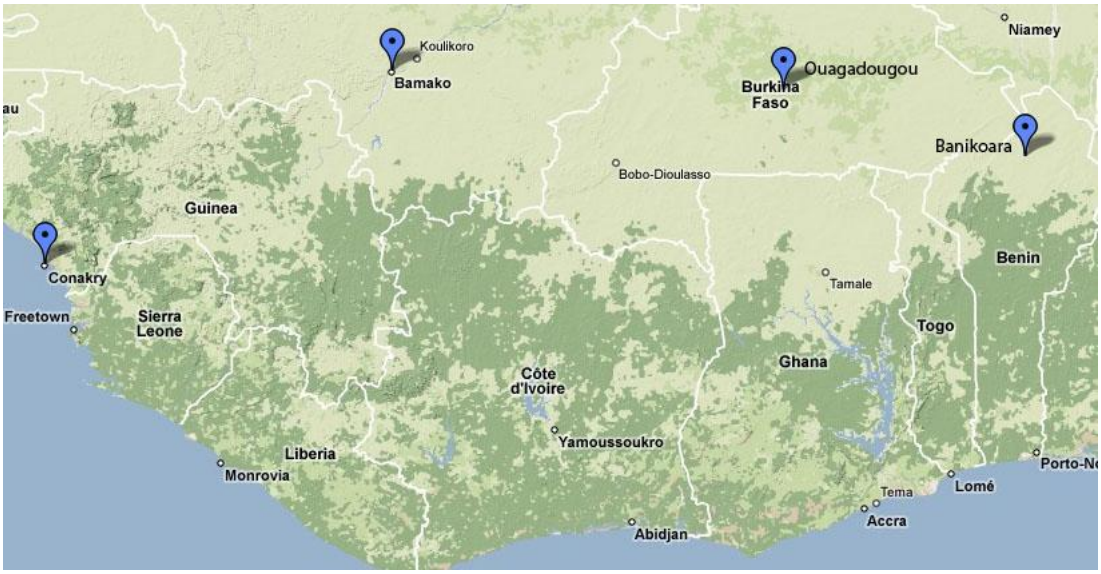

Figure 3.1: Location of the telecentres studied in the exploratory field research

- Community Multimedia Centre (CMC), Ouagadougou, Burkina Faso. This is a *multipurpose telecentre* which aims to provide not only individual access to ICT but

also ICT training, scanning and photocopying services. The centre is one of the CMC networks *created* by UNESCO and is managed by a local cultural NGO. It is *attached* to a rural radio and a theater school and tries to meet the *information needs of the entire community*. It is *service oriented* and *publicly funded*. The CMC *charges for its services* because it aims to be financially independent and can be considered an *urban* telecentre.

- RESAFAD, Ouagadougou, Burkina Faso. This is a *narrow-focus* telecentre *freely* accessible only by students enrolled on the RESAFAD (Reseau Africain de Formation à Distance) program. It was *established* by RESAFAD and is *networked* with all the other *distance-learning centers* managed by RESAFAD in French-speaking West Africa. It is an *urban* centre *attached* to the University of Ouagadougou and can be partially considered a *service-oriented* telecentre. RESAFAD is funded by the French Foreign Affairs Ministry.
- Le Couturier Cybercafe, Ougadougou, Burkina Faso. This is a *narrow-focus, stand-alone, independent, profit-oriented, privately funded, commercial* centre, offering individual access to ICT, *established* by a tailor. It does not address specific information needs and it is an *urban* centre.
- Community Multimedia Centre (CMC), Bamako, Mali. This is a *multipurpose telecentre* aiming to provide not only individual access to ICT but also ICT training, scanning and photocopying services, etc.; the centre is part of the CMC *network established* by UNESCO, it is *attached* to a rural radio and is managed by the rural radio director; it attempts to meet the *information needs of the entire community*. It is *service oriented* and *publicly funded*. The CMC *charges for its services* as it aims to be financially independent and can be considered a *rural* telecentre.
- Community Multimedia Centre (CMC), Banikoara, Benin. This is a *multipurpose telecentre* aiming to provide not only individual access to ICT but also ICT training, scanning and photocopying services, etc.; the centre is part of the CMC *network established* by UNESCO, it is *attached* to a rural radio and is managed by the rural radio director; it attempts to meet the *information needs of the entire community*. It is *service oriented* and *publicly funded*. The CMC *charges for its services* as it aims to be financially independent and can be considered a *rural* telecentre.
- Cybercentre, Concakry, Guinea. This is a *narrow-focus, stand-alone, independent, profit-oriented, privately funded, commercial* centre offering individual access to ICT. It was *established* by a local entrepreneur and does not address specific information needs. It is an *urban* centre.
- ISSEG Cybercentre, Conakry, Guinea. This is a *multipurpose, stand-alone, independent* telecentre established by the ISSEG as a deliverable of the Progetto

Guinea. The equipment was donated by the Progetto Guinea. The centre is divided into two parts: one attempts to meet the *information needs of the entire community*, and the other aims to meet the *distance-learning* needs of ISSEG members. The first part is fee-based while the second is free. The ISSEG Cybercentre is an urban telecentre.

- RESAFAD, Conakry, Guinea. This centre is a *narrow-focus* telecentre *freely* accessible only by students enrolled on the RESAFAD program and Education Ministry members. It was *established* by RESAFAD and is *networked* with all the other *distance-learning centers* managed by RESAFAD in French-speaking West Africa. It is an *urban* centre *attached* to the Education Ministry of Conakry and can be partially considered a *service-oriented* telecentre.
- INRAP, Conakry, Guinea. This is a *multipurpose, stand-alone* telecentre aiming to meet the specific needs of the University of Conakry staff and students. It is *freely* accessible only by university staff and is closed to the general public. It was *established* by the INRAP (Institute National de Recherche et d'Action en Pédagogie) with UNESCO funds. It is an *urban* centre *attached* to the University of Conakry and can be partially considered a *service- oriented* telecentre**.**

The following table shows the research activities carried out at each telecentre:

Telecentre	**Activities**
Community Multimedia Centre (CMC), Ouagadougou, Burkina Faso	▪ Interviews with the director (1) and a staff member (1) ▪ Observation
RESAFAD, Ouagadougou, Burkina Faso	▪ Interview with the director (1) ▪ Observation
Le Couturier Cybercafe, Ougadougou, Burkina Faso	▪ Interviews with the owner (1) and a staff member (1) ▪ Observation
Community Multimedia Centre (CMC), Bamako, Mali	▪ Interview with the director (1)
Community Multimedia Centre (CMC), Banikoara, Benin	▪ Interviews with the director (1), a staff member (1) and users (2) ▪ Observation
Cybercentre, Conakry, Guinea	▪ Interview with the owner (1), staff members (2) and users (2)

	▪ Observation
ISSEG Cybercentre, Conakry, Guinea	▪ Interview with the director (1), a staff member (1) and users (6) ▪ Observation
RESAFAD, Conakry, Guinea	▪ Interviews with the directors (2) and a user (1) ▪ Observation
INRAP, Conakry, Guinea	▪ Interviews with the director (1), the coordinator (1) and users (4) ▪ Observation

Table 3.1: Activities performed at the 9 telecentres

3.2 UNESCO CMC Ouagadougou (Burkina Faso)

3.2.1 A cluster of services

The CMC offered ICT training courses on MS Word, Excel and on the use of the internet, one-to-one support for users who wanted to start using ICT and scanning and photocopying services. The ICT courses were either individual or in groups; 15 hours of training were allocated to each software. Each course costed 15'000 CFA (Communaute Financiere Africaine franc[5]); however, there was a special discount for users who decide to attend more than one course.

The centre also offered internet connection; however, the cost of the connection and therefore the cost of the service was not competitive compared to other cyber-centres in Ouagadougou so not many users went to the centre to surf the net.

The time schedule was very flexible: the centre's official opening hours were 8.00 am to 9.00 pm with a lunch break of two hours and was closed on Sundays. However, the staff member interviewed explained that it sometimes stayed open longer or opened on Sundays.

3.2.2 A collection of technical instruments that make the services accessible

The CMC had 4 computers, a printer and a scanner.

The main problem was a very slow connection and a very unreliable power supply; these two aspects were a real obstacle to the use and expansion of the services.

[5] 1 euro = 655.957 CFA francs

3.2.3 A group of people who manage the telecentre

The centre was set up on the premises of the pre-existing rural radio. The staff member interviewed joined the centre because she already had some knowledge of software and because she thought that it would be useful to improve her computer skills.

3.2.4 A group of people who access the centre (users)

The main users were young boys and girls, the staff member declared that the centre had around 30 users per day. However, in the week the researcher spent there this number was not reached and an average number of 5 users per day was recorded.

3.3 RESAFAD Ouagadougou (Burkina Faso)

3.3.1 A cluster of services

RESAFAD was mainly a training centre. The main program it offered, targeting personnel of the Ministry of Basic Education and Literacy, was an Online Diploma as Multimedia Communicator in collaboration with the University of Ouagadougou and a French university. RESAFAD Ouagadougou also offered other training courses on multimedia development on demand depending on the Ministry of Basic Education and Literacy's needs; e.g. training for staff working in teacher training institutions. Access was free of charge and the centre was open from 8.00 am to 8.00 pm from Monday to Friday and on Saturday mornings.

3.3.2 A collection of technical instruments that make the services accessible

The RESAFAD centre had a production room and a training room. There were 18 computers connected to the internet via the university hub in the training room. Windows and all the software needed to produce multimedia products was installed on the machines. The connection was considerably faster than in other centred visited in Ouagadougou.

3.3.3 A group of people who manage the telecentre

RESAFAD in Ouagadougou was managed by the director and by a pedagogical manager from the University of Ouagadougou. Three tutors ran the diploma's one-to-one sessions and provided support on the use of the equipment.

3.3.4 A group of people who access the centre (users)

RESAFAD was a training centre dedicated to the needs of the personnel of the Ministry of Basic Education and Literacy. Entrance was allowed only to people from the Ministry or from the University of Ouagadougou.

3.4 Le Couturier Cybercafe Ougadougou (Burkina Faso)

3.4.1 A cluster of services

The centre was open from 8.00 am to 10.00 pm every day. The only service offered by the centre was access to computers and internet for a time-based fee. However, staff members helped clients when requested, for example, in setting up email accounts, etc.

3.4.2 A collection of technical instruments that make the services accessible

The Cybercafe had 10 computers and a printer but it operated also as a telephone centre with 6 telephones available to the public. The main problem for the cybercentre was the high cost of the internet connection.

3.4.3 A group of people who manage the telecentre

The cybercafé had a staff of 3 who received their first digital literacy training at the centre when first employed.

3.4.4 A group of people who access the centre (users)

The main types of users mentioned by the cybercentre owner were tourists, high school and university students and business men using the centre for business purposes.

3.5 UNESCO CMC Bamako (Mali)

3.5.1 A cluster of services

Bamako CMC was one of the unique cases studied where the telecentre and the community radio had developed constructive and lasting synergies. For example, the community radio journalists used the internet to prepare their radio programs on subjects such as health and education.

The CMC was open every day of the week; users were offered personal support and one member of staff had the role of "public scribe", helping illiterate users.

The ICT training program covered three software applications: MS Word, Excel and a third of choice. The program cost 25,000 CFA and lasted one month.

The CMC offered ICT training courses and scanning, photo and photocopying facilities.

The director stated that the centre was fully operational from 8.00 am to 1.00 am every day.

3.5.2 A collection of technical instruments that make the services accessible

The CMC had 5 computers and 3 multifunctional color printers.

Maintenance and internet connectivity were the main problems.

3.5.3 A group of people who manage the telecentre

The centre was set up on the premises of the pre-existing rural radio.
The CMC opened in February 2002 with the mission of reducing the digital divide, democratizing access to the internet and making ICT available to farmers and women.
4 people worked in the telecentre: 2 "public scribes" and 2 assistants.
The CMC was attached to a rural radio set up in 1993. The rural radio was a community radio so each village around it had at least one committee taking part in the program planning.
The CMC had a committee of 7 people (3 of whom were women) tasked with implementing the instructions of the General Assembly, held twice a year and in which the entire community participated.

3.5.4 A group of people who access the centre (users)

The CMC was used by young people (mainly high school students), several associations and businessmen.

3.6 UNESCO CMC Banikoara (Benin)

3.6.1 A cluster of services

The centre's main activities were basic computer courses; it organized 4: MS PowerPoint, MS Word, MS Excel and the internet. However, the internet course could only offer theory because at the time of the interviews there was no internet connection in Banikoara. The centre's director decided to introduce the community to the internet in any case so that when the connection had arrived, the population would have been ready to surf the net. The entire program lasted 3 months, 2 hours every night. During the day participants were able to put their computer skills into practice. The total cost of the course was 50,000 CFA but students were offered a special price of 25,000 CFA. The CMC also organized a free "refresher" course so that the participants would not forget the skills they had gained. During the day the centre was used by the students for practice.
Other services were photocopies, printing and picture editing. The director decided to offer these services at prices which were slightly lower than market ones so as to encourage users but not jeopardize the local market.

3.6.2 A collection of technical instruments that make the services accessible

The centre had 15 computers, 4 were donated by UNESCO, 5 by the Postal and Telecommunication Department, 4 were bought with Community Radio funds and 2 were donated by a local non-profit organization. The centre also owned a photocopier

and a printer. At the moment of the interview no internet connection was available at the centre, a satellite solution was being studied.
A real problem expressed by both the director and the staff member was maintenance: there were no technicians in Banikoara and getting a machined repaired was a long and difficult process.

3.6.3 A group of people who manage the telecentre

The centre was set up on the premises of the pre-existing rural radio. The radio was founded in 1994 and the CMC began operating in February 2002. The rural radio had a Management Committee representing the 10 communities in the Banikoara area. It was decided not to form a new Committee to manage the CMC but to assign the task of its management to some members of the committee.
In 2003 the CMC received UNESCO seed funding and the Management Committee decided to invest some of the revenues from the rural radio to cover the expenses of the CMC's set up. The rural radio had been self-supporting for 8 years and the idea of the Committee and of the Radio and CMC Director was to use the joint fund of the two initiatives to cover the cost.
The CMC hired 3 people to run the facility and paid them slightly more than the SMIG (salaire minimum interprofessionnel garanti) rate; the director had a clear idea about how to manage employees' salaries and claimed that salaries would grow with time as the centre's revenues grew. Furthermore, the CMC was assisted by American Peace Corps volunteers who helped in the day to day running of the centre, dealing above all with training activities.

3.6.4 A group of people who access the centre (users)

When the author held the interviews 47 people had been trained during the first training cycle and 40 during the second one. The third edition was up and running at the time of the visit. Furthermore, top female students from the nearby high schools received a scholarship to follow the course.
In total, counting the trainees on the courses and people using the centre to make photocopies and print-outs, the CMC had about 50 users per day.
The opinion on technology of the two users interviewed was extremely interesting. The first, who worked in the public sector in Banikoara, said that he came to the CMC to learn ICT because he realized that the world was changing rapidly and that if one did not learn to use ICT one would be left behind. This was why he decided to enroll on the training program. This urgency was perceived again during his trips to bigger cities, such as Cotonou, where he saw young people using the internet with great dexterity.

One of the main concerns of the two interviewees was to keep the pace: they realized that the world of information technology was changing day by day and that it would be easy to be left behind.
They both felt the urgent need for an internet connection to keep in touch with the world.
The staff member interviewed also agreed that the reason why people went to the centre was to become digitally literate.
Neither user had the possibility of using the digital skills learnt; the first, who works in the Public Administration, stated that his office was now being computerized but that when this happened he would be the only one able to use the computers. The second, a high school student, said that she was not able to use or practice at school because there was no ICT access for students.
Both users said that theoretical training on the internet was useful: now that they had learnt how the internet works they could go into the bigger cities and use it. Another important issue mentioned was the gain of a higher level of employability.

3.7 Cybercentre Conakry (Guinea)

3.7.1 A cluster of services

The cybercentre offered the possibility of surfing the internet and of using a text editor, a scanner and a fax machine. It also offered courses on how to use the internet which lasted 10 days for a total of 7 hours at a cost of 15’000 Guinean Francs[6] for students and 25’000 Guinean Francs for adults. A 30 minute connection cost 1’500 Guinean Francs for students and 2’000 Guinean Francsfor the others. The cybercentre also offered a public phone service. The centre was open 7 days per week from the morning until midnight.

3.7.2 A collection of technical instruments that make the services accessible

There were 15 computers in the surfing room plus 3 dedicated to faxing and text editing. There were also a scanner and a printer. The main problems encountered by the centre were the slow connection and the power cuts.

3.7.3 A group of people who manage the telecentre

Beside the owner, who was also the manager, there were 3 people who dealt with the customers: 2 secretaries and a technician.

[6] 1 US Dollar (USD) = 4,836.70 Guinea Franc (GNF)

3.7.4 A group of people who access the centre (users)

The users were working people and university and high schools students. Both men and women used the centre. There was an average of 50 users per day who stayed for between 30 minutes and 1 hour.

3.8 ISSEG Cybercentre Conakry (Guinea)

3.8.1 A cluster of services

The ISSEG Cybercentre had two rooms offering different services to different users.
The main room was for the general public and was used mainly for ICT training programs and, less often, used as a cybercafé where people could connect to internet.
The training programs offered by the centre were: Windows, MS Word, MS Excel, MS Powerpoint and the internet. Each course cost between 30,000 and 40,000 Guinean Francs, was held for 2 hours a day and lasted as long as the students needed to become competent. Each group had 10 students (one person per computer).
The general public who used the computer and internet spent 1,000 Guinean Francs for 30 minutes; however, training was the main service offered by the centre.
The smaller room was set aside for ISSEG professors who could use the facility free of charge for personal and work-related purposes but also to attend a distance learning program organized by UQUAM in Canada.
The centre was open to the public from Monday to Friday, while on Saturdays the managers carried out maintenance on the equipment.
There were many NGOs and businesses nearby but at the time of the visit no special courses or synergies with these had been planned.

3.8.2 A collection of technical instruments that make the services accessible

There were 10 computers in the main room and 6 in the smaller one; each room had a printer. Not all the computers were working properly. There was also a photocopier and a fax which was out of order.
The internet connection was slow and the main problem faced by the centre were the frequent power cuts and an unreliable generator.
The computers had Windows and MS Office.

3.8.3 A group of people who manage the telecentre

Just one person worked in the centre, managing it, holding the courses and repairing the equipment. Now and then former students helped out, holding course, but they were not usually paid for this.

3.8.4 A group of people who access the centre (users)

Many of the users in the main room were university or high school students but businessmen and teachers of both sexes also went to the centre. The centre had around 20 users per day (considering both the general public and ISSEG staff).

3.9 RESAFAD Conakry (Guinea)

3.9.1 A cluster of services

RESAFAD Conakry supported Education Ministry activities and training and offered a knowledge sharing platform for people working in the field of education in the Western African countries where the RESAFAD project was operative. At the time of the visit RESAFAD Conakry essentially worked as a computer lab for people in the education sector enrolled on distance learning programs. Among its training activities, RESAFAD Conakry:

- offered a basic digital literacy curriculum for AGEF – The Guinean Association of French Teachers;
- acted as an antenna for the online diploma offered by the University of Besancon called International Actors in the Language Domain;
- acted as an antenna for the staff of the Ministry of Commerce enrolled on a distance learning course on "International Agreements on Investments";
- acted as an antenna for the personnel of the Ministry of Education enrolled on an online program launched by the French National Institute for Educational Planning;
- acted as an antenna for ISSEG (Higher Institute for Science Education) personnel enrolled on an online program provided by the UQUAM.

The centre was open from Monday to Friday, 9.00 am to 4.00 pm.

3.9.2 A collection of technical instruments that make the services accessible

RESAFAD had 12 computers (plus the server), 3 printers, a beamer, 2 digital cameras, 1 scanner, 1 photocopier and 1 television. The internet access was provided by SOTEL, the only telecommunication provider in Guinea at the moment of the interviews. The operating system installed on the computers was Windows.

3.9.3 A group of people who manage the telecentre

RESAFAD Guinea was managed by 3 co-directors.

3.9.4 A group of people who access the centre (users)

Access to RESAFAD was free for people working in the education sector, the centre also accepted people (working in education) not enrolled on any training program but wanting to access ICT facilities. RESAFAD users included Ministry of Education

personnel, teachers working at all educational levels and administrative staff working in educational institutions.

3.10 INRAP Conakry (Guinea)

3.10.1 A cluster of services

The centre was open from Monday to Saturday and was aimed above all at INRAP staff members who were offered digital literacy training (MS Office, internet and email). INRAP was also in charge of training government departments organizing two levels of digital literacy courses: basic and advanced. Digital literacy training programs lasted one week for each software application (MS Office), one hour per day.

INRAP was planning to offer courses also to schools in the area; the idea was to offer basic digital literacy courses but no synergies with school subjects was foreseen.

The INRAP telecentre also operated as a cybercafé; that is, as an individual access point to ICT, both for INRAP staff members and other people not working at INRAP. In this case staff members supported users on a one-to-one basis. The cost of the connection for INRAP staff was 500 Guinean Francs and 1’000 Guinean Francs for people outside INRAP for 30 minutes.

3.10.2 A collection of technical instruments that make the services accessible

The telecentre had 6 computers connected to the internet plus 2 computers without connection, a printer and a scanner. Connection was by antenna and the connection speed was acceptable. Windows and Office were installed on all the computers. There were a few educational software applications and Open Office was installed too. The server they accessed was located at the university.

The telecentre had an air conditioning system and power cuts were not frequent.

One of the main challenges for the telecentre was maintenance.

3.10.3 A group of people who manage the telecentre

There was a coordinator who was an INRAP staff member allocated as a secondary task to the centre. He was in charge of the course organized by the centre and also trained the other staff members who worked as assistants.

3.10.4 A group of people who access the centre (users)

Training was free for INRAP staff members while personal use of the facility had to be paid for. University students, high school students and primary school students studying nearby used the centre as a cybercafé as well. Around 20 people accessed the facility per day; most of them stayed at the centre for 30 minutes.

3.11 Some reflections arising from the two exploratory research missions

The exploratory case studies highlighted some crucial aspects related to sustainability. Some, such as the lack of adequate infrastructure and equipment, have already been extensively explored by the literature. In this paragraph, however, we would like to discuss elements related to the question of access as presented in chapter 1 (Roman and Colle 2002, Gomez and Ospina 2001, Heeks and Kanashiro 2009, Selwyn 2003) and to the sustainability factor "creating awareness of how ICT can improve the living conditions of the local community" (Colle 2005, Harris 2005, Van Belle and Trusler 2005, Kumar and Best 2006).

In particular, two main misalignments of conceptualization were observed[7] between the founding organization and the local community and between the founding organization and staff working in the telecentre.

The first one was how the telecentre is perceived in the policy of the founding organization (e.g. UNESCO, RESAFAD) and by the local community. Founding organizations saw technologies, and therefore telecentres, as a tool for improving the living conditions of disadvantaged communities both socially and economically. Indeed, a telecentre should not only provide access to ICT but should, in many cases, aim to support the economic and social development of those areas providing, for example, health and educational services.

However, the community seldom has adequate knowledge of the ICT provided at telecentres. They are not familiar with the technologies and they can rarely understand their possible applications in everyday life. Most of the users interviewed understood that learning how to use ICT was a must, a technological imperative (Bates 1999, Van Belle and Trusler 2005), but had no idea of how these new technologies could improve their lives:

> "We come to the centre to learn ICT, because the world today changes really fast and if we are not up to date we will be very late in a few years."
> (User, Community Multimedia Centre, Banikoara, Benin)

> "…we have to know informatics a little bit to be able to communicate with the world, if not we will be here but we will not know anything about the things happening outside."
> (User, Community Multimedia Centre, Banikoara, Benin)

[7] The author already discussed these gaps in Rega and Pagani 2005

The inability of the founding organizations to effectively communicate all the possible applications of a telecentre in people's daily lives prevents the locals from building a proper conceptualization of the centers, thus reinforcing their perceived worthlessness. Moreover, this lack of effective communication hinders the ability to understand what the actual needs of the community are and, as a consequence, results in providing fairly useless services. Often, telecentres merely offer ICT training without creating a link between the tools and the everyday needs of the users. For example, except for the 2 RESAFAD centers which offer distance learning courses but are not open to the entire community and the ISSEG cybercentre which also offers distance learning courses, but only to ISSEG members, none of the other telecentres offer educational services besides plain ICT training (on MSWord, MSExcel, MSPower Point, MSAccess, internet and email use) with no link between the tools and the everyday needs of the users.

The second misalignment is closely related to the first. This gap regards the relationship between the policy of the founding organization and the staff working in the telecentre. In most cases people are recruited from the local community in order to promote economic development. In principle, this choice might solve the problem of communication between the organization and the local community, since staff members could work as intermediaries between the vision of the founding organization and its implementation within a given community to which they belong. However, this choice actually means importing the misalignment between the founding organization's policy and the community's conceptualization within the boundaries of the telecentre and, in some cases, even reinforcing it. In many cases it was noticed that the staff were unable to offer services that are relevant for the real development of the local population. Except RESAFAD and in part Bamako CMC, none of the other visited centres which were attached to a community institution (a rural radio, a university, a teacher training institute) offer services linked to the activities of the institutions to which they belong; no significant synergies in terms of activities were observed.

These two misalignment of conceptualization could compromise the other factors considered by the literature to be important in the success of a telecentre. For example, the staff might not receive effective training because the founding organization may consider digital literacy training to be sufficient to enable staff members to see the potential offered by ICT and to communicate this to the local community, developing relevant content and services. However, this is often not the case and staff members are not always able to create awareness of how ICT can improve daily living condition of the community.

4 Social Representations

Two possible misalignements of conceptualization have been hypothesized in the previous chapters:

1. the misalignment in the conceptualization of a telecentre between the founding organization and the community; and
2. the misalignment in the conceptualization of a telecentre between the founding organization and the local staff.

and it was noted how these two misalignments can contribute to the non achievement of the sustainability factor of creating awareness and, consequently, to other sustainability criteria highlighted by the literature such as the provision of relevant content and services and the participation of the local community.

These misalignments will be studied within the framework of the theory of social representation, the main characteristics of which will be illustrated below.

4.1 The origin of the Social Representation Theory

The social representation theory belongs to the realm of social psychology and claims that social psychological phenomena can only be properly understood if they are seen as being embedded in historical, cultural and macro-social conditions.

Moscovici, the father of the theory, pointed to Durkheim and the concept of collective representation (1898) as the ancestor of his theory. According to Durkheim, collective representations are symbols that have a common, shared meaning for the members of a given social group or society. The function of collective representations in society is that of expressing the collective sentiments or ideas that give the society its social cohesion.
Instead of focusing on the widely distributed and culturally grounded representations which underpinned Durkheim's sociology, Moscovici adapted the approach to fit modern society. In fact, according to Moscovici, the concept of collective representation is useful in understanding the mindset of people in pre-modern societies and in our pre-modern times. In modern societies representations are more dynamic, continually changing and less widely shared than ever before. It is appropriate, therefore, to call them social rather than collective (Farr 1998).

The canonical text of social representation is "La Psychanalyse, son image et son public" (Moscovici 1961/1976) which presents a study conducted by Moscovici in the 1950s on how psychoanalytic concepts were greeted in France. In his study Moscovici takes into

consideration three social groups, called milieus: Catholics, urban-liberals, and communists, to investigate how they saw and represented psychoanalysis.

4.2 Definition

The concept of Social Representation, that is, the collective processing "of a social object by the community for the purpose of behaving and communicating" (Moscovici 1963, pp. 231-260) was first conceived by Moscovici (Moscovici 1961). A Social Representation is extensively defined by the author as a:

> "system of values, ideas and practices with a twofold function; first, to establish an order which will enable individuals to orientate themselves in their material and social world and to master it; and secondly to enable communication to take place among the members of a community by providing them with a code for social exchange and a code for naming and classifying unambiguously the various aspects of their world and their individual and group history." (Moscovici 1973, pp. ix–xiv)

Thus, the Social Representation theory investigates how people interpret their world to make it meaningful in their everyday lives, assuming that this process of interpretation takes place through interpersonal communication, structuring the values, ideas and practices called Social Representations (Breakwell 1993, Duveen and Lloyd 1993). Social Representations are therefore both the process and the result of social construction.

As clearly explained by Wagner et al (1999 p.96) "a social representation is the ensemble of thoughts and feelings being expressed in verbal and overt behaviour of actors which constitutes an object for a social group".

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 all 1999 p.96)

Social representations encompass both the individual and the society; they are embodied in communication and in individual minds, shared in a way similar to language (Bauer and Gaskell 1999).
Social Representations exist because of the need felt by people to share their thoughts, their beliefs, their feelings, etc. with other people in the same reference community at a given place and in a given moment in time. (Emler and Ohana 1993)

As stated by Bauer and Gaskell (1999), a representation can be defined as the relationship between three elements:

- Subjects (or carriers) of the representation (S);
- An object that is represented, that can be a concrete entity or an abstract idea (O); and
- The project of a social group within which the representation makes sense (P).

4.3 Defining features of social representations

According to Bauer and Gaskell (1999), the three basic features of social representations are:

- They are fostered in a communication system;
- They have structured content that serves various functions for the communication systems and its participants; and
- They are embodied in one or more of four ways: habitual behavior, individual cognition, informal and formal communication

4.3.1 Communication systems (milieus)

Representations take place in social milieus in which they are processed, circulated and received. Representations are embodied in one or more of four modes: habitual behavior, individual cognition, informal and formal communication.
The minimum system involved in representation is a triad: two subjects (S1 and S2) connected with an object (O). This mediation triangle is the basic unit required to process meaning, which is not a private matter but always involves an “other”, whether concrete or imagined.

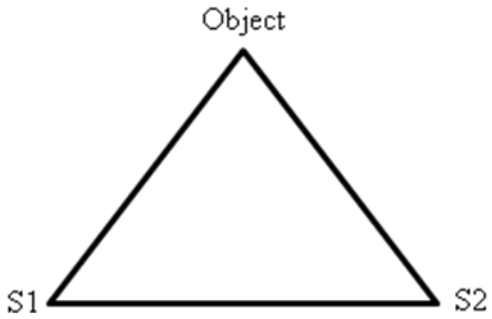

Figure 4.1: The representation triad

A time dimension, both past and future, is added to the basic triangle to denote the implied or explicit project (P) linking the two subjects and the object. The project links S1 and S2 via mutual interests, goals and activities.

> "The basic unit of analysis is therefore (S-O-P-S) and is depicted as a "toblerone". The elongated triangle serves as an image to capture the triangular relations in the context of time. The apexes of the triangle stand for subject 1, subject 2 and the object, in the sense of a brute fact, the referent. The elongation is the past and the future that is implied in the joint project. A section though the toblerone at any particular time is a surface that denotes the common sense meaning (the representation) of that object at that time."(p.171)

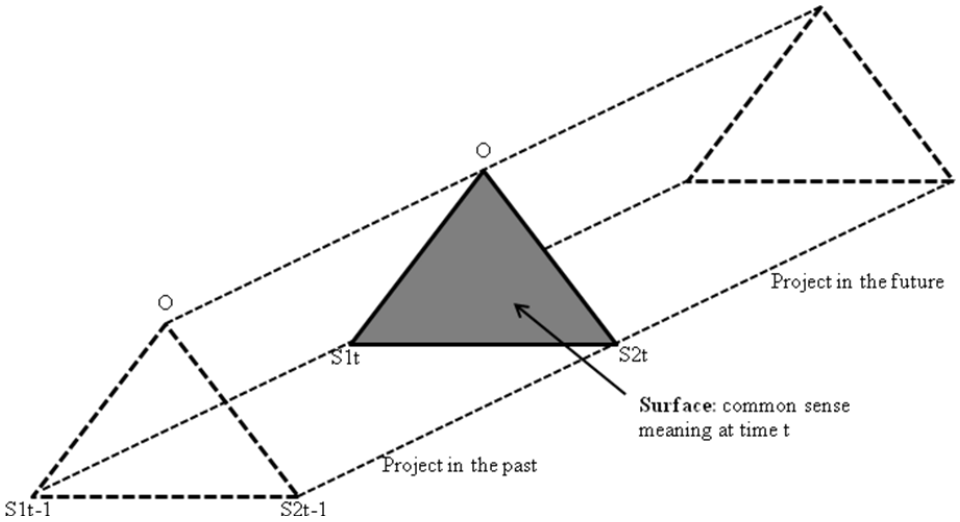

Figure 4.2: The "Toblerone" Model of common sense by Bauer and Gaskell (1999 , p.171)

> "A final step in the extension of this formal model concerns the differentiation of social groups. Social groups are not static, they develop, become larger and perhaps

> subdivide. Hence over time various triangles of mediation emerge and coexist to form a larger social system, characterized at different times by mutual conflict, cooperation and indifference. This leads to the "toblerone pack" model: O is the linking pin of different representations, their common referent or the brute fact. The surface of each triangle, a section through the toblerone pack, denotes the different common senses that prevail in different social groups at the same time. The elongation of the triangles denotes the evolution of common sense in the different groups."

The Toblerone Model is a useful formal description of two salient characteristics of social representations defined by Emler and Ohana (1993); the first highlights that social representations are a product of a given culture in a given period of time:

> "affected and are output of intellectual process at a cultural level and on a historical time scale. To study social representation, therefore, it is necessary to take into consideration the cultural history which is the ground in which the social representations are been conceived." (p.76)

while the second stresses that the milieu in which social representations takes place, called "communication system" by Bauer and Gaskell (1999), can also be defined as a given community:

> "knowledge as social representation is knowledge that has a social existence and location." Communities are the social unit where social representations are created; different communities shapes the representation of the world in different modalities, therefore the study of social representations need to take into consideration given communities. That is, social representations are the representation of the world give by a social group. The role of the individual is twofold: adapting to the social representations of the groups she/he belongs and dynamically modifying the representations of its given groups of reference." (p.78)

Wagner et al (1999) discuss the minimum size of a social group, stating that a minimum of four individuals are needed to form a group. In fact,

> "a social group is called any set of at least two persons which confronts at least one other group. Because a group is a subset of a universe of people it can only be conceptualized within a context which is itself composed of social entities, i.e. at least another group. Social groups are distinct in terms of their understanding of social phenomena which in turn constitute their social identity. The shared understanding of their world and of the objects composing it provides the ground for communication and other forms of co-action. At least some part of this shared understanding must be different from outsiders' understanding. Therefore groups

mutually provide the background against which each group can be distinguished." (p.96-97)

4.3.2 The structure and function of representations

Events and phenomena which disrupt the life-course of social groups are threatening and frequently unfamiliar. They have to be coped with both materially and symbolically. Symbolic coping lies at the heart of the social representation theory. In fact, the social representation theory aims to describe and accurately explain this process. A social representation emerges whenever a group's identity is threatened and when communicating the novel subvert social rules. (Moscovici 1976)

Moscovici described two main processes by which new phenomena are incorporated in the pre-existing social worldview: anchoring and objectification. Anchoring entails attributing meaning to new phenomena – objects, relations, experiences, practices, etc. - by embedding the object being represented in existing worldviews, while in objectification something abstract is turned into something almost concrete; that is, an icon, metaphor or trope which comes to stand for the new phenomenon or idea is produced.

Let us take an example from the field of genetic engineering: after February 1997 the term "cloning" became an anchor, and "Dolly the sheep" an objectification of "adult nucleic transfer techniques" in particular and of genetic engineering in general. (Bauer and Gaskell 1999)

The figure below presents a highly simplified schema of the process and consequences of forming a social representation.

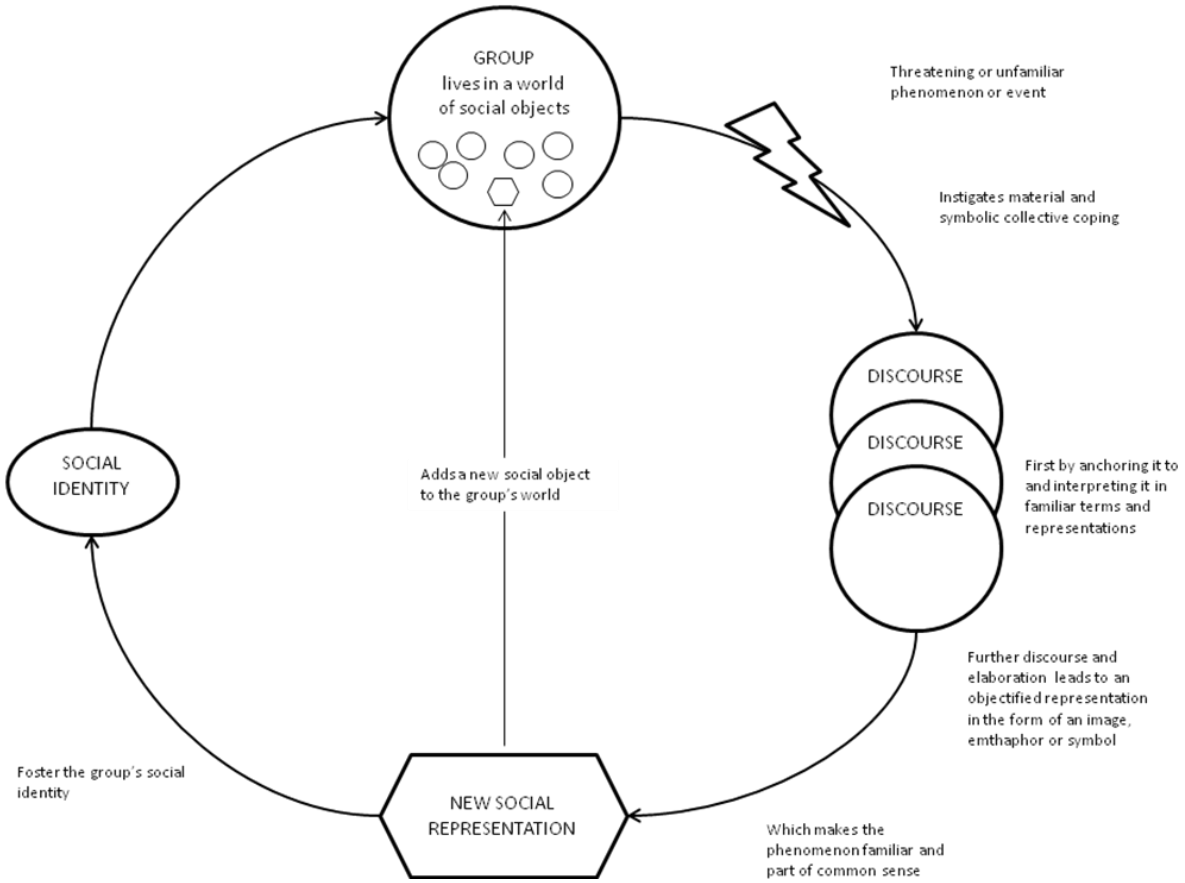

Figure 4.3: Schematic depiction of the sociogenesis of social representations (Wagner et al 1999 p.98)

4.3.3 Modes and Mediums of representation

The four modes of representation, all more or less linked to language, are:

- Habitual behavior;
- Individual cognition;
- Informal communication; and
- Formal communication.

These four modes of representation interact with each other, stabilizing or changing social representations.

As regards mediums of representation, one type of habitual behavior, in many cases below the level of conscious monitoring, is body movement. Individual cognition and the two forms of communication (informal and informal) may take the mediums of words, visual images or non-linguistic sounds.

By way of example, let us mention a study carried out by Jodelet (1993) on the representation of mental illness. In the study she showed how foster parents, while having a habitual behavior which was consistent with the notion of mental illness as being contagious, that is, maintaining a physical and psychological distance, during interviews verbalized (informal communication) mental illness according to modern medicine, rejecting the idea of contagion.

4.4 Methods for studying social representations

Social Representations have been investigated 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 and Lloyd 1993).

Bauer and Gaskell (1999) acknowledging the variety of modes and mediums or representations calls for a multi-method approach, able to observe different representation modes and mediums and their consequences. In research this implies using a combination of in the field observations to study behavioral habits, questionnaires and free associations or interviews to explore individual cognition; group interviews for informal communication; and document or mass media content analysis for formal communication. Farr (1993) advocates the use of multiple methods too, while Jodolet (1991) states that methodological options should allow identification of the conditions under which social representations emerge and function.

It is important here to mention a methodological note published by Emiliani and Zani (1999). They divide the study of social representations into three phases: the first aims to highlight the content of the representation and establish the most commonly shared nodes within a given social group; the second focuses on individual differences within the shared maps of meanings; while the third reflects on the links between group belonging and differences in the form of the representation.

5 Research Questions and Hypotheses

At this point the research question lying at the heart of this thesis can be formulated as follows:

> RQ: What is the social representation of a telecentre in the community where the telecentre has been established? Is it consistent with the one of the founding organization?

To fully answer this central research question and to discover how the various stakeholder groups represent a telecentre, the thesis will answer the following sub questions:

> RQ1: What is the social representation of a telecentre as expressed by representatives of the founding organization?
>
> RQ2: What is the social representation of a telecentre as expressed by representatives of the telecentre's local staff?
>
> RQ3 What is the social representation of a telecentre as expressed by representatives of the telecentre's users?
>
> RQ4: What is the social representation of a telecentre as expressed by representatives of the people belonging to the community but who do not use the telecentre's services?
>
> RQ5: How do social representations of a telecentre as expressed by representatives of the founding organization, of local staff, of users and of non-users differ?
>
> RQ6: In the case of networked telecentres does the location influence the social representation of a telecentre?

To answer to the abovementioned RQs the following hypothesis will be tested:

> H1: the social representation of a telecentre differs according to the social group (i.e. founding organization representatives, staff members, users and non-users) considered

H2: the social representation of the telecentre by the founding organization is fundamentally different from that of local staff.

H3: the social representation of the telecentre by the founding organization is less shared compared to that of local staff members, users and non-users.

H4: the social representation of a telecentre belonging to a network of centres differs according to the location in which it has been set up.

By proving these hypotheses, the existence of discrepancies between the conceptualizations of different stakeholders will be confirmed. Furthermore, by fully understanding how the founding organization's conceptualization of the telecentre is perceived by people working in the telecentres, by people using it and by non-users (members of the local community who do not use the telecentre yet) could help the founding organization define ways of guaranteeing greater success and better integration of the telecentre in the local community as well as improving the telecentre's potential to contribute to the socio-economic development of the local community.

II. An Empirical Research about Social Representations of Telecentres

6 Case Study: Cape Access Project in the Western Cape Province, South Africa

This chapter presents the Cape Access Project used as the main case study in this thesis. In particular, the characteristics of the Cape Access Centres will be illustrated bearing in mind the WCM model (presented in chapter 1).

6.1 Cape Access Project

The Centre for e-Innovation (Ce-I) was set up by the Western Cape Provincial Government with the following mission:

> "improving the quality and efficiency of government service delivery and increasing public participation in government by driving Information and Communication Technologies (ICT) within the Provincial Government." (http://www.capegateway.gov.za/eng/your_gov/14311, March 2009)

One of the main ventures developed and promoted by the Centre for e-Innovation is the Cape Access Project, launched in 2004, to promote the use of ICT as a tool for building knowledge and creating opportunities and, above all, for empowering rural and previously disadvantaged communities in the Western Cape Province to tackle the challenges of poverty and development.

The Cape Access project falls under the Centre's strategy to stimulate economic competitiveness by providing the citizens of the Western Cape with the means to take part in the emerging knowledge economy. The strategy sees information and communication technology (ICT) as a key enabler of economic development and growth.

> "Cape Access aims to ensure that the public has access to the necessary technology infrastructure to interact with government, business and with each other electronically. […] The goal of the Cape Access project is to provide computers with Internet access in public libraries, schools, multi-purpose centres and other access points, for the use by anyone who needs it. Usage will be free of charge, but time limited on a daily basis." (http://www2.capeaccess.org.za/, March 2009)

At the time of this study the project was being developed in six pilot communities in the Western Cape; the map below shows the location of the six Cape Access Centres.

Figure 6.1: Cape Access Centres

The 6 Cape Access Centres are described below according to the adapted WCM Model.

6.2 Cape Access Centres (CACs)

6.2.1 A cluster of services

The main service offered by the CACs is access to computers and the Internet, thus helping communities to retrieve valuable information and enable them to tackle the challenges of poverty and development. In particular, the CACs represent a channel through which citizens can interact electronically with government, with the world of business and with each other. Interaction with the government is possible through the Cape Gateway Portal (http://www.capegateway.gov.za/) which gathers information about the provincial government's activities and initiatives.

Another service provided by the CACs is the development of ICT skills in the community.

Access to computers and the internet is free of charge but is time limited (45 minutes/1 hour per day). The CACs usually keep the opening hours of the premises hosting them.

6.2.2 A collection of technical instruments that make the services accessible

The Cape Access Project uses both new and existing technological infrastructure in local schools. New equipment and infrastructure were installed in communities where there were no ICT facilities or where more ICT facilities were needed. There are 5 to 10 computers per centre. All the centres have internet connection and most are equipped with UNIX and Open Software[8] except for the CACs where infrastructure already exists. The CACs were located on the following premises:

Location	***Premise***
Bitterfontein	Public Library (Municipality Building)
Vanrhynsdorp	Multi-purpose Centre
Elim	Moravian Primary School
Struuisbaai	Public Library
Oudtshoorn	Bongolethu Public Library
George	Conville Primary School

Table 6.1: CAC Premises

6.2.3 A group of people who manage the telecentre

Each CAC is run locally by structures called e-Community forums whose members include community leaders, community NGOs, facility representatives and interested members of the community. The role of these forums is to drive information society projects at a local level and manage the CACs.

The following e-Community forums existed at the time of the research:

- West point.Com e-Community Forum in Bitterfontein
- Matzi.Com e-Community Forum in Vanrhynsdorp
- Elim e-Community Forum in Elim
- Bua e-Community Forum in Struuisbaai
- George e-Community Forum
- Ulwazi e-Community Forum in Oudtshoorn

Each community forum has 11 members who hold the following roles: Chairperson, Deputy Chair, Secretary, Project Officer, NGO Coordinator, Public Relations Officer, Administrator, Marketing Officer, Event Coordinator, Organizer, and Training Coordinator.

[8] At the time of the research the Cape Access Project was considering migrating all the centres to Microsoft operating system and software.

6.2.4 A group of people who access the centre (users)

The CACs targeted the community as a whole, offering citizens the possibility of interacting closely with the provincial government and of using ICT for work or personal purposes.

6.2.5 The context

6.2 Elim Village

6.3 Oudtshoorn Township

The six disadvantaged sites chosen as pilot locations by the Cape Access Project are in coloured communities[9], except for the Oudtshoorn CAC which is located in the black Bongolethu township[10] and serves both black people living in Bongolethu and coloured people living in the nearby coloured township.

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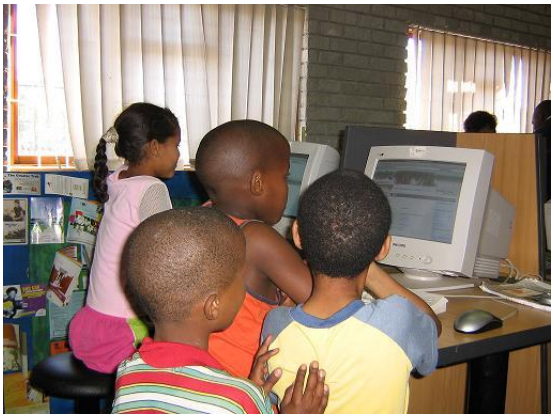
[9] "Coloured person, formerly Cape Coloured, was defined by the South African government during Apartheid (1950 to 1991) as a person of mixed European ("white") and African ("black") or Asian ancestry. […] In early 20th-century South Africa the word "Coloured" was a social category rather than a legal designation and typically indicated an intermediate status between those who were identified as "white" and those who were identified as "black." The classification was largely arbitrary, based on family background and cultural practices as well as physical features. Most South Africans who identified themselves as Coloured spoke Afrikaans and English, were Christians, lived in a European manner, and affiliated with whites. Many lived in Cape Town, its suburbs, and the rural areas of Western Cape province. [..] they represented the middle and working classes and were employed as teachers, clerks, shopkeepers, artisans, and other skilled workers. […]" Coloured. (2009). In the Encyclopædia Britannica. Retrieved March 05, 2009, from Encyclopædia Britannica Online: http://www.britannica.com/EBchecked/topic/126829/Coloured

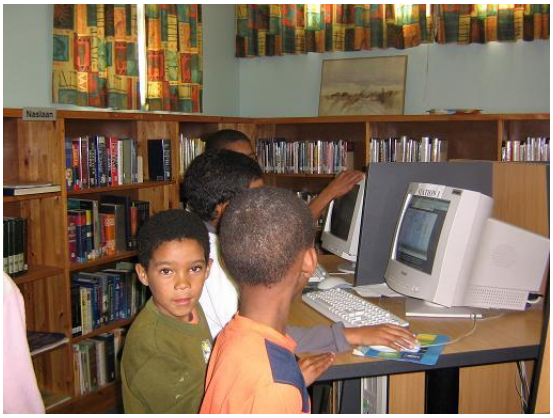
[10] Township is the name given to a planned urban settlement of black people or people of mixed racial descent; a township differs from an informal settlement which is a spontaneous peri-urban area with shacks and inhabited by black or coloured people.

6.4 Bitterfontein CAC - Building



6.5 Bitterfontein CAC – Children using the facility

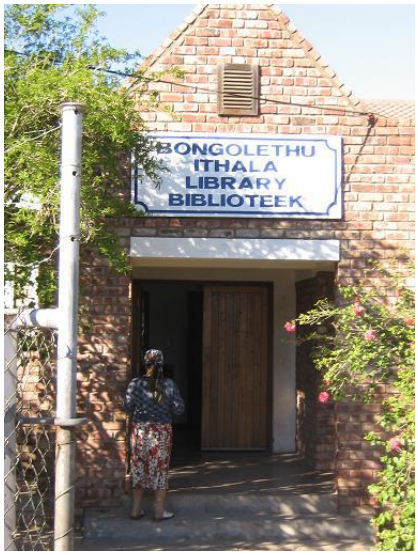
Two of them, Elim and Bitterfontein, are defined by the Cape Access Project as rural communities. In these two villages the population is coloured and there is therefore no distinction between the town centre, usually populated by white people (in small towns the topography is still determined by racial connotations), and the surrounding township/s, which can be coloured or black. Elim is a village with 3’000 inhabitants while Bitterfontein has 900 inhabitants and they are both located in the heart of a sparsely populated area. Both in Elim and Bitterfontein the CACs represent the only public access to ICT; no other telecentres or cybercafés existed.



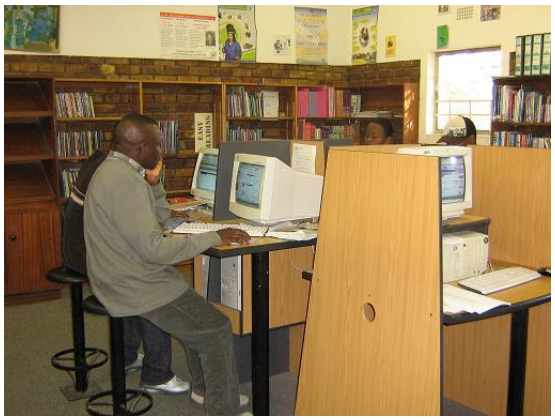
6.6 Stuuisbaai CAC – Children using the facility

6.7 Vanrhynsdorp CAC – Building

Two of the sites, Struuisbaai and Vanrhynsdorp, are identified by the Cape Access Project as peri-urban; the CACs are located in the coloured neighborhoods, counting 3’000 people in Struuisbaai and 2,000 people in Vanrhynsdorp. No telecentres or cybercafés exist in the two towns but the local public high schools do have a computer lab.



6.8 Oudtshoorn CAC - Building



6.9 Oudtshoorn CAC – Users

The final two pilot communities, Oudtshoorn and George, are classified by the Cape Access Project as urban communities. The CACs are located in two townships, Oudtshoorn and George, with 5,000 inhabitants each. No telecentres or cybercafés exist in the two townships but the local high schools have a computer lab. In any case, public ICT access centres exist in the city centres.

The following figure shows the main characteristics of the 6 pilot Cape Access Centres.

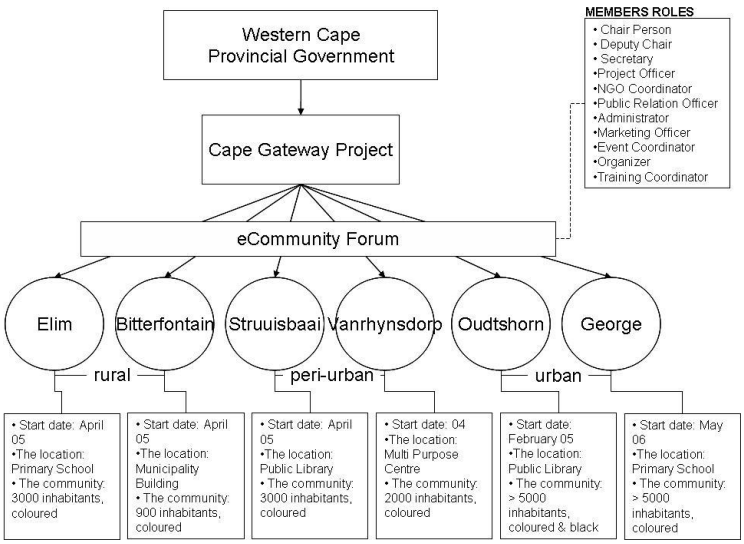


Figure 6.10: CACs main characteristics

7 Methodology

Semi structured interviews were held with the director (representing the founding institution), staff members, community users and non-users to test the hypotheses outlined in chapter 4. This section presents the method used to carry out the study: interview protocols (7.1), sample description (7.2), data collection procedure (7.3) and the qualitative analysis design (7.4).

7.1 Interview Protocols

Semi structured interviews were chosen to develop the research protocols. This type of interview proved successful in investigating webs of meaning in similar studies (Harcourt 2006) that inspired this research; furthermore, the interviewer used a protocol during the interviews which allowed her to ask a similar set of questions but at the same time change their order, explore new areas and comment the answers in order to obtain more detailed information. (Harcourt 2006, Snow et al 1982, Emiliani and Zani 1998). A semi structured interview can be defined as an interview in which the topics to be tackled are determined, but the sequence of the set of questions is not predefined and their utterance can be changed and modified according to the conversation flow. (Cannavò and Fruda 2007).

Four different Interview Protocols were prepared for the four types of interviewees: the director, who represents the founding organization (in this case the Western Cape Government), staff members, users and non-users. In this research non-users are defined as members of the community where the telecentre is located, for example the township or the village, who never access the CAC.

7.1.1 Interview Protocol – Director

The Interview Protocol for the Director envisaged three macro areas:

- **Perception of Telecentres (and digital technologies):** in this section the interviewee is asked about his/her knowledge of the telecentre and the network of telecentres: e.g. the structure, users, services offered to the communities, positive and negative aspects of the telecentre network, the vision of the computer and internet, the information needs of the community and the changes in the communities brought about by the telecentres, as well as his/her thoughts about the future (as regards the telecentre project).

- **Media Exposure:** in this section the interviewee is asked about his/her exposure and access to other media: e.g. radio, newspapers, television. This section aims to enable

comparison between the media diet of the interviewee and his/her representation of digital technologies. These data have not, however, been used in this research.

- **Personal Background:** in this last section some personal information is gathered, e.g. age, education, employment.

For a detailed list of the Director Interview Protocol see Annex I.

7.1.2 Interview Protocol – Staff Member

The Interview Protocol for Staff Members envisages four macro areas:

- **Experience in the Telecentre (and with digital technologies):** in this section the interviewee is asked about his/her use of the telecentre, e.g. his/her role, the activities he/she performs, the training received, and is asked about his/her digital skills and how he/she gained them.

- **Perception of Telecentres (and digital technologies):** in this section the interviewee is asked about his/her knowledge of the telecentre, e.g. users of the telecentre, services offered to the community, positive and negative aspects of the telecentre, the vision of the computer and internet, the information needs of the community and the changes in the community brought about by the telecentre, and his/her thoughts about the future (as regards the telecentre).

- **Media Exposure:** in this section the interviewee is asked about his/her exposure and access to other media: e.g. radio, newspapers, television. These data have not, however, been used in this research.

- **Personal Background:** in this last section some personal information is gathered, e.g. age, education, employment.

For a detailed list of the Staff Interview Protocol see Annex II.

7.1.3 Interview Protocol – Users

The Interview Protocol for Users envisages four macro areas:

- **Experience in the Telecentre (and with digital technologies):** in this section the interviewee is asked about the activities he/she performs at the telecentre, e.g. use, how often he/she accesses the centre and his/her digital skills and how they were gained.

- **Perception of Telecentres (and digital technologies):** in this section the interviewee is asked about his/her knowledge of the telecentre, e.g. services offered to the community, positive and negative aspects of the telecentre, the vision of the computer and internet, the information needs of the community and the changes in the community brought about by the telecentre, and his/her thoughts about the future (as regards the telecentre).

- **Media Exposure:** in this section the interviewee is asked about his/her exposure and access to other media: e.g. radio, newspapers, television. These data have not, however, been used in this research.

- **Personal Background:** in this last section some personal information is gathered, e.g. age, education, employment.

For a detailed list of the Users Interview Protocol see Annex III.

7.1.4 Interview Protocol – Non-users

The Interview Protocol for Non-users is divided into three macro areas:

- **Perception of Telecentres (and digital technologies):** in this section the interviewee is asked about his/her knowledge of the telecentre, e.g. services offered to the community, positive and negative aspects of the telecentre, the vision of the computer and internet, the information needs of the community and the changes in the community brought about by the telecentre, and his/her thoughts about the future (as regards the telecentre).

- **Media Exposure:** in this section the interviewee is asked about his/her exposure and access to other media: e.g. radio, newspapers, television. These data have not, however, been used in this research.

- **Personal Background:** in this last section some personal information is gathered, e.g. age, education, employment.

For a detailed list of the Non-users Interview Protocol see Annex IV.

7.2 Description of the Sample

The researcher visited all six Cape Access Centres and decided to focus on a sample group comprising one rural centre (Bitterfontein), two semi-urban centres (Struuisbaai and Vanryhnsdorp) and one urban centre (Oudtshorn). The initial idea was to study three centres: one rural, one peri-urban and one urban, to capture salient features of the three

typologies of CAC defined by their founding organization. However, while visiting the Vanryhnsdorp centre, the researcher decided to conduct interviews there too, to have the opportunity to investigate a centre placed in a functioning community centre.
The researcher planned to interview 3 staff members, 3 users, 3 non-users but the actual number of people interviewed is indicated below:

	staff members	**users**	**Non-users**	
Bitterfontein	3	4	3	10
Vanrhynsdorp	3	2	2	7
Oudtshorn	3	3	2	8
Struuisbaai	3	4	3	10
	12	13	10	**35**

Table 7.1 Interviews

The Director of the Cape Access Project was also interviewed as representative of the founding organization.

7.2.1 Sample Selection Problems

The selection of the interviewees has been opportunistic for two main reasons: time constraints and safety concerns.
The researcher was based in Cape Town for seven weeks and had the possibility of visiting Oudtshorn, Struuisbaai and Vanrhynsdorp just once for one day and Bitterfontein twice for a total of two days. Hence, the sample group of staff members and users was formed by people who volunteered or accessed the CACs during this short period of time.
Another major and unforeseen problem regarded personal safety. The plan had been for the researcher to go out into the community, to the main gathering points of the township such as supermarkets, churches, football fields, etc. to interview non-users. However, after arriving in the townships the researcher was strongly advised not to go out alone for safety reasons. Therefore, the non-users interviewed were either people found around the CACs or people suggested by other interviewees, so that the non-users sample was auto-selected by proximity or chosen accorfing to a snowball effect.

Another unforeseen barrier was language. In some of the communities, especially Vanrhynsdorp and Bitterfontein, the locals did not speak English. Furthermore, on two occasions the researcher had to ask other locals to help translate the interviews.
This created a sort of distance between the interviewer and interviewee and could have compromised the interviewees' ability to fully express his/her opinion and obviously to understand the interviewer who was already not using her mother-tongue when speaking in English.

7.3 Data Collection

The interviews, shown in the table below, were conducted in June 2006.

CAC Interviewee	*Length of interview*
Bitterfontein	
Bitterfontein Non-User 1	00:06:06
Bitterfontein Non-User 2	00:04:04
Bitterfontein Non-User 3	00:05:10
Bitterfontein Staff Member 1	00:47:53
Bitterfontein Staff Member 2	00:48:40
Bitterfontein Staff Member 3	00:47:58
Bitterfontein User 1	00:10:45
Bitterfontein User 2	00:22:53
Bitterfontein User 3	01:05:15
Bitterfontein User 4	00:10:59
Oudtshoorn	
Oudtshoorn Non-User 1	00:18:20
Oudtshoorn Non-User 2	00:07:37
Oudtshoorn Staff Member 1	00:45:15
Oudtshoorn Staff Member 2	00:40:47
Oudtshoorn Staff Member 3	00:42:59
Oudtshoorn User 1	00:27:01
Oudtshoorn User 2	00:25:29
Oudtshoorn User 3	00:22:32
Vanrhynsdorp	
Vanrhynsdorp Non-User 1	00:15:31
Vanrhynsdorp Non-User 2	00:24:50
Vanryhsndorp Staff Member 1	00:40:22
Vanryhsndorp Staff Member 2	00:31:22
Vanryhsndorp Staff Member 3	01:09:22
Vanryhnsdorp User 1	00:20:54

Vanryhnsdorp User 2	00:21:11
Struuisbaai	
Struuisbaai Non-User 1	00:08:22
Struuisbaai Non-User 2	00:10:55
Struuisbaai Non-User 3	00:08:16
Struuisbaai Staff Member 1	00:42:14
Struuisbaai Staff Member 2	00:26:58
Struuisbaai Staff Member 3	00:42:01
Struuisbaai User 1	00:28:50
Struuisbaai User 2	00:12:52
Struuisbaai User 3	00:19:31
Struuisbaai User 4	00:13:44
Funding Agency	
Cape Gateway Director	00:57:45

Table 7.2 Interviews and their Length

The total interviewing hours was **16:34:43**. The table below shows the Average Length of the Interviews in general and then by interviewee typology.

Interview Type	*Length of Interview*
Average interview	00:27:38
Average interview – staff member	00:43:49
Average interview – user	00:23:14
Average interview – non-user	00:10:55

Table 7.3 Average Length of Interview by Type of Interviewee

7.4 Design of the the Qualitative Analysis

Drawing from the method suggested by Emiliani and Zani (1999) for the study of social representations, the technique used to analyze the corpus of data envisaged three stages: the first aimed to illustrate the individual representation of the CAC, the second to identify the shared nodes between the given social groups, while the third aimed to compare different social groups. To this end a set of techniques borrowed by the theory of mental models have been adopted and adapted. In particual, the method used to represent mental models with cognitive mapping was taken and adapted from Carley and Palmquist

(1992) while the method used to construct Shared Mental Models (SMM) from Individual Mental Models (IMM) was taken and adapted from O'Connor (2004).
The sample is divided according to two criteria:

- Type of interviewee: in this case the aim is to compare shared knowledge and representations of staff members, users and non-users with that of the director.
- Location of the centre: in this case the aim is to compare the knowledge and representations of people living in four different areas: Bitterfontein, Struuisbaai, Vanryhnsdorp and Oudtshorn.

To build the SMMs it was decided to include all the pieces of the representation shared by two or more people within the social group, e.g. the type of interviewee or the location of the centre, using the definition of social group given by Wagner et al. (1999).

7.4.1 The Process of Analysis

The first step undertaken has been the literal transcription of the interviews which focused on the content and not on the ineraction flow nor on paralinguistic elements. Transciptions have been done by the researcher and by both master students at the Università della Svizzera italiana and at the Cape Peninsula University of Technology. All transcriptions have been then checked by the researcher, in order to ensure their accuracy.
Firtly a bottom-up approach has been used and a first step of the coding phase consisted of a preliminary explorative analysis done using paper and pencil on four interviews. This explorative analysis aimed at identify thematic areas and recurrent topics. At this point a first formalization of the interpretative model has been drawn, including entities and elements.
To manage the large body of data and to perform following interpretations it has been decided to use a qualitative analysis software. Two pieces of software have been studied: ATLAS.ti by Scientific Software Development (http://www.atlasti.com) and NVivo, by QSR International (http://www.qsrinternational.com). It has been decided to use NVivo (version 7) because of its flexibility in clustering nodes into cathegories and families and because the interface appeared more user-friendly to the researcher.
Using a top-down approach moving from the first formalization of the interpretative model built the coding of all the interviews according to the three elements of the model (entities, elements and attributes) has been performed. During the coding process the interpretative model has been continuously refined, in a continuous shift between a top-down and a bottom-up approach in order to let the data "talk".
Finally, the model and the codes have been polished utill reaching the model described below.

7.4.2 Identification of Entities, Elements and Attributes

An exploratory approach was used to identify the objects making up the model. This means that the nodes were drawn dynamically from the texts without applying a pre-defined guidebook to the interviews.

Finally, 365 nodes were identified and clustered into the elements forming the interpretative model so that the nodes became the attributes associated with the elements making up the concept map: e.g. positive aspects of the CAC is an element defining the representation which has attributes, such as the possibility of using internet for free or the favorable position of the centre.

Each element was then gathered around an entity, whether person-entity or object-entity (abstract or concrete). For example, the CAC is an entity of the model, formed by elements such as positive aspects, having attributes, such as a good location.

Entities are the macro units of analysis of the interpretative model. The entities comprising the model are:

- Person
- Motivation
- ICT Vision
- Cape Access Centre (CAC) – present
- Cape Access Centre (CAC) – future

7.4.3 Identification of relationships

The identification of relationships led to the development of the macro model of the research. This step is divided into (1) identification of relationships among entities and (2) identification of relationships among elements.

First of all the relationships among entities were established: a person (director, staff member, user and non-users) has a reason for going or not going (in the case of non-users) to the CAC. Moreover, the respondents' vision of ICT was influenced by the CAC. The respondents also have a vision of what the CAC should become in the future.

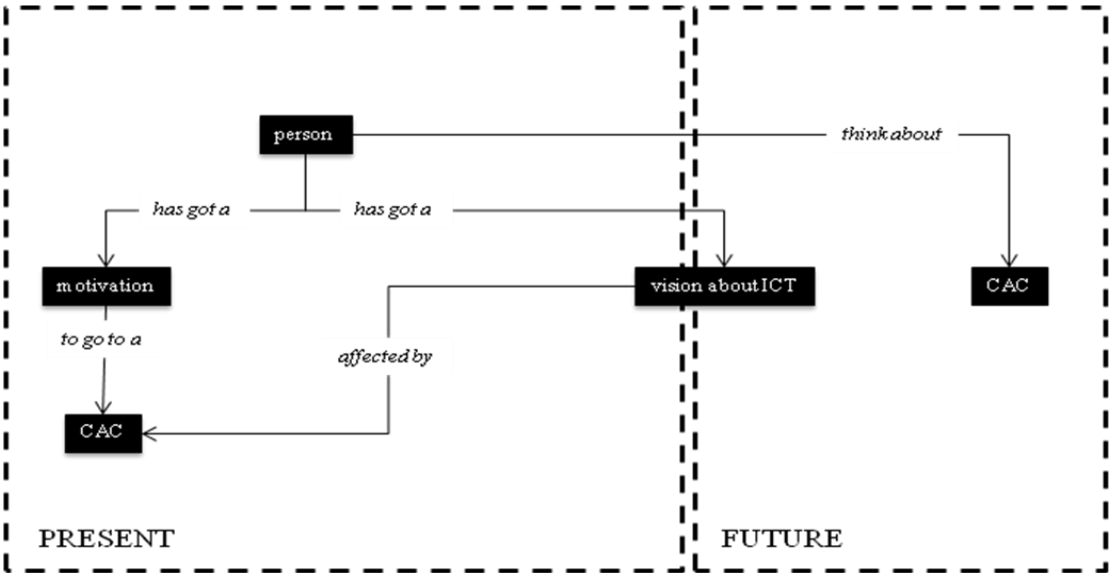


Figure 7.1 CAC Interpretative Model

The second step consisted in identifying relationships within a given entity (e.g. person). This resulted in the definition of the following concept maps (models) which represent the respondents' mental models.

Person Entity

A person (an interviewee) can be related to the CAC on different levels: he/she can be the director, a staff member, a user or a member of the community but not a user. At the same time a person is exposed to other media, in particular to radio, television and newspapers.

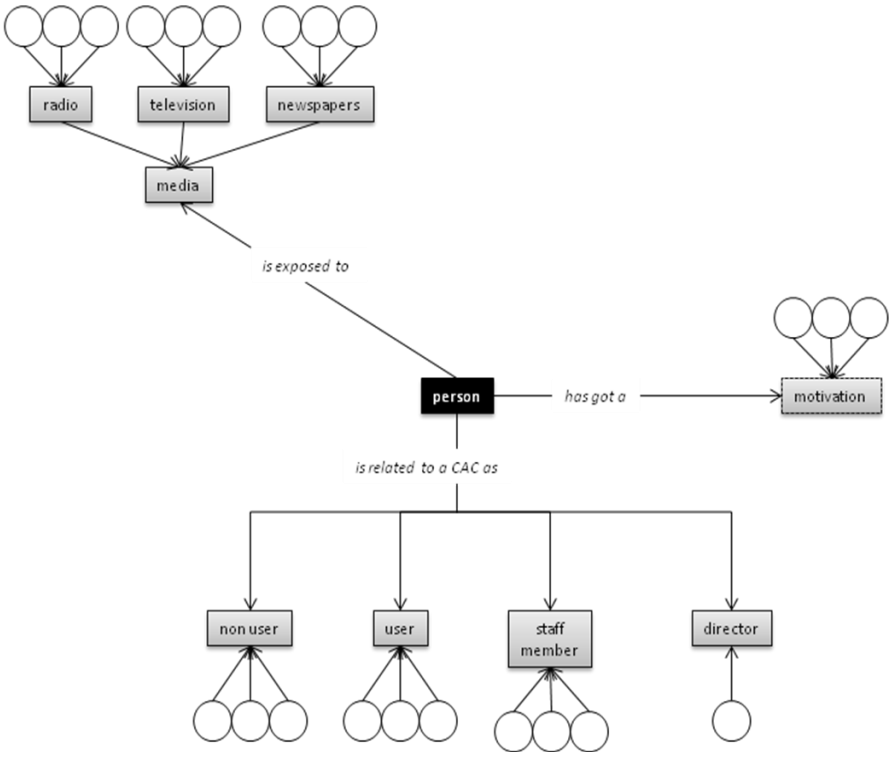


Figure 7.2 Person Entity

For this thesis we considered only the person entity and its relationship with the CAC and its reasons for using (or not using) the CAC.

CAC – present

A CAC:

- is defined in some way;
- is a centre that offers services (classified as spontaneous if they were put forward by the interviewee immediately and induced if they were mentioned only after a further pushing by the interviewer);
- is used by people who perform some activities (use);
- has some positive elements and others that require improvement;
- performs promotional activities in order to create awareness within the community;
- addresses some community information needs and causes some community changes;
- offers training to its volunteers.

Community information needs and community change elements were excluded from this research because, during the interviews, questions regarding these two aspects were formulated using a scenario-based approach, with open questions that allowed the

interviewee to imagine what the community would be like without the centre and what he/she would do if he/she were the director of the centre. This type of formulation caused some confusion among the respondents who were unable to answer the questions firstly, we believe, because of language barriers and, secondly, because they were probably not used to working with hypothetical scenarios.

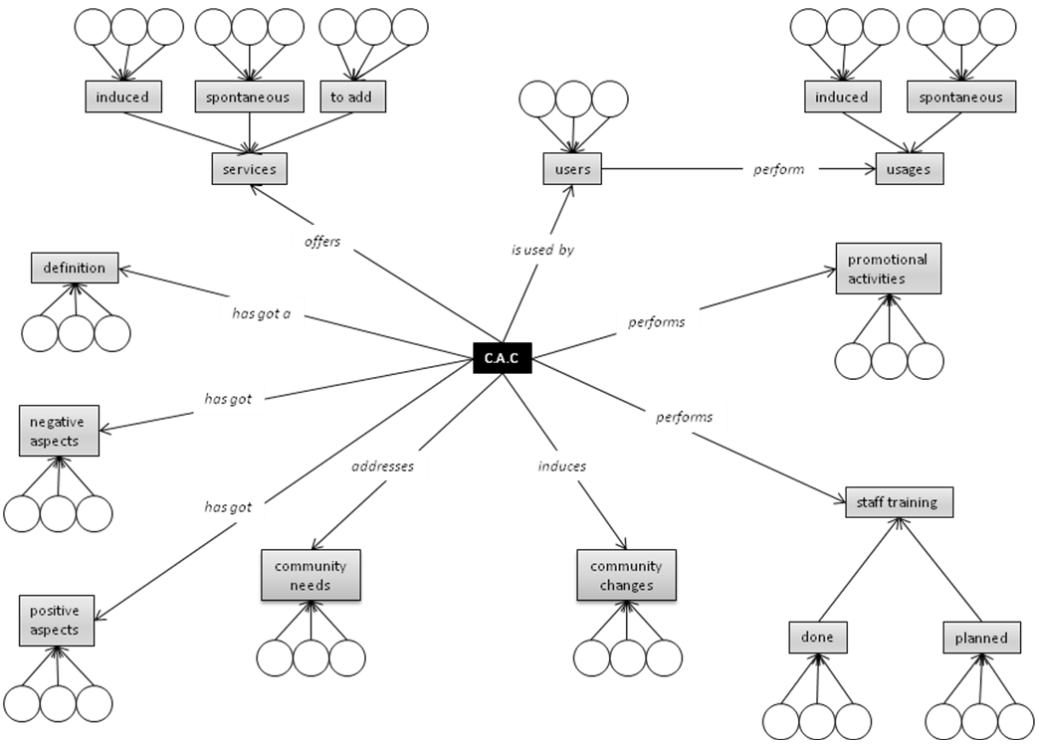


Figure 7.3 CAC Entity

ICT Vision

The respondents' vision of ICT is a combination of their vision of computers and their vision of the internet. This vision affects the perception of possible community and society changes attributed to ICT itself. The society change element was once again not considered for the same reason mentioned above.

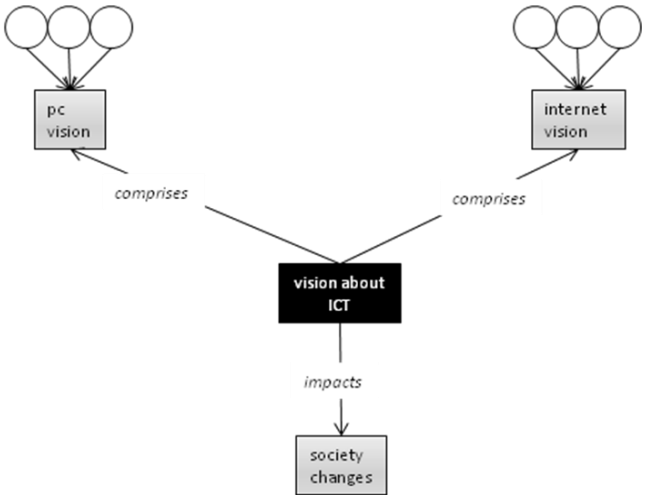


Figure 7.4 ICT Vision Entity

CAC - future

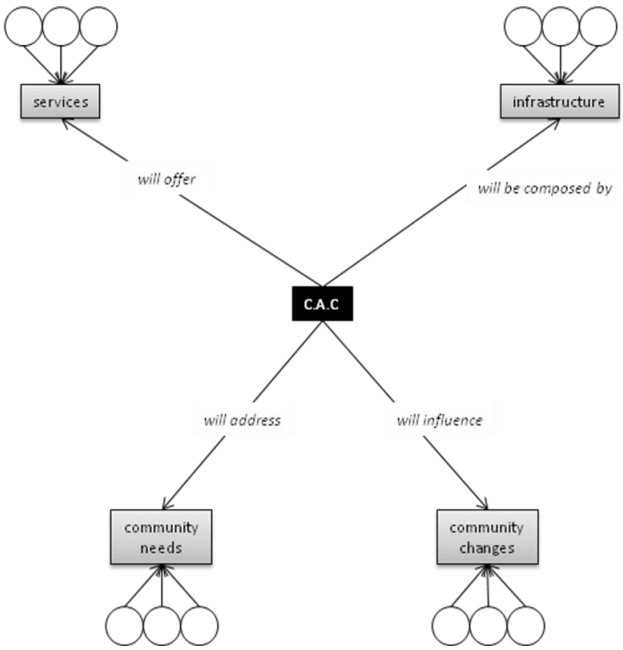


Figure 7.5 CAC in the future

The idea what the CAC would be like in the future encompasses which services the CAC will offer; how the CAC will transform in terms of infrastructure; which community needs it will address; and which community changes it will provoke. This entity has not

been used in this thesis because future ideas about “infrastructure” have been elicitated in the element “negative aspect” and the element “service”, as well, has been added to the “service” element in the CAC Entity. Finally, Community needs and changes were not considered for the reason stated above.

8 Individual Representations of CACs

In this chapter the individual mental models of the 36 interviewees are presented along with some demographic data. The presentation is divided by type of interviewee.

8.1 Individual Representations: Staff Members

8.1.1 Bitterfontein Staff Member 1 (BSM1)

BSM1 is a 23 year old man who lives in Bitterfontein West. He is Deputy Chairperson of the eCommunity Forum and is a full-time volunteer at the CAC. At the time of the research he was studying for a higher education degree as Community Developer organized by the University of Western Cape though a distance learning program. He had learnt how to use computers before volunteering at the CAC but had his first experience of the internet when he started working at the centre in August 2005.

CAC Definition

BSM1 has a clear idea of the concept behind the Cape Access Project. In fact, he defines the Cape Access Centre as a centre offering free eGovernment information and services, adding that it is possible to access ICT in a broader sense at the facility : e.g. it is possible type up documents at low cost.

> "I will say it is a free Government Service, where you can have access to information and government services, where you can type stuff for cheap." (lines 343-344)

CAC Services

However, when describing the services offered by the CAC the respondent highlights an interesting program they were developing: an ICT training course for primary school children, but did not mention eGovernment services and information.

In the researcher's opinion this ICT training program is extremely relevant because it is a good example of how to base ICT training on the actual needs of the community:

> "What we do is, we take five people and then Tuesdays and Thursdays. We take five children and then we learn them the basics like typing. And then the basics of how to use e-mail and then the basics on internet using and the last part we are going to do is we show them the different careers opportunities like becoming a doctor, the internet sites they could log on to to see what a doctor is actually doing and what qualifications and subjects on school you need to become a doctor."(lines 51-55)

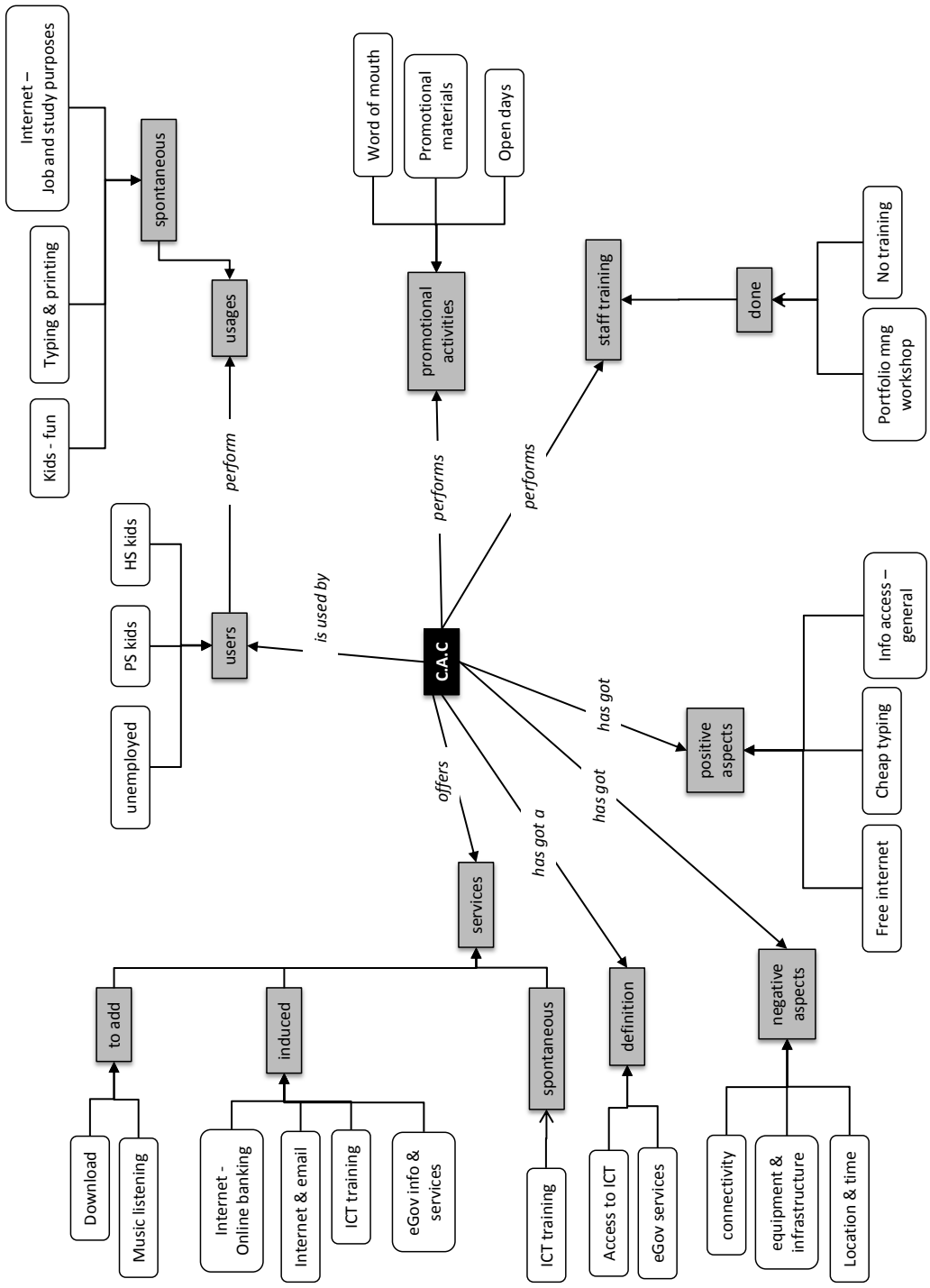


Figure 8.1 BSM1 Individual Representation

This is not only a basic computer literacy course, helping children with their future academic career; it also aims to improve the career prospects for children in the community, showing them what steps to take to become a certain professional. The training program is designed for grade 7 children (the last year of primary school before high school).

The provision of eGovernment information and services is mentioned by the respondent only within the induced services category. The use of the Cape Gateway Portal is mentioned for business purposes: people in Bitterfontein are looking for jobs and interesting calls for tenders.

> "You see most of the job seekers that come here they use the Cape Gateway. Because there is a lot of Government Projects and jobs advertised at the Cape Gateway." (lines 150-151)

> "I have seen two or three business managers looking for tenders, at the Cape Gateway portal." (line 155)

ICT training is mentioned again in the induced services category; the respondent highlights that the eCommunity Forum organizes a computer literacy course for elderly people who are not able to type.

> "and then the third one is that we are going to this elderly people they can't type. They can read and write but can't type." (line 245)

Moreover, the respondent mentioned the use of email and online banking, underscoring the issue of access to basic services in rural areas of South Africa: the citizens of Bitterfontein have to travel some 200 km to reach the nearest bank.

> "The main ones are the one with banks, a lot of people do internet banking, 183 kilometres to the nearest bank in the Western Cape." (lines 223-224)

Services to Add

BSM1 suggested adding software to listen to music, earphones so as not to disturb other users and the possibility of downloading music and other files from the internet.

> "The second thing that there must be is when people want to listen to music while they are typing because sometimes it's boring. What we need is earphones and we need programs for music so that we can download music. " (lines 303-305)

CAC Usage

As regards perceived uses, the respondent stated that during the school holidays many high school students, mainly those in their final year, use the centre to type up their CVs to send out applications for jobs or universities by email. School holidays are the only period in which high school children can use the centre because in Bitterfontein there is no high school and the children have to move to another town to continue their studies.

> "What they do is they type their CV's. For universities or jobs they want to do next year. Most of them are matriculates." (lines 46-47)

Other frequent users of the centre are children who go there mainly to play games. The final use mentioned by the respondent is typing and printing and in particular mentioned that some local companies use the facilities to type up work-related documents.

> "Some other users are organizations, what they actually do they type out their minutes, agendas and notices for their organisation meetings." (lines 40-41)

Users

According to BSM1 the main users of the Bitterfontein CAC are children from primary and high schools and unemployed people. This is consistent with the conceptualization that the respondent has of the use of and services offered by the centre: primary school children come to take part in the ICT training program or to play games and have fun, and high school children come during the holidays to type up their CVs and send applications for jobs or universities.

CAC Positive and Negative Aspects

The respondent highlighted three positive things about the centre: first of all the fact that it provides free access to internet, secondly that it gives people the chance to do research and have access to information while the third positive aspect is that it provides the community with a low cost typing facility.

As regards areas of improvement, the respondent concentrated on the fact that the internet connection is very slow and that the equipment is out of date. The third interesting factor highlighted by the interviewee is the need to change location:

> "The centre must shift nearer to the community because it is far away from the community." (line 291)

In fact, the Bitterfontein CAC was housed in the community multipurpose centre which is far from the users homes.

Promotional Activities

The interviewee listed a few of the promotional activities set up by the eCommunity Forum members: first of all they run several open days during which they explain to the local community what they should expect from the centre and what its purpose is. They also campaign door-to-door to tell people about the existence of the centre and they produce promotional materials such as flyers and posters.

Staff Training

The respondent knew that the Bitterfontein eCommunity Forum took part in a Portfolio Management Workshop during which the roles and tasks of each eCommunity Forum member were explained; however, he did not take part in the workshop and did not receive any training from the Cape Gateway Initiative.

Personal Motivation

The respondent thinks that this is a great opportunity for the community to have free access to ICT; he believes that this makes the community more advanced compared to other towns and it is therefore an honor to have the chance of volunteering at the centre.

> "We have to pay for these kind of access and here we don't for internet and e-mail usage. Not a lot of the community get that opportunity so actually it's a privilege for me to volunteer because there is something in our community that makes us more advanced as other communities. Because others have to pay for these kinds of access and here we don't." (lines 161-164)

Computer and Internet Vision

The respondent explains what a computer is using the metaphor of the television: a computer is like a TV, the difference is that you can look for the information you need without waiting for the machine to give you that information:

> "Or I will show him a TV because it looks similar like a TV. What you also can do you can search for the information. You don't have to wait until TV gives you information, you can search for information." (lines 353-355)

When asked about the internet, the respondent mentioned the communication dimension of the tool:

> "I will say it is a communication tool that has been created where you can find anything on the net or you can talk to anyone in the world." (lines 359-360)

8.1.2 Bitterfontein Staff Member 2 (BSM2)

BSM2 is a 46 year old woman who works as a teacher in the local kindergarten. She is the secretary of the eCommunity Forum of Bitterfontein. She had been a volunteer at the centre from the beginning because one of the community stakeholders invited to the kick-off meeting was the kindergarten and she was the person who represented it. She was not able to use the computer before she started volunteering at the CAC.

CAC Definition

BSM2 is not able to give a clear definition of the CAC or its scope. When asked how she would explain the CAC to a community member she answers that she would invite them to visit the centre and she would show them how to type and access the internet. The overall idea is that the CAC is the place in Bitterfontein where ICT can be accessed.

CAC Services

According to the respondent the Bitterfontein CAC offers several services to the community; above all access to the internet, email and free printing. However, she pointed out that the most important thing that the CAC offers is *"free knowledge"*; that is, the possibility of accessing information and she illustrates this by mentioning an eGovernment service: grant application searches.

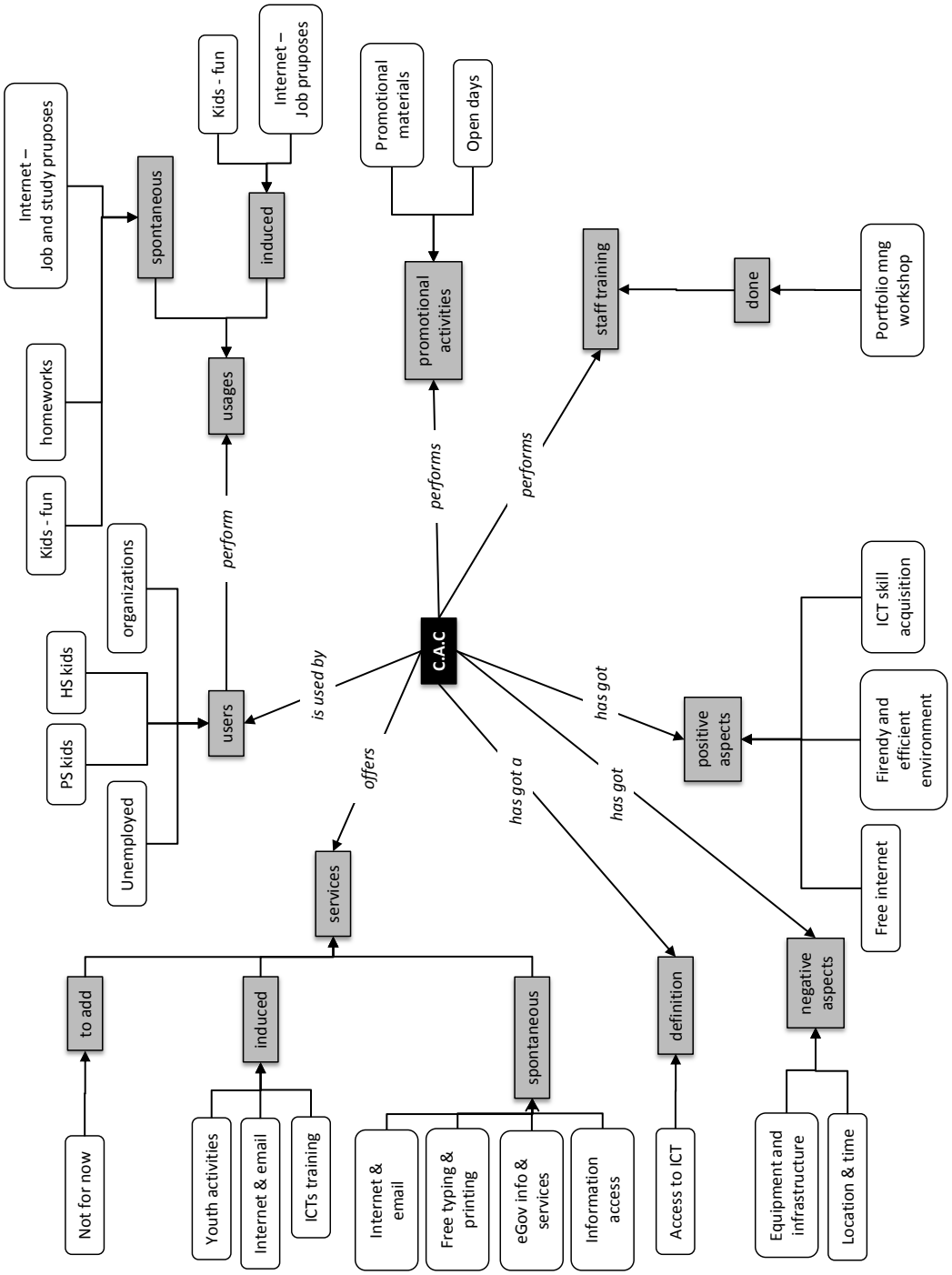
> "Like documents of doing a grant application for a grant, they only have to come and you use the computer like to the website or certain services, they have got all the information you can only even print the application form and you have it." (lines 68-70)

Another interesting initiative mentioned by the respondent as an induced service is that the Chair Person of the centre is typing up a theater play for students.

Services to Add

BSM2 did not think that at that stage other services should be provided; in her opinion the services are adequate for the involvement level of the community:

> "I don't think on that stage, I don't think now, because most of us didn't know really about the computer that's why I said I don't know at this time now exactly I



8.2 BSM2 Individual Representation

> think they are doing enough for the community on this level, on this level they are doing enough, if our community are more involved they become more knowledge like the computers I think then the center can came with more activities more information." (lines 147-150)

CAC Usages

Bearing in mind the spontaneous uses indicated by BSM2, the CAC appears to be used like a sort of youth centre. The first use indicated by the respondent are videogames played by children while the second is the use made by secondary school children to do their homework. However, in Bitterfontein there is no high school; high school students come back home only for the weekends and the centre is open only from Monday to Friday: high school children can do their homework there only on a Friday afternoons.

> "Yeah but this is different because high school is in […] and the children come by Friday they come back to Bitterfontein then they have the Friday afternoon and is like me the afternoon is too short ." (lines 76-77)

Another use mentioned by the respondent is searching for jobs on the internet.
When further questioned the respondent indicated as other uses the fact that some businessmen come to the centre to search for information on the internet; however, she kept going back to the fact that children use the centre to play videogames.

Users

Consistently with the uses expressed, BSM2 indicated children and high school students to be the main users. Two interesting types of users mentioned by the respondents are the personnel of local organizations that come to the CAC to use the printing and typing facilities:

> "Most of them print some minutes, print or type some advertisements something like that" (line 207)

and unemployed people who come to look for jobs.

CAC Positive and Negative Aspects

The respondent indicated that the positive aspects of the CAC include the possibility of free access to the internet; she referred to the friendly atmosphere at the centre, highlighting that the staff are kind to users:

> "the staff that run this computer I have to say is very kindly towards children and younger persons as well like me who did not really know about the computer they try to assist everyone to understand." (lines 122-123)

and that it is a safe environment where people can learn ICT skills without being afraid of making mistakes or breaking things:

> "I do not have to be afraid to broken maybe a button to ensure it it's all right I can broke it it's ensured" (lines 125-126)

As regards aspects to be improved, the respondent mentions the number of computers, not enough to serve the community, the fact that the centre is too small and that it is too far away from the settlement.

Promotional Activities

The respondent spoke about how the CAC tries to take part in community events, such as youth days, and to organize open days to publicize the centre in the community. On those occasions the CAC also prepares promotional material such as posters and flyers.

Staff Training

The respondent mentioned a Portfolio Management Workshop organized recently during which the eCommuntiy Forum members were offered training on their specific roles. She learnt how to use the computer and the internet with the support of other eCommunity Forum members; however, she does not consider this support as training, even informal.

Personal Motivation

For the respondent the added value of volunteering at the centre is the possibility of learning, of becoming computer literate:

> "I am only learnt to use the computer, already I am a learner, the computer is a new thing I am learning all about this." (lines 11-12)

Computer and Internet Vision

The respondent sees computers as machines providing knowledge and information:

> "I try to explain that a computer is like a machine with knowledge or more information you want." (line 219)

An interesting point made by the respondent is that these machines cannot work without human beings:

> "But I mean it's very interesting computers, but the most interesting thing I, the most important experience I had with a computer as a person, the computer like that they can't work without me." (lines 195-196)

As regards the internet, the respondent highlighted the information gathering dimension of the tool.

8.1.3 Bitterfontein Staff Member 3 (BSM3)

The third staff member interviewed at Bitterfontein is a 30 year old man who holds the role of Public Relations Officer in the eCommunity Forum and who began working at the centre in April 2005. He is a Community Development Worker in Bitterfontein and volunteers part-time at the CAC, covering the rotating shifts for more or less three hours a day. He finished high school but had never used a computer before becoming a member of the eCommunity Forum; he learned how to use the computer on his own.

CAC Definition

According to the respondent the CAC is a facility that offers people access to information in a broader sense and, specifically, offers eGovernment information to the community.

> "Ok in the first place I would explain to him that the center is actually offering information to people, this is the main purpose of the center, to offer information to people, say even government information, public sectors or companies any other information you can get in the center. So I think the first answer to a guy or to a girl or to people would be that this center in the first place offering information to people" (lines 230-233)

CAC Services

The main service highlighted by BSM3 is the typing service; the centre offers people and companies the chance to type up documents and also offers support to users unable to type:

> " I think the main service is for organizations typing letters and advertisement." (lines 165-166)

> "I also usually type letters for organizations and then also advertisements for organizations say for instance there is an advertisement for a meeting, we can have

> a meeting at that time I also do this kind of thing. So yes I am fully I am actually helping in anything to my abilities to help people." (lines 138-141)

Another key service offered by the CAC is one-to-one assistance, not only for typing but for anything users need regarding the use of the computers:

> "Users usually ask me "what do I do there, what do I do there" I am also not computer literate but [as] the staff, I am knowing I also teaching them" (lines 81-82)

and one-to-one assistance is crucial for users that are not literate and are looking for jobs:

> "I am gatewaying for jobs for people who don't maybe read newspapers." (line 137)

An induced service the interviewee mentioned was the email facility and the support the staff gives to people who want to set up an email account:

> "Then the email facilities we are also say for instance the secretary or the chair person of the organization we show them how they can mail staff because it's free of charge and they don't have to make a phone call to reach the people." (lines 172-174)

It is important to notice that the perceived added value of using email is the fact that it is free of charge compared to other means of communication such as the telephone.

Services to Add

Staff Member 3 mentioned two interesting services: first of all the CAC should offer ICT training activities to targeted groups; he mentioned the example of training for companies and businesses:

> "I think I would like the center to offer skills to people, say organizations who they can do presentations maybe in PowerPoint cause normally people sitting in a minister office or the minister himself who wants to deal with people on ground level, they explain to them what do they want, doesn't want let's say consultant involved to reach the ministers and then. Yah so skills in my view is, if we can give to the community more skills." (lines 198-202)

And, secondly, he mentioned career days to help the youth imagine a future outside the town limits:

> "[…] and then we are also planning to make kids aware, career awareness and why we are doing that because we realized that people from this area, say there is only this year our matricula there's only two maybe that get to further education going to university, so we decided to do career awareness for maybe to school kids to be more aware of opportunities out there." (lines 70-73)

CAC Usages

Uses made by young people are related to job seeking: young people look for jobs on the internet, type up their CVs

> "[…] and then the youth are usually looking for jobs opportunities, typing their CVs to send to company." (lines 90-91)

or surf the net for general purposes. Some also do online banking and children use the computers for fun, to play games, learn how to draw or look for celebrities on the internet.

> "kids usually at this stage still playing, looking at pictures, how to draw maybe an egg or what so ever." (line 89)

Another use mentioned is email.

When asked the respondent also indicated the general use of the internet to look for sports news or other personal interests.

> "come to the news sport or […] local newspaper and see if there is something new for them to get informed about." (lines 221-222)

Users

When asked how many users the centre has a day, BSM3 said 8 users and decided to refer only to adults and young people. However, he realizes that children are the most frequent user typology of the centre but considers this as having a negative impact on the CAC:

> "[…] then the kids, so the kids are actually in my view overruling the usage of the center." (lines 86-87)

According to the respondent children take over the centre, limiting other user groups' use. In effect, the researcher did notice that children are the most frequent users of the centre but BSM3 was the only interviewee who complained about this. In general, children in Bitterfontein are welcome because ICT is seen as a means to improving their

future life. In other centres, however, such as the Vanhynsdorp CAC, the eCommunity Forum decided to ban children in order to allow the rest of the community to benefit from the centre. We can thus see that different centres adopt different strategies while dealing with the same issue.

CAC Positive and Negative Aspects

BSM3 sees the internet as a communication tool giving people the possibility of finding information free of charge and of doing some things for free and at a distance, such as bank transactions. However, the most important positive aspect highlighted by the respondent is the possibility of accessing ICT, improving the self-confidence and self-esteem of users. Bitterfontein is a small rural town, without secondary education facilities, where people are neither English nor computer literate and believe that they have been left behind compared to other less rural towns. According to the respondent the CAC increases the users' confidence to compete against others born in less rural and disadvantaged places.

> "I think the first thing is that until now the users are comparing or they think they can compare about any other place in our nearer environment, because usually when we get to school, it's about 25 km, we get to the schools and we did not work with computers, we did not reach enough in English and now we are realizing that these computers are actually bringing that trust and the self-respecting us to compete with other people." (lines 183-186)

As regards things that could be improved in the CAC, the respondent mentioned the opening hours of the centre saying that the afternoon closure does not allow the employed community to use either ICT or the centre; the fact that the Bitterfontein CAC is far from the township; slow connectivity and inadequate infrastructure.

Promotional Activities

BSM3 is the Public Relations Officer of the centre and has a picture of the promotion strategy: first of all he will try to raise awareness about the centre, going to community meetings and taking part in events such as the youth day. However, he said he finds it difficult to promote the centre because he feels overwhelmed by the technical problems; he is not confident that the centre will function correctly on a day to day basis and does not want to risk promoting a centre that does not work:

> "I think from my side if the technical, the technical things has to be sorted out, if I can with full confidence raise awareness on the people, so I can't raise awareness on the people and then they come to the center then the center is offline, I am the type of person that don't play with people." (lines 97-99)

Staff Training

The interviewee does not remember any training received in the past but says that the Director has a plan to train the eCommunity Forum in computer skills so that they are able to teach users.

Personal Motivation

For the respondent there are two main reasons for volunteering at the centre; first of all the possibility of helping the community:

> "Because I would like all the community members to have input in all these programs, so say maybe for instance you are running a program and there's maybe usually people that let's say one focus group or one group that has been focus because of the awareness part, so if you can raise awareness among people in terms of what's in this for individuals or for groups then we are all involved in it." (lines 128-131)

Secondly, the increased self-confidence and self-esteem he has gained by becoming computer literate:

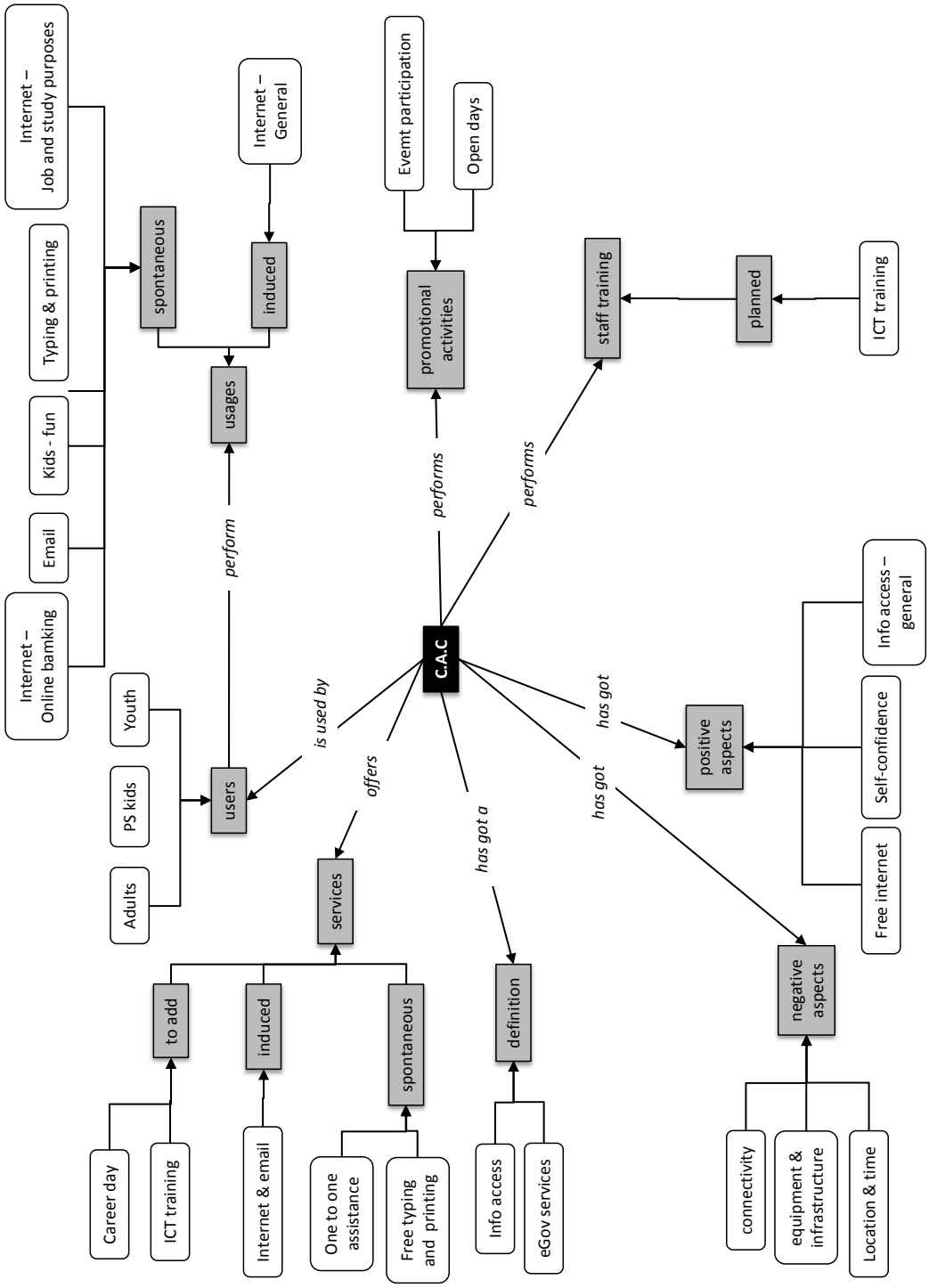
> "Yes of course, because as I said I never used computer before 2004, I can only use the mouse for instance but I never sit trusted in front of the computer so you saw me when you came in is somebody sitting maybe he knows what he is doing in front of the computer so that trust, definitely being able in the computer literacy is giving you more trust in self respect to. I personally feel that I can get to a computer and if I don't understand something I will do learn something, yes I never used computer before and now I know a little but…" (lines 207-211)

Computer and Internet Vision

The respondent once again highlighted the information provider dimension of a computer:

> "A computer is an object, an item that can that people can store information on for others to get access to that information, so computers are … that people can store information in such item." (lines 235-236)

The same dimension is highlighted when speaking about the internet.



8.3 BSM3 Individual Representation

8.1.4 Oudtshoorn Staff Member 1 (OSM1)

OSM1 is a 26 year old man who has set up a web development business and uses the CAC facility also to develop his business. He lives in Bongholeto. He started volunteering at the CAC in 2004 and holds the role of Training Coordinator. His first exposure to computers was at high school which had one computer. After grade 12 he took a correspondence course to become a Computer Technician and started to repair computers. Later on he decided to change business and open his own web development enterprise. Before volunteering at the CAC he accessed the internet at cybercafés in Oudtshoorn.

CAC Definition

The respondent sees the centre as a place where people can access ICT and, through that, information. OSM1 has a clear idea of what the CAC is about: it is a place where the community can access government information, such as on how to receive documents or grants, but also where they can access information such as job and business opportunities. OSM1's view of the CAC is very in line with the definition given by the Director.

> "Okay, I'd tell him, we have computers, where people can access to their work, like typing their CVs, check for jobs, through the internet, through the Cape Gateway portal, if he's a business person, check for tenders how to start his own business, to find the places for founding which places can help him, also registering his business." (lines 273-276)

> "They can also check government departments, like and get contacts with different kinds of things like a portal start from birth to death, how to register a child, for schooling, all schools education from primary to tertiary, business, how to apply for grants, social grants, and how to start a business, register their business." (lines 276-279)

CAC Services

However, when asked to list the main services offered by the CAC, the respondent was able to name only internet and email as well as typing and printing facilities. Only when pushed did he add more services in his description saying that at the centre it is possible to access the Cape Gateway Portal and find information about jobs, businesses and tenders. The respondent then mentioned the one-to-one assistance provided by staff members, in particular to students who come to the CAC to do their homework and research.

Services to Add

OSM1 suggested a multitude of additional services: first of all scanning and faxing services; a Voice Over IP service with a connection to the municipality in order to call for free; and, finally, ICT training programs for adults and youth.

CAC Usages

When talking about uses the respondent was not able to give clear answers at the beginning. Only when further questioned did he mention that many people go to the centre to type, mainly CVs to apply for jobs or educational programs and that only a few of the users access the Cape Gateway Portal:

> "Not so many people that go. Like, unemployed and two or three people who want to start their businesses." (line 363)

Users

OSM1 highlighted that the most frequent users of the centre are school children who go to the CAC to do their homework and research. He mentioned that a few businessmen go to the centre to find business information or to type up letters and a few unemployed people go to the CAC to look for jobs.

CAC Positive and Negative Aspects

The main positive aspect pointed out by the respondent is the possibility of using ICT, computers and the internet for free. On the contrary, he complained about the slow connection and out-of-date hardware.

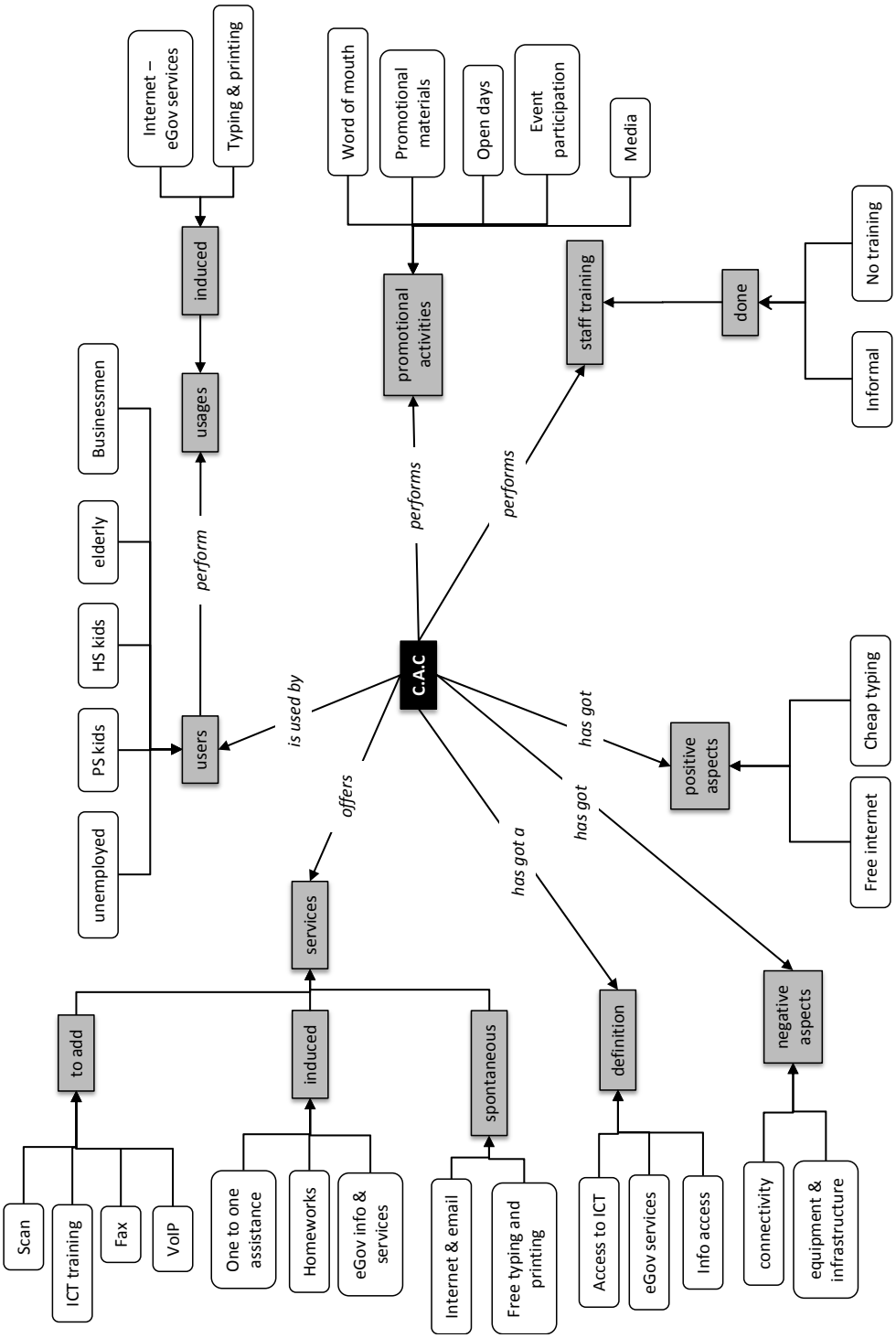
Promotional Activities

The first event the CAC organized was an open day to raise awareness in the community. They then decided to take part in some public events but the main strategy they adopt is to talk with people of the community about the centre and to leave flyers and promotional materials in key places such as shops, churches, etc. They also used the local newspaper to advertise the centre.

Staff Training

The respondent cited as an example of informal training

> "The first evening they installed the system, and people came and showed us how it works, first training, and they gave us books, how to do everything from that first day." (lines 151-152)



8.4 OSM1 Individual Representation

However, he stated that they had not received any official training:

> "[…] because we're still waiting for the system to be upgraded." (line 15)

Personal Motivation
The respondent mentioned the possibility of having free access to ICT in the community.

Computer and Internet Vision
The respondent described computers as typewriters with the additional possibility of communicating:

> "A computer is something electrical, which is nowadays used like a typewriter, it is something where you can type your things and also save them, with a typewriter you can't type and save, with it. With a computer you can send e-mail, instead of sending normal letters, that would take long time to come to the person. And also you can, the computer can also have a live discussion with someone, like video conferencing, contact you call a person from your computer to his computer, then you can talk." (lines 283-287)

As regards the internet, the respondent highlighted the opportunity of connecting people around the world:

> "It's like a community where you can contact a person, like from X to Y without going to the persons. Internet is a network of let's say it's a network of people. The whole world, is just one, we can just go to a place, let's say Preachtown, then you go and see everything about them. That is the internet." (lines 292-294)

8.1.5 Oudtshoorn Staff Member 2 (OSM2)

OSM2 is a 21 year old woman. She lives in Bongholeto in the Oudtshoorn township and is following a correspondence course at the University of South Africa. She is the secretary of the eCommunity Forum.

CAC Definition
OSM2 has a clear idea of the development and community orientation of CAC. She states that the main aim of the centre is to help and support the disadvantaged community to find relevant information through the internet. However, OSM2 does not mention the Governmental dimension of the project.

> "This centre is concerned mainly about the community, people who are like disadvantaged who want assistance, like people who don't know how to acquire

> information, they come here. If maybe they want a job, they can come and log on here, in the internet, basically we're helping the community." (lines 270-272)

CAC Services

However, when asked to list the services offered by the CAC the only one she was able to mention was assistance.

> "they come to me 'can you please type for me?'. If I have time I type for her, if I don't I show her how to do this, then if you still don't understand you call me, because sometimes I stand there with the users." (lines 49-50)

CAC Usages

The respondent spontaneously indicates only general use of the internet. However, when pushed, she declares that many users use the CAC as a place to access distance learning courses. According to OSM2, many people attend correspondence higher education courses and use the centre to do their homework and to access universities web site. Another popular use of the centre is by high school students who use the centre to do their homework. The other two uses mentioned by the interviewee are the use of the internet to do online banking and the use of the facility to type documents.

Users

The respondent stresses that the primary target users of the CAC are secondary school students and that another relevant target are working people.

Positive and Negative Aspects

The respondent mentioned two main things to improve: the connection which was considered too slow and the number of computers considered too small.

Promotional Activities

The Oudtshoorn CAC organized some road shows to sponsor and create awareness about the centre. It is interesting to note that the respondent said that the message they convey during these road shows is that at the library, where the CAC is hosted, there is a free internet access point but did not mention that the main purpose of the centre is to promote eGovernment services.

> "Let's say, we go here, we go to all the locations, we have a table like this, then we have pamphlets, then play music, [...] tell to come and register, we have internet you can use for free, here at the library, and we also has a soccer tournament trying to get more users." (lines 88-90)

Other promotional activities include taking part in community events such as soccer tournaments to promote the centre and increase awareness about it.

Staff Training

The interviewee states that she took part in a Portfolio Management Workshop and that there are plans to give the CAC staff ICT training to enable them to offer users formal ICT training.

Personal Motivation

For the respondent, volunteering at the centre gives her the possibility of staying out of trouble and of spending her time in a useful way:

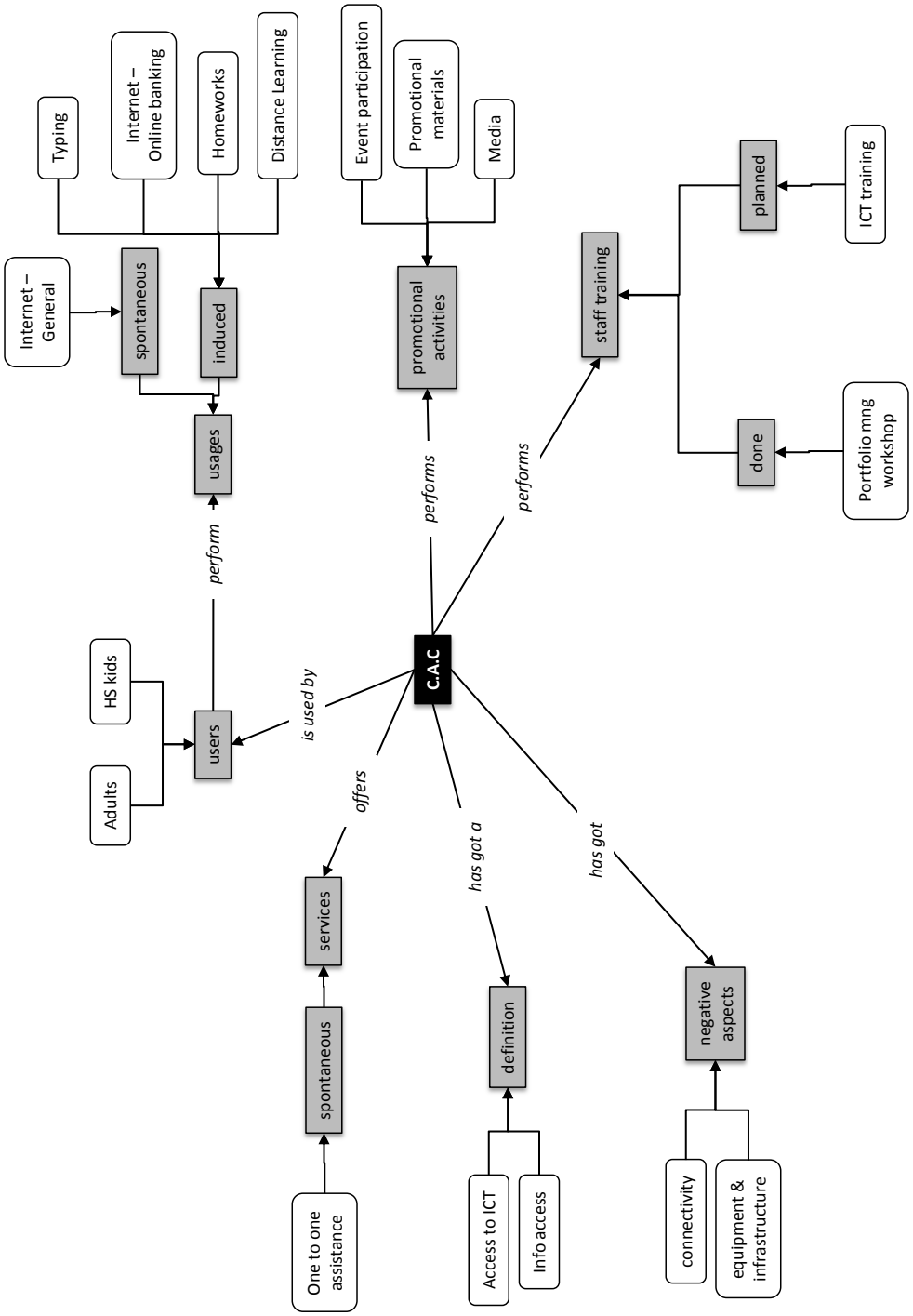
> "It changes a lot of things, like long ago, when this space wasn't here, I used to, maybe I would be out there doing some naughty things, because this space is here, I come here so I'm spending my time here. It stops me from doing wrong things because most of my time I am spending here, so if this place weren't here, I don't know what I'd be doing." (lines 335-336)

Computer and Internet Vision

According to the respondent, the computer means access to information:

> "I would say, computers are like computer is like everything, is an access. Computer is like something that gives you information. […] For example, if you want to get a grant for a child you come here, log on and look for information. If you want to learn typing you can also come here. […] If you want to know about what's happening around the world." (lines 277-283)

Internet is a tool for accessing information as well as a tool for communicating.



8.5 OSM2 Individual Representation

8.1.6 Oudtshoorn Staff Member 3 (OSM3)

OSM3 is a 27 year old man who lives in Bongholeto; he studied Computer Science at college and works as a teacher assistant at the Bongholeto primary school. He is the Event Coordinator of the eCommunity Forum. Before the centre was opened he used to go to cybercafés in Oudtshoorn to access ICT but it was a very expensive solution for him.

CAC Definition

OSM3 gives a very comprehensive definition of the Cape Gateway Access Centre: first of all the centre provides access to ICT and the role of the staff is to assist people in finding relevant information using the web and, in general, using computers. Another key role of the staff is to inform users about the eGovernment services available and about the Government structure.

> "So it is just that thing, so when people come here, when you come here, we can teach you how to access information from the internet and we can as well assist you on how to type or whatever you want to do. We are going to inform you of the government services that are there, the departments that are there and we can even assist you in terms of finding out other websites you want to go in, like you google, you got yahoo, those are just short cuts you can use to go to whatever you want to go." (lines 361-365)

CAC Services

The main service that OSM3 says the CAC provides is relevant information; the centre also offers the community free typing and printing facilities. He did not mention eGovernment information and services.

Services to Add

The respondent mentioned the idea already in place of offering ICT training programs to the community in order to help people become computer literate.

CAC Usages

The main use underlined by the respondent is access to the internet and the printing facility. However, when pushed, the respondent mentioned internet for seeking jobs and the possibility to access distance learning courses.

Users

OSM3 highlighted two main categories of users: young people, in particular secondary school students, and adults, both in work and unemployed.

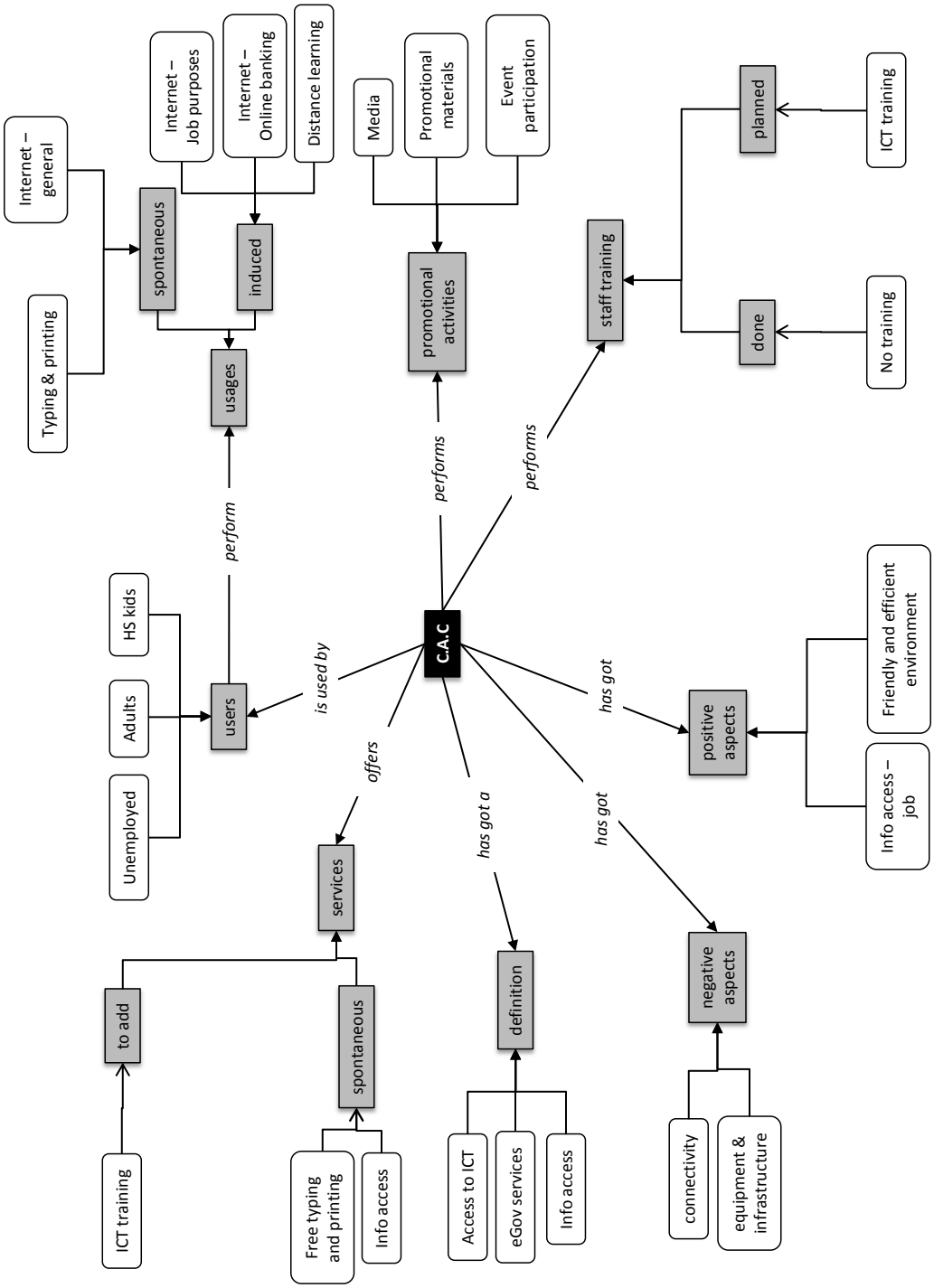


Figure 8.6 OSM3 Mental Model

Positive and Negative Aspects

The respondent first of all stated the fact that the centre offers good services to the community and the people involved in the eCommunity Forum try their best to create a friendly and supportive environment.

> "Yeah, our executive, we are doing our utmost best to make a point that our people are smiling at the end of the day, yeah, that's the important thing." (lines 274-275)

The other positive aspect of the centre is that it offers access to online job hunting:

> "[…] the good thing is that some of them they also get jobs online as well, you see, accessing information about latest positions and vacancies, things like that." (lines 255-256)

Talking of what can be done to improve the centre the respondent mentioned the most common issues that came up time and time again during the interviews: the equipment, which is old and does not function properly:

> "Yeah, the things that I would like to improve basically is the systems, they are very old, you see, because you can't even bring your, what do you call this thing, flash drive, and do whatever you want to do, because those CPUs doesn't have that, those boxes. I think that's something else that needs to be changed is the printer, it gives us problems sometimes." (lines 277-280)

and the connection speed that can be very slow:

> "And it's basically that, then obviously the internet sometimes is slow, sometimes its fast, the speed, it depends on the hours." (lines 282-283)

Promotional Activities

The respondent mentioned as a promotion strategy the participation in events such as soccer tournaments or career days for secondary school pupils. During the events the eCommunity Forum tries to raise awareness in the community about the CAC's initiatives and activities and distributes flyers and brochures. Another promotional activity is to write press releases for local newspaper advertising the CAC's participation in local events.

Staff Training
The respondent said that he has not received any training; however, he says that the Cape Gateway Direction plans to switch from Linux to the Microsoft Operating System and that the eCommunity Forum will receive training on Windows.

Personal Motivation
The respondent mentioned the chance of having access to a wide range of information and at the same time of having the chance to help his community. Another important added value is the possibility of gaining new experience both in the ICT sector and in the event management sector since he has volunteered as Event Coordinator.

Computer and Internet Vision
According to the respondent the computer is a tool that offers access to information:

> "[..] computer is a tool that brings information right in front of you, because it's a box that's got wires and some other tubes and all those things, but the size of it is small but really what it has is too much, it's big." (lines 402-403)

As regards the internet, the respondent stresses the information and communication opportunities offered by the tool.

8.1.7 Vanrhynsdorp Staff Member 1 (VSM1)

VSM1 is a 26 year old man who lives in Vanrhynsdorp; he finished his diploma and then went to work at the Kraver community centre where he was trained in the use of ICT and worked as trainer. At the time of the interview he did not have a job; his main activity was as a volunteer at the eCommunity Forum as Training Coordinator. He used to go to a computer centre in Kreinfontain to check his email and use the internet.

CAC Definition
The respondent gave a definition of the CAC that also involves the community centre where the CAC is housed. In his opinion the CAC is a place where it is possible to obtain information and learn new things; however, he made no reference to the possibility of accessing governmental services. For the respondent the centre is just one of the services of the Vanrhynsdorp community centre.

> "I tell them they can come and get information here and that it takes much more to come and learn here, when we go there we don't tell them about the training, we just tell what the community center is doing." (lines 179-180)

CAC Services

An interesting service decribed by the respondent is the organization of ICT training course for special groups of people. During the interview he talked about an ICT training course he was offering disable people; the course lasted 6 months, four hours per week, and was addressed to three physically disabled people from the community. The other services he mentioned included assistance in typing up letters and CVs and the support staff members give school children with their homework and searching the net.
As regards induced services the interviewee talked about the use of the internet in general and for finding jobs.

CAC Usages
The respondent suggested only one use made by the community: the internet. In particular, he highlighted the search for health information:

> "Many of them come here to find out about AIDS and such things, I also help them." (line 40)

Users
The respondent declared that the centre has more or less 10 users per day. Adults, who usually go to the centre after 4pm, that is after working hours, and children over 12 years old.

Positive and Negative Aspects
The only positive aspect the respondent highlighted is the kindness of people volunteering at the centre. He explained that staff members are kind to the community and that when he began to go to the centre volunteers were kind and gentle with him too.

> "The things I like about the center is, the people here are very nice but when the other people came, they love to help that people because the first time I came they helped me." (lines 165-166)

When talking about things to improve in the centre the respondent said something interesting: that the centre should provide more eGovernment services. In particular, he suggested that birth certificates should be filled in online so to avoid community members a trip to Friedendaal. The interesting thing is that this service was probably already available, at least it was mentioned by other centres' staff members.

> "And they have to put their birth certificates on the computer so that they don't go to Friedendaal." (line 172)

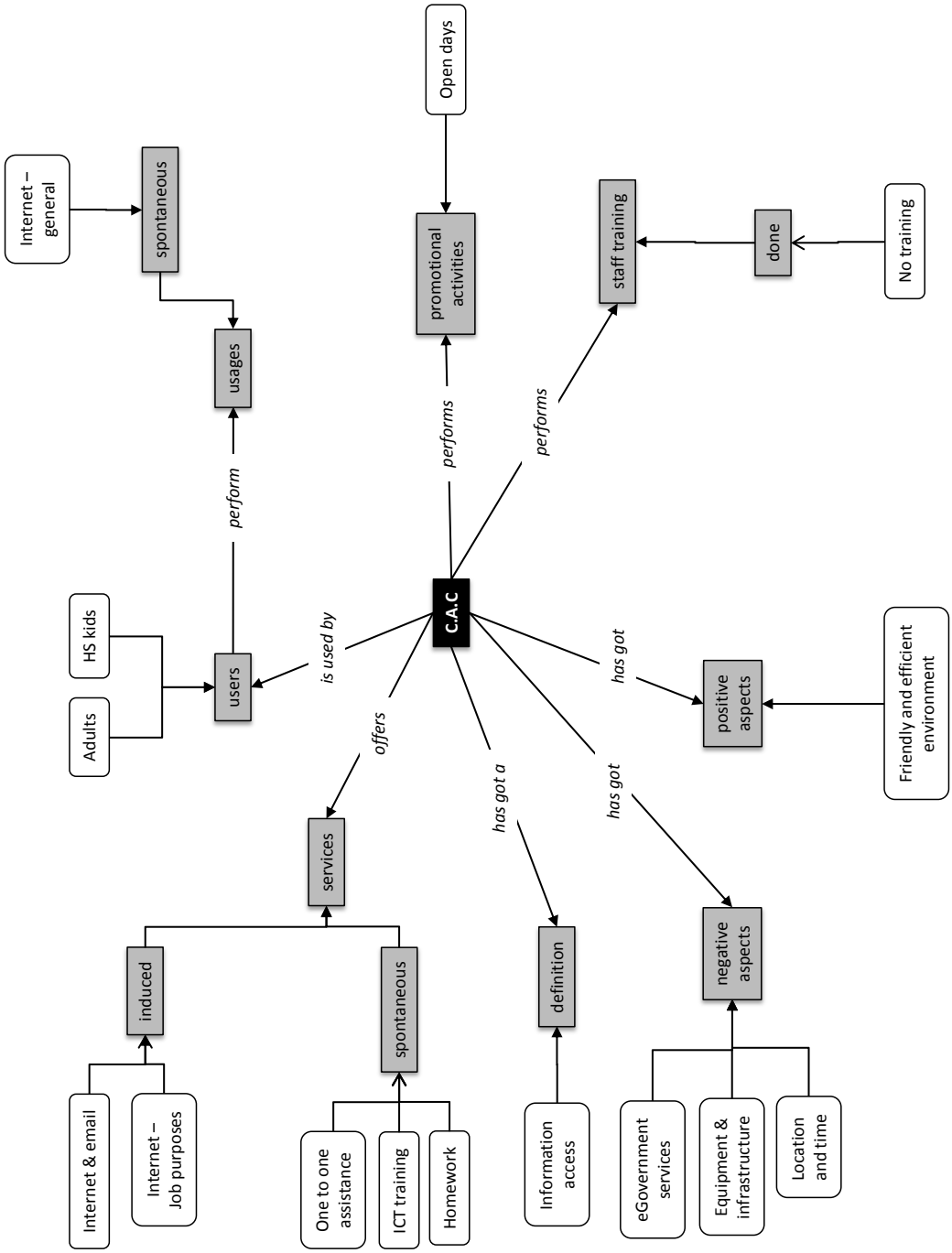


Figure 8.7 VSM1 Individual Representation

Other two improvements, pointed out by the majority of the respondents, are the insufficient number of computers and the location of the centre.

Promotional Activities
The two main promotional activities mentioned by the interviewee are road shows held by staff members within the community to increase awareness about the centre and personal contacts with community members.

Staff Training
VSM1 declared that he had not received any training since he started working at the CAC.

Personal Motivation
The respondent mentioned contact with people and the possibility of helping the community, including the most disadvantaged sectors such as old people and the disabled.

Computer and Internet Vision
The respondent was not able to answer the computer vision question, while he stressed the role of internet as an information provider.

8.1.8 Vanrhynsdorp Staff Member 2 (VSM2)

VSM2 is a 20 year old woman living in Vanrhynsdorp who finished grade 12. She has a computer at home to practise her IT skills but before coming to the centre she did not have access to the internet and she did not use other centres. She volunteered as a Secretary in the eCommunity Forum. It should be noted that the respondent was particularly uncomfortable speaking English.

CAC Definition
When asked to describe the centre she said that the centre primarily provides information to the community and free access to the internet and ICT in general. When asked to describe what sort of information the centre provides she mentioned eGovernment services, such as information about jobs, tenders and pensions.

CAC Services
When asked to describe the services provided by the centre she highlighted the possibility of gaining ICT skills free of charge, the possibility of accessing the internet, the fact that staff members support users such as school children for their projects, and the fact that the centre offers the possibility of playing games. It is interesting that she

mentioned this service because, in theory, game playing has been banned by the Vanrhynsdorp CAC.

Services to Add
The respondent suggested adding services for young children such as teaching them how to draw and paint with the computer to keep them busy (and off the streets).

CAC Usages
When asked to indicate how users use the centre she talked about the use of internet and email, the use of the internet by school children to do their homework, by mothers to find information about how to take good care of their children and by young people just finished high school to look for jobs; finally, she also mentioned the fact that some users go to the centre to type up documents.
As an induced use she mentioned the use of the Cape Gateway Access Portal to find information on how to apply for identifty documents.

Users
The interviewee listed a number of user categories: adults in general, businessmen, elderly people and secondary school pupils.

Positive and Negative Aspects
As positive aspects the respondent mentioned the fact that the facility is free, that it is near the community and that children are not allowed to play games.
As things to improve the respondent highlighted the connection speed, the number of computers and the fact that the centre is too small.

Promotional Activities
As promotional activities the respondent mentioned open days.

Staff Training
The respondent declared to have received informal training by a colleague of hers:

> " Okay, Rendal taught me how to do all this things." (line 61)

and by some Canadian volunteers.

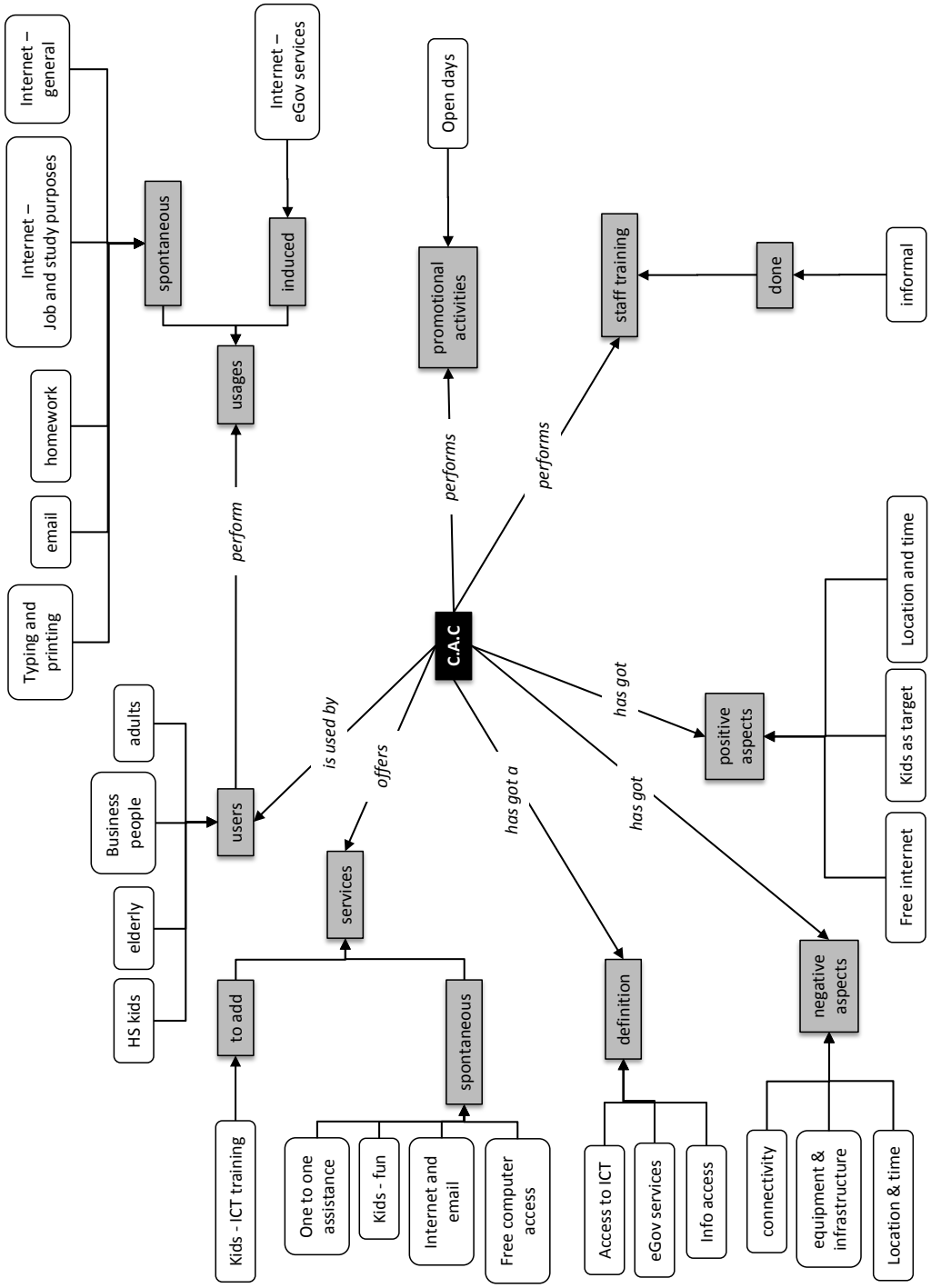


Figure 8.8 VSM2 Individual Representation

Personal Motivation
The respondent mentioned the possibility of improving her ICT and administration skills as she is the secretary of the Forum.

Computer and Internet Vision
The respondent defined a computer describing its physical components:

> "I'm gonna tell her, look, that's a screen, a keyboard that you must type, and a mouse that you must click and drag and… that is a computer. That kind of thing." (lines 212-213)

As regards the internet, the respondent stressed that it is like a library: a place to access information.

8.1.9 Vanrhynsdorp Staff Member 3 (VSM3)

VSM3 is a 24 year old woman living in Vanrhynsdorp. After school she worked for an NGO called Age in Action as Community Development Assistant and then enrolled in the government training program offered by the University of Western Cape to become a Community Development Worker. After completing the training program she became a Community Development Worker for the Vanrhynsdorp community. She is the Deputy Chair in the eCommunity Forum. Before the CAC opened she accessed the internet asking colleagues or friends in Vanrhynsdorp or Friedendaal to use their connections but she never went to telecentres or cyber centres. She learnt to use ICT when she was studying and then improved her skills asking another eCommunity Forum Member to help her.

CAC Definition
The respondent has a clear vision of the eGovernment purpose of the CAC and is also the only respondent to think about the CAC network and not just the centre she is working in:

> "I will tell them it's a government project telling people what services government is providing for the people, it's the main thing. I will bring them here and show them what is on the portal because that was what Dr. Wesso was doing." (lines 194-196)

> "I will tell them it's a government pilot project and it's working very good and in 6 places in the Western Cape and it's not implemented in the other provinces so it's unique. They get all the funding from the department of the Premier's office, and

> our project manager is Refilwe Shabalala and it's not about computer training, it's about life skills, improvement development. It's like a library but only a computer. You can get the information about your government on that computers, so I will tell them that." (lines 203-207)

Her view of the CAC is closer to that of the director than that of any other respondent. Another dimension she highlighted, as the director did, is the fact that the CAC's purpose is to fight poverty, improve development and give people life skills.

CAC Services

As spontaneuous services the interviewee indicated the most commonly mentioned services: free internet and typing facilities and then described some ICT training activities offered by the CAC to special groups of people. Of all those visited the Vanrhynsdorp centre is the one that offered the widest range of training.

The first training course mentioned by the respondent is the one offered to prisoners. It is worthwhile noting that the respondent is one of the few who make a clear connection between ICT and life skills development, between ICT and life improvement:

> "The correctional services we had a meeting with the head of prison and he agreed that we can use the prisoners to come for training and it's not computer training but it's actually a life skills development training so that they can see what services government is providing to our people and they can empower themselves and go out and see what the normal in the community and know what government services are available for them." (lines 4-8)

The second training program highlighted by the respondent is for job hunters:

> "And the unemployed, we are trying to get a training in place for them, actually computer training. Job seekers program, we are going to put it on the system as well and that is where social services is one of the project and with linked it to our project and now the department is working together and they are actually going to put it on the system as well. Job seekers is actually about how to seek for job on the internet, in the news papers. And how to perform in an interview, what type of questions you can expect and different types of works and how to write a CV, how many pages in all." (lines 8-13)

The third training course she highlighted is for pre-school children:

> "The school is introduction for the preschool kids. Actually we just show them how to use the keyboard and what icon is on the screen and how to do little sum, mathematics and how to type in Word and learning the alphabets. It was an

> argument before because they thought its going to be a little confusing because they learn the alphabets like A,B,C in preschool and now letters on the keyboard is not next to one another. But am not quite familiar with that program but it's so nice and they won't get confused, and they learn faster than older people I think, so the thing is really working and we are using the unemployed youth as well to go and to facilitate that because at the local crèche we are using that people and at school there is a pre-school class, so it's two groups of children. And they get the training at the school because the school has got 25 computers so everybody can use a computer." (lines 15-23)

As induced services VSM3 indicated the use of the internet to look for jobs:

> "And then the unemployed matriculands as well also come here and we introduce them to whatever parceries government is providing and work as well." (lines 34-35)

She was also the only interviewee, besides the director, to mention thematic events for target groups. For example, a month dedicated to entrepreneurs:

> "Other things we do days for certain issues for instance this month we are going to concentrate on entrepreneurship. We are going to introduce people to websites on the system that can help with drawing your own business and business plan. Information about how to become entrepreneur. " (lines 28-31)

and a month dedicated to youth:

> "And month for youth, there we are going to concentrate on HIV AIDS and concentrate on teenage pregnancy, drug and alcohol abuse, and then for instance a week we are going to concentrate on other people and how to get access to certain services and ask for grant for instance or to help them not just be old people but to empower themselves." (lines 31-34)

Services to Add

The respondent suggested working more closely with NGOs in the community.

CAC Usages

As regards uses, the respondent mentioned the internet, because it is offered free of charge and then the use of the internet to access the government portal:

> "[…] and government portal, people go there very often. […] They just search, there are many important things and everybody in the community, young, old,

> female, men, they are all going to benefit out of it. And on the portal they have got programs for a week, they have got a theme, for instance this is now the grant from social services, next week is housing, so every department have the time to show what services they providing, so it's quite interesting, the department of land affairs came and said this are the services we provide for the small farmer associations." (lines 143-150)

Users

The respondent stated that the CAC is used mostly by teenagers and young people:

> "Young people, it's mostly young people, we didn't get a lot of older people or. I think that the age is from 12 to 30. This is the age group who is coming here." (lines 152-153)

Positive and Negative Aspects

The positive aspects highlighted by the respondent include the possibility of free access to the internet and the fact that the centre assistants are helpful and friendly.

As regards negative aspects she mentioned connectivity and the slow response time of the service provider's technicians:

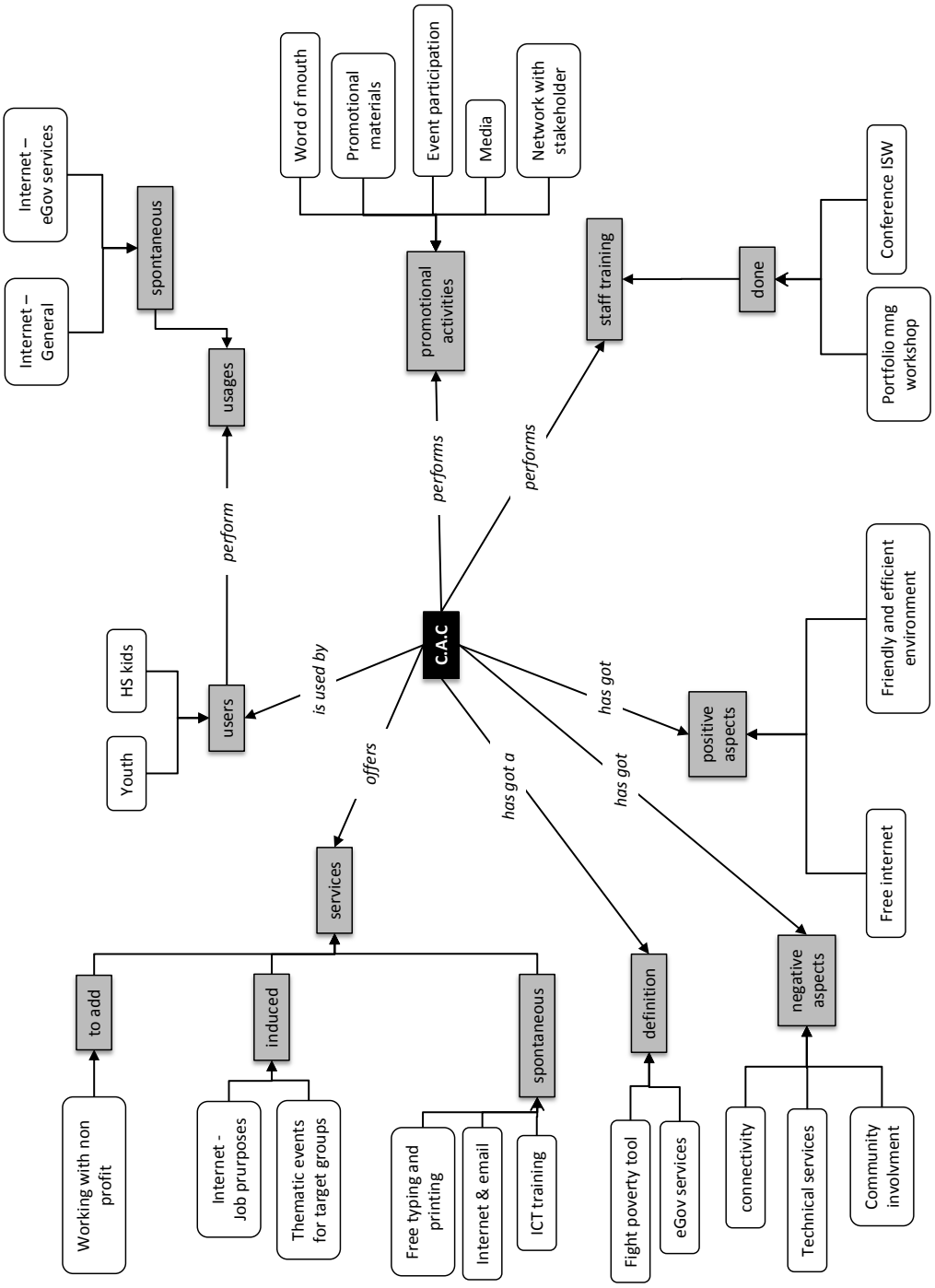
> "[…] ok the service provider, because they need to serve an area, you know and they are also working for the municipality, so they are not only our technicians, they have got other things to do as we have to serve other people, this is the problem because when we report a problem, they are only coming to days after and that's a problem because in that two days people are coming and they must return and it's not a good thing for the project." (lines 160-164)

According to the interviewee another aspect that could be improved is the need for more people from the community to come to the centre.

Promotional Activities

The first activity mentioned by the respondent is that each of the eCommunity members go around the township talking to people to raise awareness about the centre:

> "We just talk to persons on the street and ask what is he doing, what do you know about computers and each and every one of the committee is doing that individually to just go out and ask everybody are you familiar with the project and service." (lines 46-48)



8.9VSM3 Individual Representation

They also take part in public events such as sport events and they promote the event with a kiosk:

> "We are doing this information tables, when there is rugby or sports on the sports field, we take a table with information like information desk about the project and we sit there in the corner or wherever with banners and stuff like that and people came to our desk and we introduce them to our project and what type of things we are busy here and what type of project and stuff like that." (lines 25-28)

They have produced some promotional material for this. Another promotional initiative of the CAC is to go on radio programs.
However, the most interesting promotional activity she, and only she, mentioned is the networked action of the CAC staff to involve community stakeholders, and to find synergies with other players in the community:

> "We are getting a lot of people and my type of work is a lot of meetings in other places and networking especially with other state departments with social services, correctional services and other NGOs and how can they link with our program and how can we work together. Actually implement their program to our project. They take our project and promote it." (lines 48-51)

> "[…] we are working on that churches, if we had a thing going on a day we asked the reference and the pastors to announce it on the churches, it all depends on when is going to happened. So most of the community is going to church." (lines 177-179)

Staff Training
As training she mentioned the Information Society Workshop (ISW) conference (she was the only one except the director to see the event as a training experience) and the Portfolio Management Workshop:

> "Training, yeah, we had a portfolio management workshop because everybody got a portfolio but they don't actually know what they are supposed to do so we had that workshop, it was about one month ago." (lines 125-126)

Personal Motivation
The respondent mentioned that the opportunity of learning how to know to use ICT has helped her learn new things:

> "[…] knowing how to use the internet it's a wonderful thing for me, it improved my life because I have learned a lot, I was on a website reading poetry, it is so touching

> it was so emotional for me and going on a website on health, how to eat healthy food and how to keep yourself healthy." (lines 181-183)

Computer and Internet Vision

The respondent defined a computer describing the computer in the CAC: she described the computer components, comparing it to a TV, and then described the possibility of accessing the Cape Gateway Portal and of receiving information:

> "Ok, I will tell him… actually I will explain to him how the computer looks in the first place. It's almost like a electro TV thing with a key board with a lot of things and it is linked to the key board and there is a box. You can play a CD in the, how is called it and we need to put it on and I am going to explain to him this little thing in the left hand side that's the programs on the computer. If you click there, the programs will open, just like that. The other programs is called icon, internet explorer, just click on there and it will open.. go to the bar you must see on the keyboard and type in, and he is going to ask me you type in here how does it come on the screen, so am going to tell him it's linked to the screen, it is working together and this one line connecting us with the portal…what you call it,, and type in www.gateway.co.za and click and it's going to open, and they are going to get all the information on the screen. Go with the mouse click onetime and it's going to provide you with all the information." (lines 216-225)

As regards the internet, she highlighted how it works as an information provider:

> "What is internet? Internet is a worldwide thing, it's information you can get or, I don't know how to explain this now but I will try, it's through a line and everybody is connecting to one another and it's like a system and if you want to start your own business, you have to trust technology, you can ask a technician how to do that to put your information on the website or open you own website. So I will explain to him in my own way." (lines 227-231)

8.1.10 Struuisbaai Staff Member 1 (SSM1)

SSM1 is a 39 year old woman living in Struuisbaai North who studied as a secretary and then started working in the library. She is the Administrator at the CAC. She learnt to use ICT while studying to become a secretary and then learnt through practice. Before the centre existed she did not have access to ICT; she knows that there is a cybercafé in Upper Struuisbaai but she has never been there.

CAC Definition

According to the respondent the CAC is a place that offers free access to ICT and in her opinion the centre is a computer facility attached to the public library; in fact, at Struuisbaai you have to have a library card to use the computers.

> "It is the computers, and it is here for free, you have got 45 minutes on the computer, you must come and register here yourself, and you just must tell me when you need help, I will help you and I will assist you on it, I will give you a library number, you choose your own username and your password we give you free email, you got an email address, so you can just sit there and register yourself." (lines 258-261)

CAC Services

The respondent mentioned the possibility of typing and using the internet and the one-to-one support the CAC staff offers users.

An induced service the interviewee mentioned was the fact that she helps users to find relevant eGovernment information and services:

> "I like to know about things and I like to know what is going on in government because many times people come in and ask me questions about child, grants, [...] all the information and I tell them about it, but at the moment I am busy with a user wants some information about tourism, he wants to start a tourism business now and he needs funding, so I just go to Cape Gateway and I see if they have got this facility and I see they have got some funding for tourism so I am gonna print that out, download it and give him the information. I mean, otherwise we don't know such things and if we don't have computers we are not aware of such things." (lines 121-126)

She mentioned a very useful service the CAC offered fishermen in the community: helping them to apply for fishing quotas through the internet, saving them thousands of rand:

> "Well yes, you see, because when a fisherman has to apply for the fishing quotas and then we do it through this centre we save about thousands of rand because they don't have to go to a consultant. And we helped them, it was actually a project of us, and we saved thousands of rands, because if you go to a consultant, a lawyer or something like that he ask you about something like 20 to 30 thousand rands, and they don't have to pay a thing, because we did everything for them from the internet, from the MCMD the website of the environmental affairs and we filled in the forms for them for free." (lines 275-280)

Services to Add

The respondent mentioned the need to train a pool of trainers on ICT who can then train other people and especially young people in the community to improve digital literacy skills.

CAC Usages

The respondent highlights that school children come to the CAC to do their homework and that smaller children go to the centre to play videogames. Another primary service the interviewee mentions is the use of the internet to do online banking.

As induced uses the respondent mentioned that some people go to the CAC to type up letters or CVs and that some people access eGovernment information and services:

> "I know people that for child grants and things and they come and look up, for all that stuff; tourism businesses and all that." (lines 111-112)

Users

As users VSM3 mentioned adults, who go to the centre to do internet banking, business people, many tourists, primary school children who use the internet to play and secondary school children who use ICT to do their homework.

Positive and Negative Aspects

The first positive aspect highlighted by the respondent is that the facility is freely accessible by the community and that a place like that exists in Struuisbaai. Then the respondent mentioned a point that is very important for most of the people interviewed in Struuisbaai; i.e. that the centre offers local children a rosier future, broadening their horizons.

> "I will say it give our children the opportunity to learn from childhood the computer, it is a good thing it improve the community actually [...] left out. […] Let's say we don't have such things here, people don't know, some of them are afraid of the computer, but the kids are learning and if a child is learning let's say from 6 years old I think he can maybe go further with it, because our kids don't go to school because there is nothing, so it is keeping them busy and it is giving them the chance to think that they can go further, and that they can for example to this and this because they feel clever." (lines 182-188)

It is worth noting that the attitude to children at the Struuisbaai CAC is the exact opposite Vanrhynsdorp CAC: in Vanrhynsdorp the eCommunity Forum decided to ban children because they monopolized the centre, playing games, while in Struuisbaai the fact that children flock to the centre to play games is seen as an opportunity for them to understand that the world does not end at the community borders.

As negative aspects, the respondent complained about the number of computers and the connection speed. The other aspect she wanted to improve is the involvement of the community, she wished that all the community could be trained to use the computer.

Promotional Activities

As regards promotional activities, the respondent mentioned open days where they tell the community about the services the center provides, promotional material developed and she also mentioned a questionnaire they ask all the members of the community to fill in so that they can better understand its information needs and information access possibilities.

Staff Training

The respondent stated that she had not received training but that ICT training has been planned for all the eCommunity Forum Members:

> "Only the basics like how to use the system because not everybody in the forum knows how to use the computer, it's about only me Annika and Solomon, and we taught the others but I mean they need further training, more expert training." (lines 162-164)

Personal Motivation

The respondent mentioned the opportunity of improving her ICT skills and of helping her community, especially children:

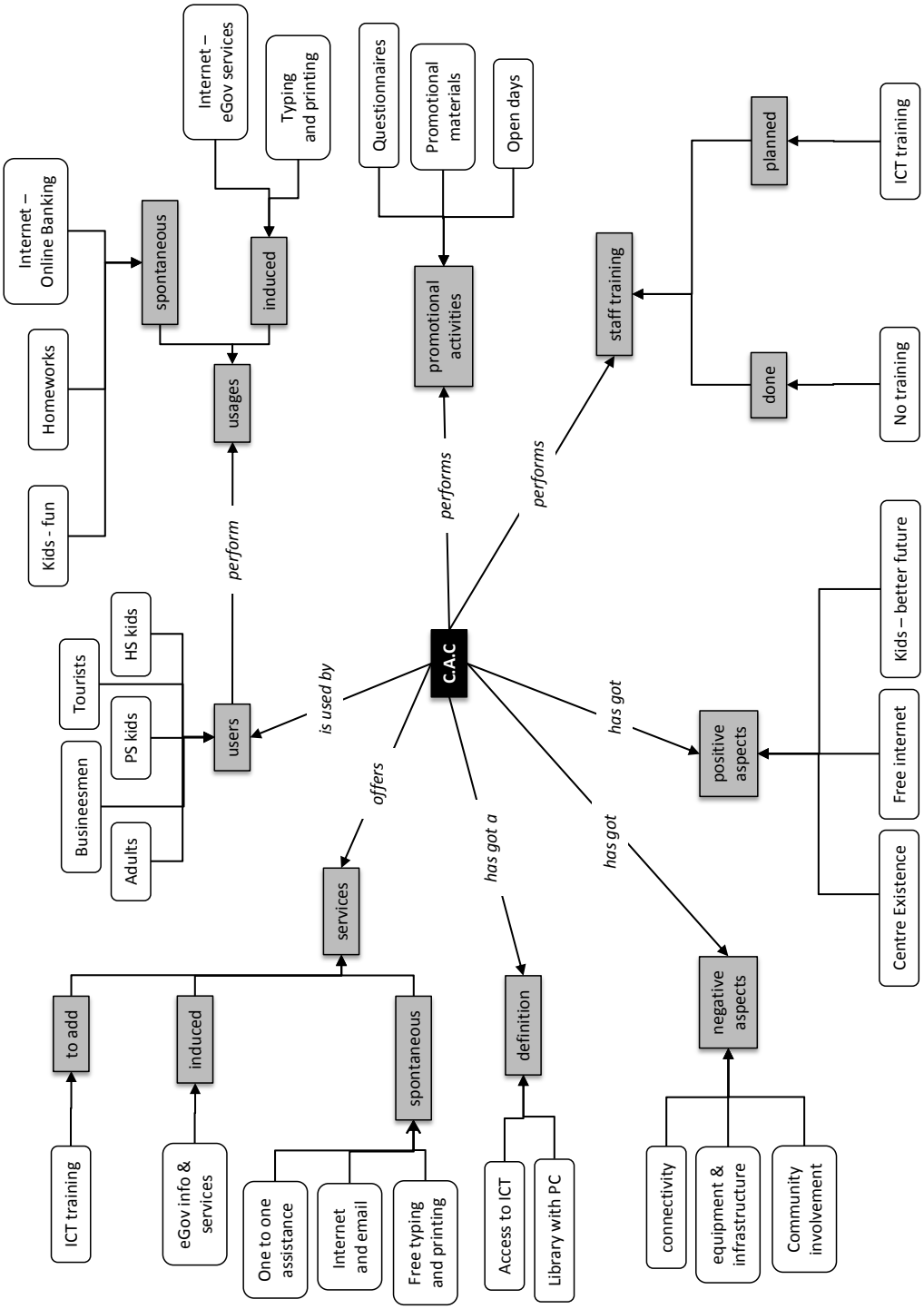
> "I can be of more help to the community, I work here and I help them with books and now I can help the children with the internet and I can teach them, and because I work here between them and I know every child […]." (lines 220-221)

Computer and Internet Vision

The respondent stressed the fact that computers work as information providers and that they make things easier:

> "Well you can just click on a button or two buttons and then you can be wherever you want to be, like some of the girls say she wants to travel and she is travelling on the computer. […] Yeah, she says that every day she is in another country. And the computer can show you everything you want to know, most of the things, you can get information on it and that is it." (lines 265-269)

As regards the internet, the respondent said that it, too, is an information provider.



8.10 SSM1 Individual Representation

8.1.11 Struuisbaai Staff Member 2 (SSM2)

SSM2 is a 31 year old woman living in Struuisbaai who went to University to study Library Sciences and then started working at the local library. She is the Chair Person in the eCommunity Forum. She learnt how to use the computer on her own and often asks school children to teach her new things. Before the centre existed she did not have access to the internet and she did not use any other telecentre except Struuisbaai CAC.

CAC Definition

When asked to give a definition of the centre the respondent promptly stated that the CAC is:

> "free access to government information". (line 246)

CAC Services

One point worthy of note is that the respondent does not make a difference between the library and the CAC. When asked what services the CAC provides she answered:

> "[…], if people request I can help them with the computer, if they don't have a book I surf the internet for them." (lines 54-55)

This answer shows that one-to-one assistance is offered both for the use of the computers and the use of the library. Another important service the centre offers is assistance to school children with their homework, projects and research tasks. The centre is also a place to access information; the respondent mentioned two interesting cases: tourists accessing the ad hoc site the eCommunity Forum created for them and fishermen going to the Marine Coastal Management website to look for information.

A secondary service the interviewee highlighted regards the eGovernment services for fishermen; they help fishermen fill in their license applications online:

> "Yes. Oh, yes yes yes. It's for them to make applications for their licenses better. […] There are people who come and ask me about their certificates and how does it work and there were few of them, but I had to fill request about that as well." (lines 157-158)

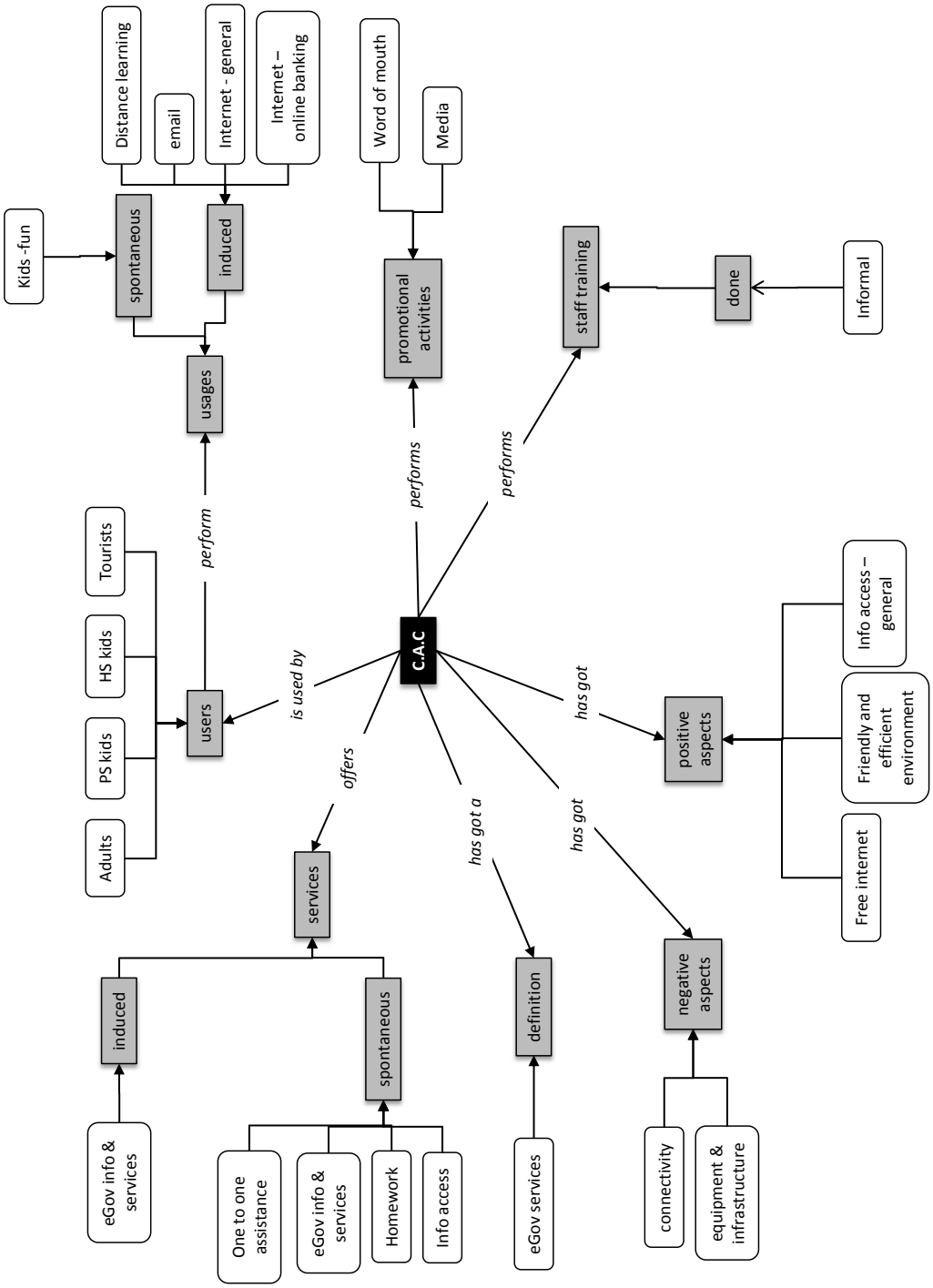


Figure 8.11 SSM2 Individual Representation

CAC Usages
The first and only primary use the respondent mentioned is the fact that children go to the CAC to play online games.
As regards induced uses she mentioned surfing the net, checking email and online banking; it is above all the tourists who check their emails and bank accounts, and some users use the centre for distance learning purposes.

Users
As users the respondent mentioned adults, tourists and primary and secondary school children.

Positive and Negative Aspects
A positive aspect of the CAC indicated by the respondent is that people can use the internet free of charge and can access government information without having to go to Cape Town. She also mentioned that the environment is very user friendly.
Things to improve included connectivity and equipment problems.

Promotional Activities
The respondent answered that they promoted the launch of the CAC in the local newspaper and that the most commonly used promotional tool is word of mouth.

Staff Training
On training the interview said that she did not receive any training but was just informally shown how to use email.

Personal Motivation
The respondent declared that computers and the internet made her job as a librarian easier:

> "I don't have to phone every time, I don't have a book… If people come here and ask for information I'll lend them a book, I can go to the internet." (lines 218-219)

Computer and Internet Vision
The respondent highlighted the information provider dimension of the computer:

> "A machine that gives you information on screen. It's electronic machine that with a push of a button you can get any information quick." (lines 262-263)

The same dimension was described for the internet:

> "The world wide web. No, I don't know, Internet, is the net that connects everything that is information useless or useful. And is available in every place in the world." (lines 265-266)

8.1.12 Struuisbaai Staff Member 3 (SSM3)

SSM3 is a 43 year old man living in Struuisbaai who studied mechanics by correspondence and then began to work as a computer repairman. He is the Event Coordinator in the eCommunity Forum. During the correspondence program he followed a basic computer course but gained all his other ICT skills through self-study. Before the centre existed he did not access centres as such and did not use the internet.

CAC Definition

The respondent highlighted the role of the centre as an information access gateway for the community of Struuisbaai. He uses the metaphor of a shopping mall to describe the centre:

> […] I'd say it is information centre, it's a portal. Like, if you explain the portal, you explain, this is the shopping mall, and once you're inside the shopping mall, you can go shopping, and you can go to CDs store, that one, you can go to groceries, that one. So, Cape gateway is a portal. It's a gateway for you to the world" (lines 420-429)

CAC Services

According to the respondent the main service the centre offers is the possibility of accessing information; he then gave two good examples of eGovernemnt services the CAC offers. The first regards fishermen who need to renew their fishing license:

> "And we've been praised as one of the best events so far, and it's the fishermen's application forms, MCM, the MCM is the Marine Coastal Management, where you apply for actually portal system to catch fish. The former years the fishermen struggled to fill in these forms, they had to hire consultants to do the things, they paid an extra amount of 3,800 rand. It was at that time, so what we did as, we combined everything together, and sold them the guidelines to do it on their own. Which means [...] run this process, each fisherman saves 3,800 rand to do all their legal forms." (lines 34-44)

The second regards the registration of births:

> "It's like for humans in this area, like if there is a child birth. They have to go to [city name] or [city name], what you call these offices where you register now, they have to go register to certain offices, like a child birth or thing. This they can do

> over the internet, they can download the form, fill in the form, only pay an amount of 10 rand to post it. At other time they spent an amount of 130 rand for transport, to the nearest office and if there was something to go back again, and three times for one thing, you can do over the internet." (lines 63-71)

As an induced service he mentioned support to school children:

> "No, school children come, before they used to go to the library, they went to look in books for information, they come to me and say "what are you looking for" and they "it's something about the tsunami, we have to do like a task over the subject tsunami. Then I can look for up-to-date information about it. Not only, when it happened, what cause, everything, they get the whole picture. And much of them come back, saying I've had a good mark in my exam, because I've got the right information." (lines 86-95)

Another induced service mentioned is support in finding jobs through the internet:

> "And application for jobs, they do that too. If someone comes to me with the paper, and say "look, there's a job here, e-mail address", so I write the letter quickly, what's your name or something like this, your CV and like that, then apply to come back. And that's exciting for the people, because you don't need to sit on a phone call and wait, you can immediately answer them, so you know if you can look further for that job or hang on." (lines 78-84)

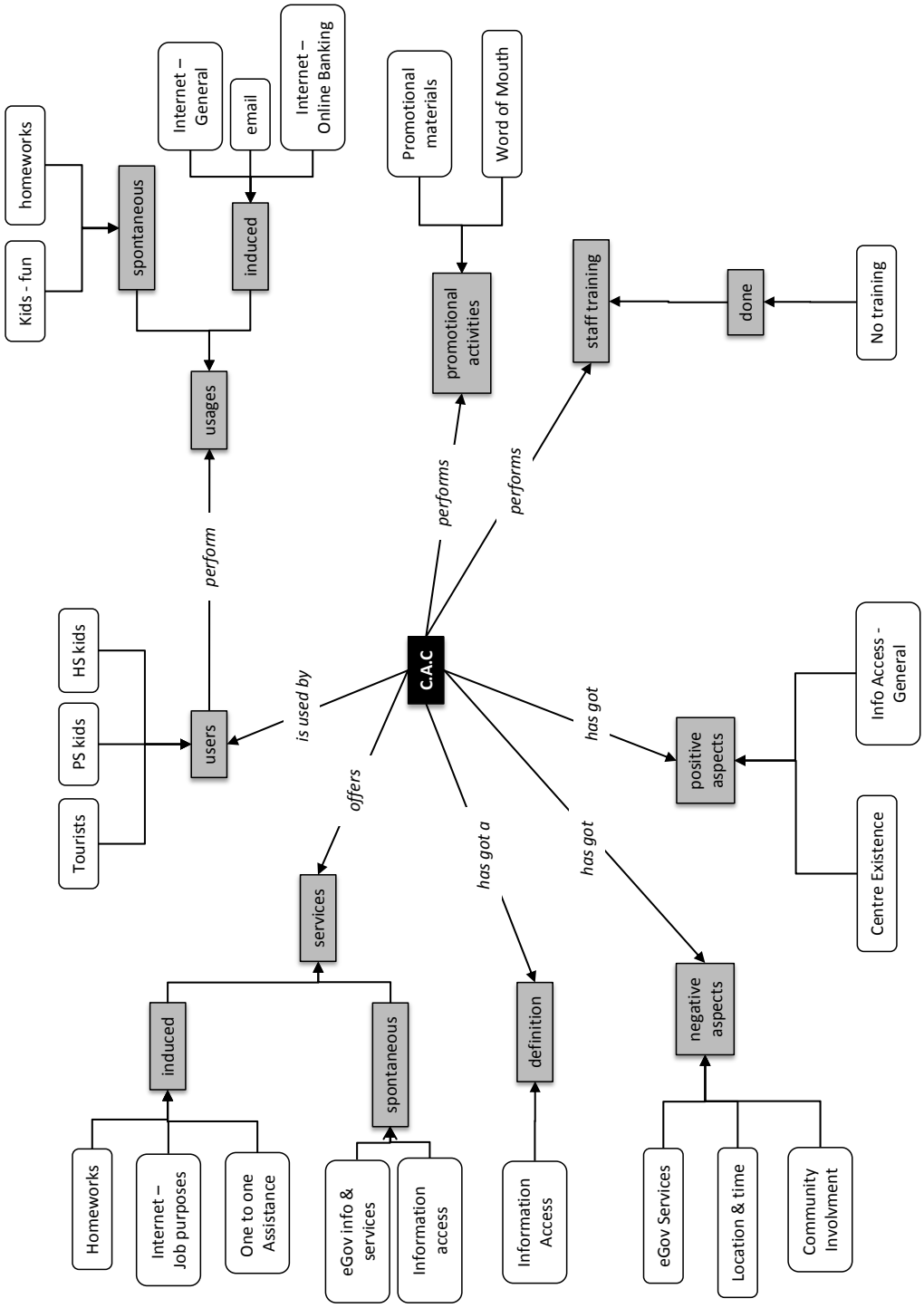
CAC Usages

The two spontaneous uses the interviewee mentioned concern children: secondary school children doing their homework and primary school children using the CAC to play games and have fun.

As induced uses the respondent mentioned the use of internet in general and for online banking purposes and the use of email by tourists.

Users

The respondent listed children, both from primary and secondary schools, and tourists as the main users.



8.12 SSM3 Individual Representation

Positive and Negative Aspects
The first positive aspect of the CAC the respondent mentioned is the fact that the centre actually exists and, secondly, that it gives people the opportunity of having "information at their fingertips".
As aspects to improve the interviewee stressed the fact that the CAC should have a building of its own, that all the members of the community should be trained in ICT and that eGovernment services should be improved to make up for the lack of government services in the territory.

Promotional Activities
The respondent described how they make use of promotional materials:

> "Yes, because we've done advertising in the area, by shops and by certain businesses, we put awareness posters up so people would say "wow, internet free, 45 minutes". (lines 125-126)

Staff Training
The respondent says he did not receive any training.

Personal Motivation
The respondent mentioned the possibility of accessing a wide range of information:

> "So, I would say extra value is information at your fingertips." (line 333)

Computer and Internet Vision
The respondent used two metaphors to define computers. Moreover, he highlighted the information provider dimension of the object.

> "The same like the library, the library purpose is to give people information and something to read about. Just the computer is different, it gives you a variety of things, and you can choose whatever you want." (lines 277-279)

> "Computer is just like a TV, but the main thing about this TV is that you got buttons, and you can tell you what you want to know." (lines 432-433)

The respondent used a fascinating metaphor to describe the internet: it is like a airplane ticket:

> "I'd say the internet is a ticket for you. If you have a flying ticket, you can fly via internet and travel the world." (lines 435-436)

8.2 Individual Representations: Users

8.2.1 Bitterfontein User 1 (BU1)

BU1 is a 10 year old girl. She goes to primary school, grade 5, in Bitterfontein and the CAC has given her her first exposure to ICT.

CAC Definition

She was not able to give a definition of the CAC or explain why it was set up; however, when asked if she tells people that she comes to the centre and what she does there she answered:

> "I tell my grandmother that I come here to learn." (line 38)

So, for this young user it is clear that the CAC is a place that gives her the chance to learn something new.

CAC Services

The respondent highlighted that the main service offered by the centre is one-to-one support: staff members taught her how to type and to surf the internet.

CAC Usages

The first use the respondent mentioned was surfing the internet for fun: looking for photos and for celebrities, and playing games.
As an induced use the interviewee mentioned the use of the typing facility.

Users

The young girl was not able to answer these questions.

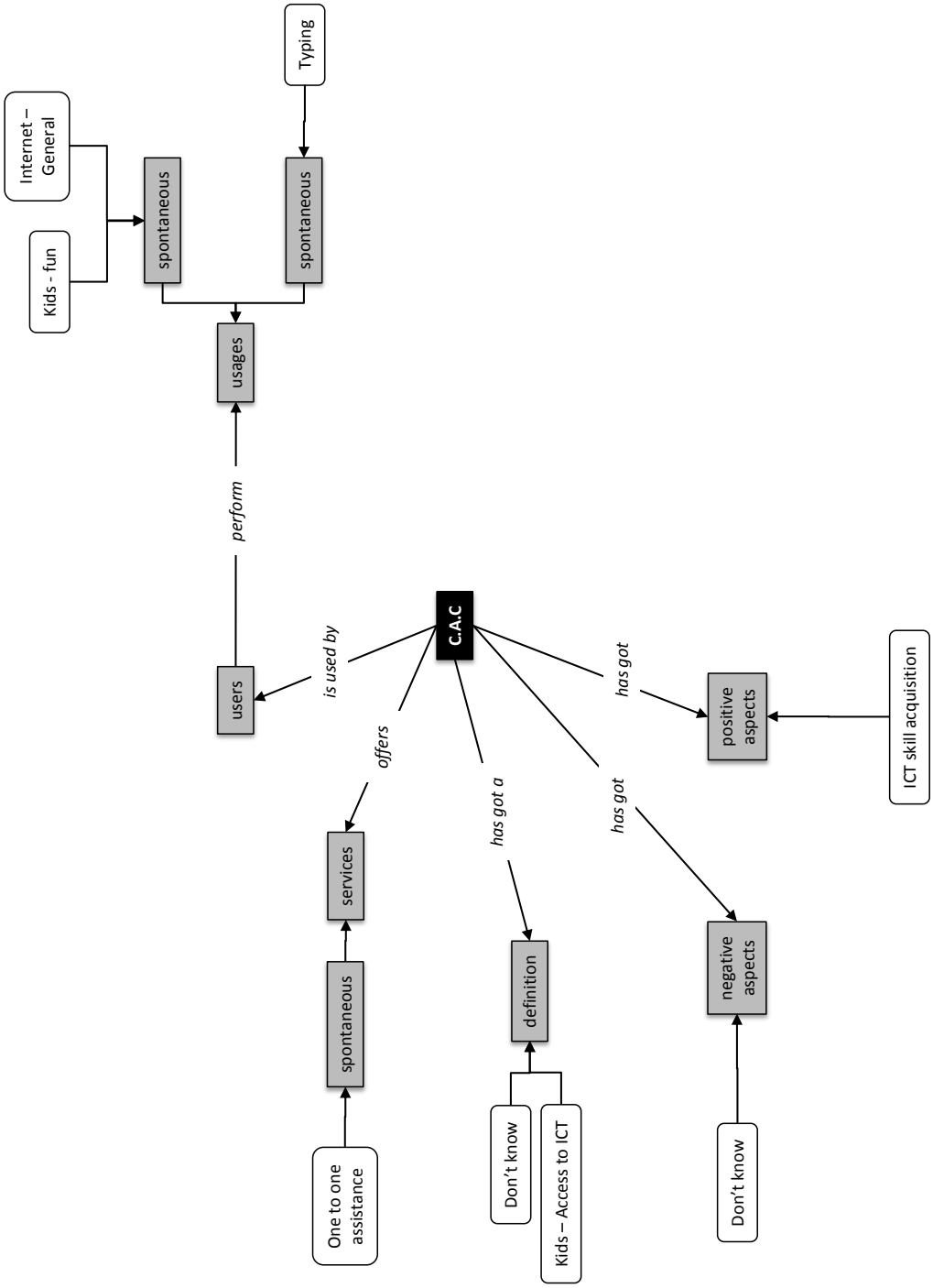
Positive and Negative Aspects

In her opinion a positive aspect is that the CAC is a place where people can learn something new:

> "It's nice to come sit here and to learn something new every day." (line 42)

Personal Motivation

The respondent goes to the centre because it gives her something to do instead of staying at home doing nothing.



8.13 BU1 Individual Representation

Computer and Internet Vision
According to the respondent a computer is something to learn and play with:

> "Is something that can learn you something and a thing that you can play game on." (line 52)

The respondent was not able to give a definition of internet.

8.2.2 Bitterfontein User 2 (BU2)

BU2 is a 22 year old man living in Bitterfontein. He finished grade 11 and obtained a National Certificate as Community Development Worker. At the time of the interview he was a volunteer Community Development Worker for young people in Bitterfontein. Before the CAC existed he had no possibility of accessing ICT; he knows that there is a similar centre in Vanrhynsdorp but has never been there. He learnt how to use the computer at high school in Cape Town.

CAC Definition
When defining the centre the respondent underscored the possibility of accessing ICT and information in general:

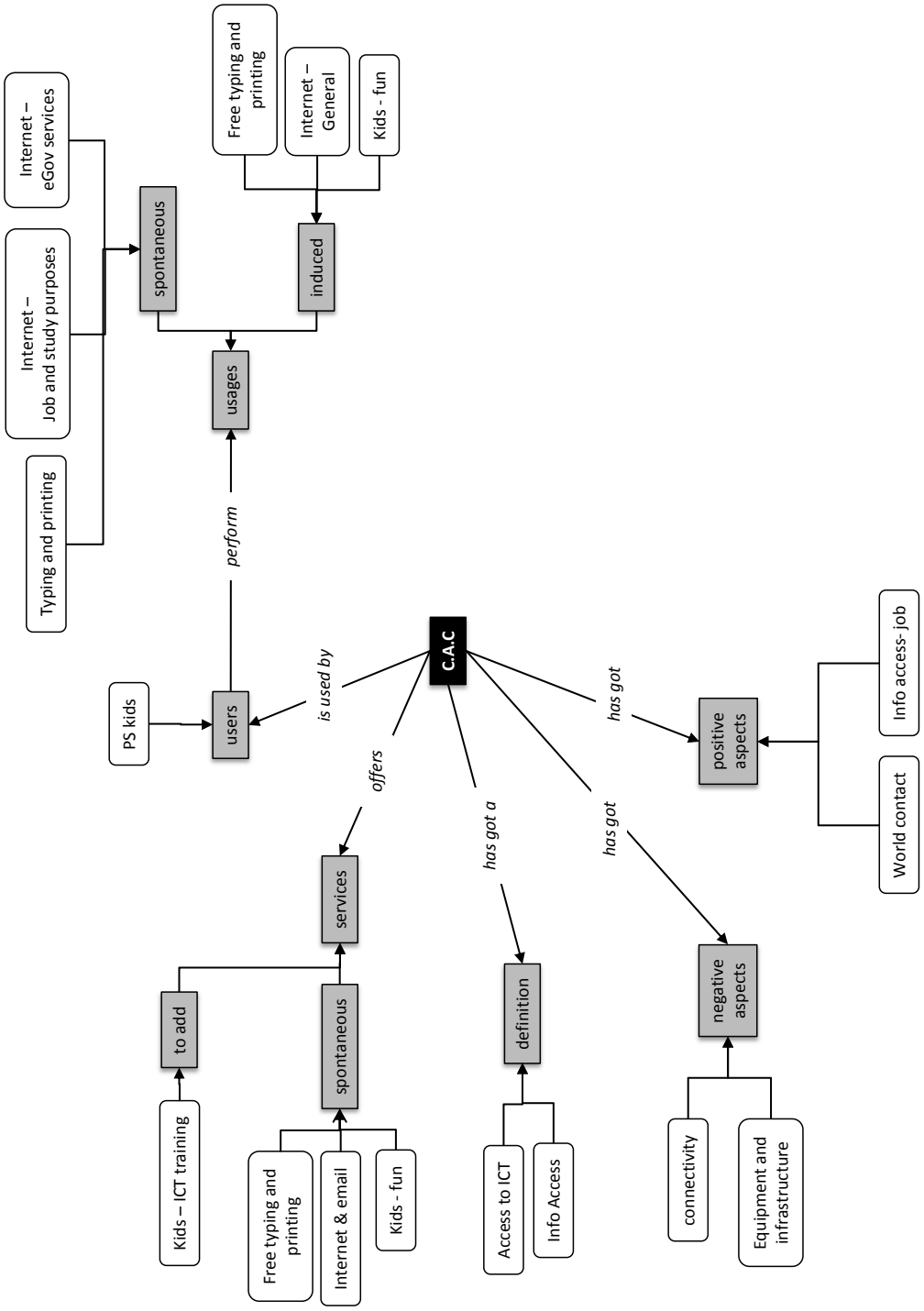
> "I will tell them about the centre and what it can do on the computers. You can e-mail, you can look for information on the internet, as well as look for pictures, and you can go to fan clubs or other organizations." (lines 101-102)

CAC Services
As spontaneuous services the respondent mentioned Microsoft Office programs, internet and email and software for drawing for children.

Services to Add
The respondent suggested the introduction of ICT training programs for young people.

CAC Usages
The uses mentioned by the respondent are typing up letters and preparting the agenda for meetings and the use of the internet for work purposes; in particular, he uses the CAC for his job, to find information which is pertinent to the community:

> "I'm searching government facilities, volunteering work within the community, jobs overseas, funding, sport or any other organizations." (lines 17-18)



8.14 BU2 Individual Representation

As induced uses the respondent mentioned internet in general and the fun use made by school children.

Users
The only type of users mentioned by the respondent are primary school children.

Positive and Negative Aspects
The interviewee highlighted that a positive element of the CAC in Bitterfontei was the possibility of looking for jobs on the internet. Another relevant positive aspect is connection with the outside world:

> "It kind of brings other places closer to you and you can make new friends with people outside South Africa on the internet." (lines 72-73)

Negative aspects were the lack of software and the connection speed.

Personal Motivation
The respondent mentioned the possibility of improving his ICT skills, having rapid access to information and the chance of contacting people outside Bitterfontein.

Computer and Internet Vision
The respondent compared the computer to a box and then described its components:

> "I would say is some box connected to a keyboard, and a mouse and a screen, and then you click it on and off and then you only have to read and the computer will directly tell you what to do." (lines 104-105)

The respondent stressed two aspects of internet: it works as an information provider and it gives people the possibility of connecting to the world.

8.2.3 Bitterfontein User 3 (BU3)

BU3 is a 24 year old man living in Bitterfontein. He works as a Petrol Station Assistant in Bitterfontein. The respondent has a computer at home and when he has money he buys airtime to connect to the internet. A friend of his who owns a laptop taught him how to use the computer.

CAC Definition
The respondent emphasized the possibility of free access to the internet:

> "I would say you can come here and you can do things from the internet for free, you can come tomorrow and you don't have to pay, you can come for the all month or year and don't have to pay and that's all." (lines 187-188)

CAC Services

As spontaneuous services, the respondent mentioned ICT access and the possibility of accessing information from all over the world.

CAC Usages

As uses the respondent stressed internet for personal purposes, e.g. he mentioned formula one racing and also as a chance of dreaming about the future:

> "Maybe I do researches about, you see, for example, formula one racing, every week or every time the racing come down then I come here and check who wins the racing and maybe there is competitions where I can entry and maybe some days I will also win something through the internet or I will go and watch some day the racing, you see, and I think that would be. It is just that I like it you see." (lines 8-11)

Another use he mentioned was getting in touch with people from different countries or towns and cities:

> "Yah, it is useful to come here, and I really like it ' cause you can do much more things through the internet you see you can meet other people from other countries maybe worldwide, or countrywide and you can do personals through the internet and I like it." (lines 2-4)

And, finally, he mentioned school children doing homework or research on the internet. As a secondary use the respondent highlighted the possibility of looking for jobs on the internet.

Services to Add

The respondent suggested that there should be the possibility of buying mobile phone airtime at the CAC.

Users

The interviewee mentioned that young adults and adults use the centre. However, he stressed the fact that children are the most common user typology of the centre.

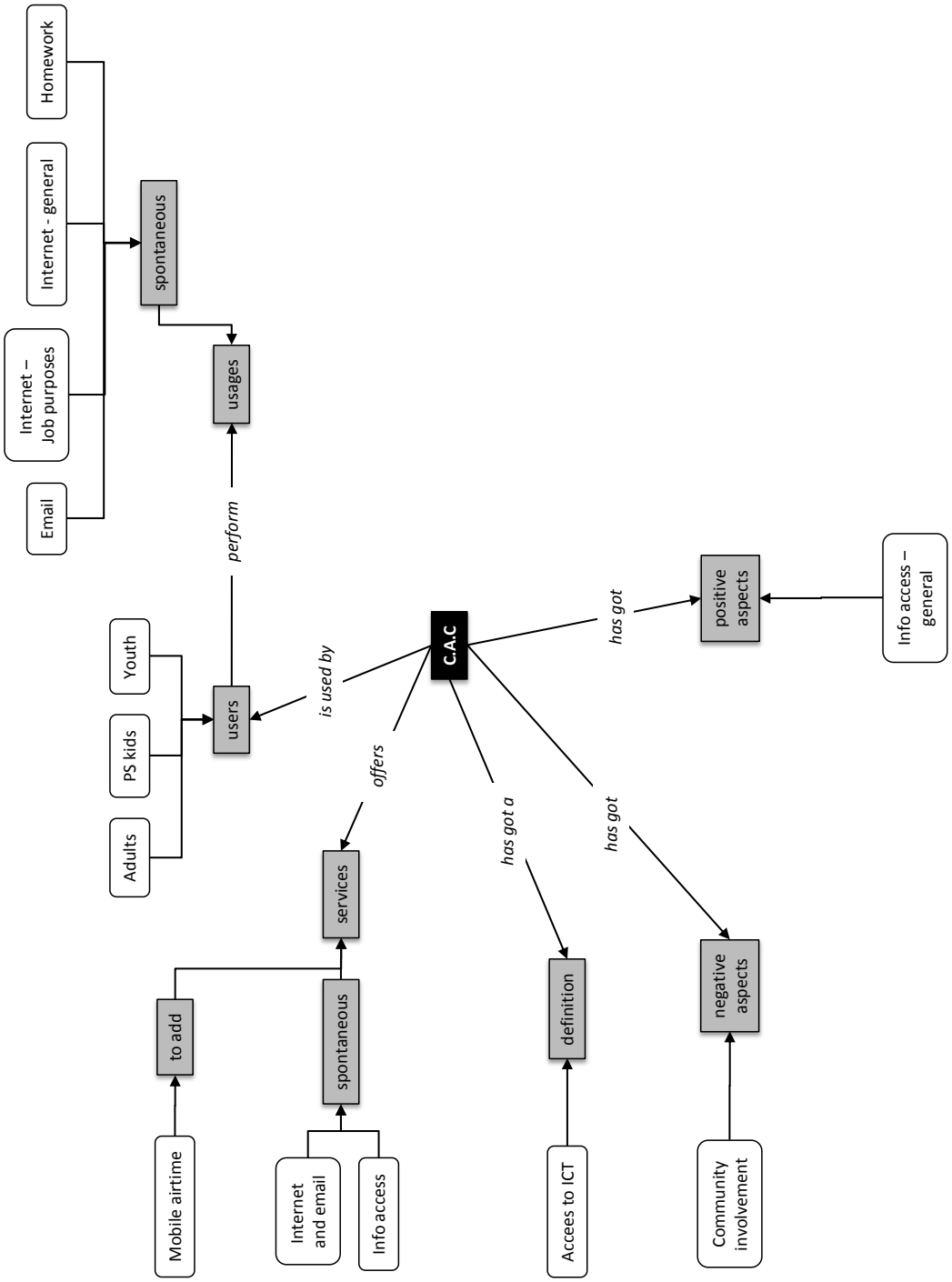


Figure 8.15 BU3 Individual Representation

Positive and Negative Aspects
The positive aspect mentioned by the respondent is that the community can access a wide range of information through the internet; the negative aspect is that the eCommunity Forum members should involve the community more in the use of the CAC and try to understand its information needs better:

> "They must go out and try to talk to the community and ask them of what they think, what they should do to the centre, maybe they can they must put in here more computers or they must but it's like they must come out get the people together they must ask them of what they think, what they can do much more, I mean they must take a step further from here." (lines 282-285)

Personal Motivation
The respondent mentioned the possibility of becoming computer literate, a skill that will increase his employability, the opportunity of meeting people from outside Bitterfontein and South Africa and the possibility of widenng his horizons through the internet.

Computer and Internet Vision
The respondent compared the computer to the TV:

> "What is a computer, it's like your TV at home you see he can find out something maybe a program on TV like "Generations" he can find in here what is going to happen next, at home he must wait till the program starts tomorrow or next week, so if he come here then he will find out much more then he can go home and tell his friends what is going to happen next, you see, so I think the computer is, you see, it's much better than watching TV at home or yah, that's all." (lines 190-194)

As regards the internet, the respondent highlighted both the information and communication dimensions.

8.2.4 Bitterfontein User 4 (BU4)

BU4 is a 24 year old woman living in Bitterfontein. She completed grade 12 and works at the Postal Agency. She does not go to other telecentres and she does not have access to ICT except at the CAC. She gained her ICT skills during a computer course held at a training centre in Tafelsig.

CAC Definition
According to BU4 the centre is just somewhere people can access ICT.

> “It’s a place that you can go check out the Google and stuff, to browse around the world..” (line 59)

CAC Services
The only service mentioned by the respondent is ICT training.

CAC Usages
The only service mentioned by BU4 is internet surfing.

Users
The respondent did not mention particular user categories, also because she seldom goes to the CAC.

Positive and Negative Aspects
Positive aspects mentioned by the interviewee are the kindness of the staff, the possibility of using the internet free of charge and the fact that a lot of children go there.

As negative aspects, BU4 mentioned the need for more computers and the need to involve the community more:

> “I don't know, we can learn more about the centre, it is mostly people that don't go there, that don't care about that, so if you can get more feedback from the people could help, yeah it could change something in their lives.” (lines 67-69)

Computer and Internet Vision
The respondent was not able to answer this set of questions.

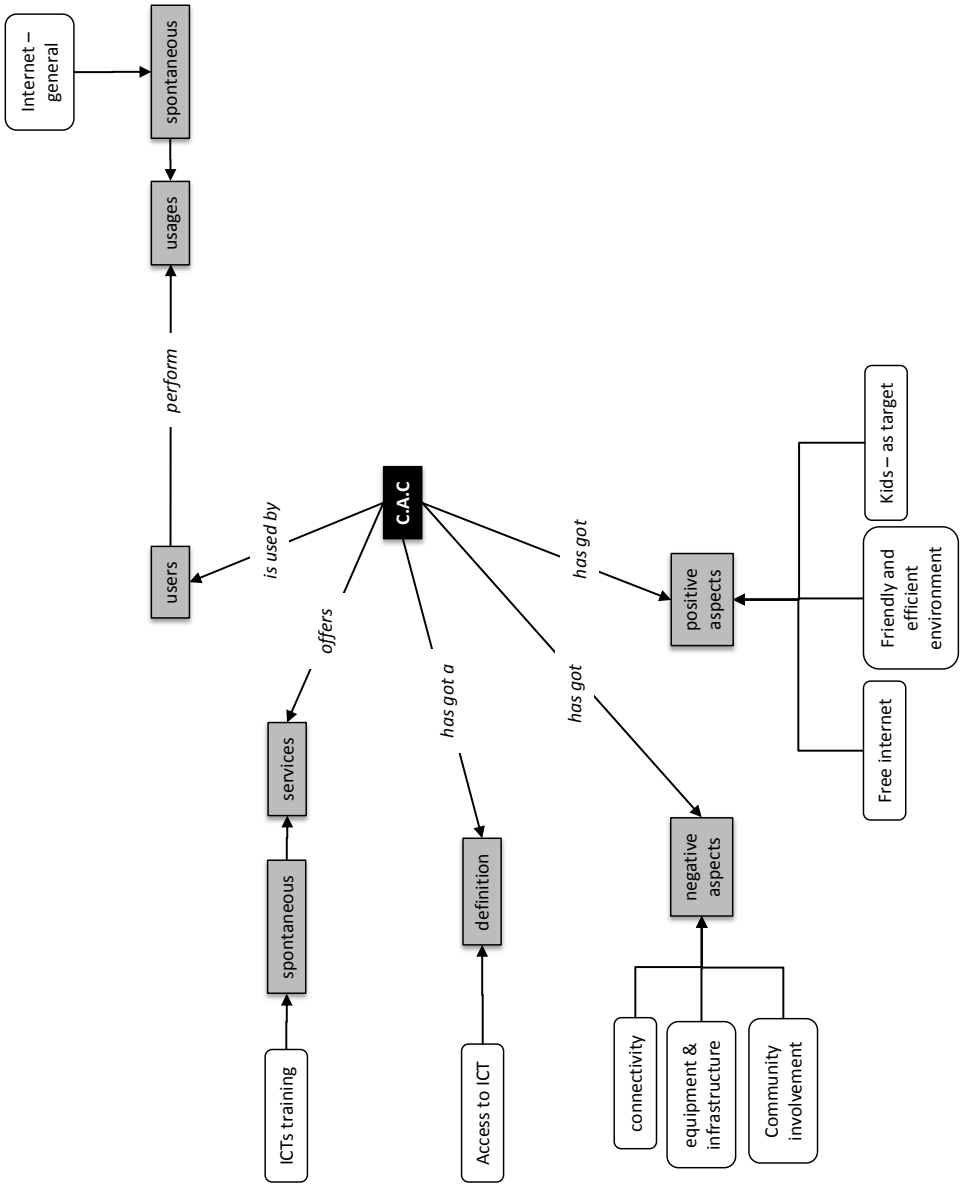


Figure 8.16 BU4 Individual Representation

8.2.5 Oudtshoorn User 1 (OU1)

OU1 is a 33 year old man living in Bongoleto, the Oudtshoorn township where the CAC is located. He works in the Public Administration Sector. Before the CAC opened he sometimes used cybercafés but they cost too much for him to use them regularly. He also used a telecentre downtown established by the government to support small businesses. He learnt his computer skills at school.

CAC Definition

In defining the CAC the respondent pointed out that the centre is a one-stop service centre to access information in general and eGovernment information in particular:

> "I will say it's a one stop service center where you get all the government services on the net free of charge of course where whatever information you need for any particular purpose, you will get it for free." (lines 102-103)

CAC Services

The two services highlighted by the respondent are internet services and business opportunities.

As induced services the respondent mentioned the awareness events to promote the centre that eCommunity Forum Members organize around the community.

Services to Add

The respondent strongly suggested that ICT training programs should be offered to the community:

> "In the town there are people who are not computer literate, they would want to come to use them but they are not able to because they are not computer literate. So this center can offer systems that regard that and it will definitely make a difference." (lines 68-70)

CAC Usages

As uses the respondent mentioned email, internet for general purposes and job and study purposes, such as looking for business opportunities, calls for tenders and study programs, the typing facility to prepare CVs and, finally, the use of the centre to do homework.

Users

As users, the interviewee mentioned people from the community in general and secondary school students in particular.

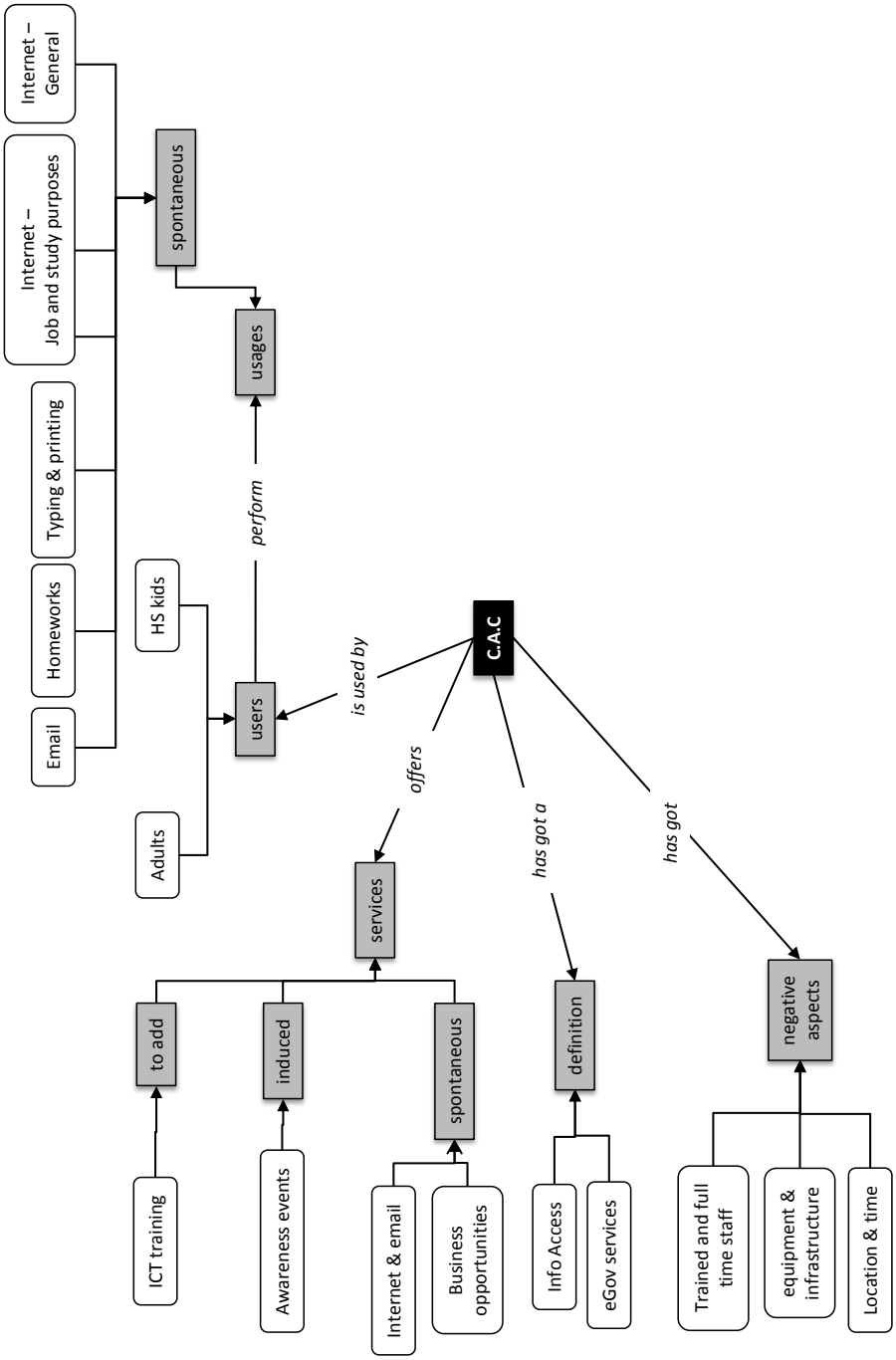


Figure 8.17 OU1 Individual Representation

Positive and Negative Aspects
The interviewee only mentioned aspects that he considered needed improving: the location, too small; the opening hours, not good for working people; the number of computers, too few; and, finally, the need for more trained staff:

> "That other center has got staff that is trained to advise people but this there is no one trained." (line 38)

Personal Motivation
The respondent mentioned the possibility of free ICT access and the ensuing possibility of accessing information in general and information about jobs.

Computer and Internet Vision
The respondent stressed the communication dimension of computers:

> "It's a device made for people to communicate while they are far from each other in a more creative way than talking over the phone or writing letters." (lines 113-114)

As regards the internet, the respondent stressed both the communication and information dimensions of the tool:

> "The internet is a service that is of course international and where I will be able to communicate with at that particular moment, for example in a chat room, or able to send emails and exchange information in a matter of seconds." (lines 119-121)

8.2.6 Oudtshoorn User 2 (OU2)

OU2 is a 20 year old woman living in Bongoleto. She studies at college and in the meantime works part-time as a shop assistant. She learnt her ICT skills at the CAC and at college. The CAC represents the only opportunity she has to access ICT: she didn't use other telecentres before she came to the CAC and does not use any other telecentre at the moment.

CAC Definition
According to the respondent the CAC is a centre where she can learn computer skills and have free access to ICT:

> "This centre is very good for you as a person to learn some computer skills, and for free actually." (line 146)

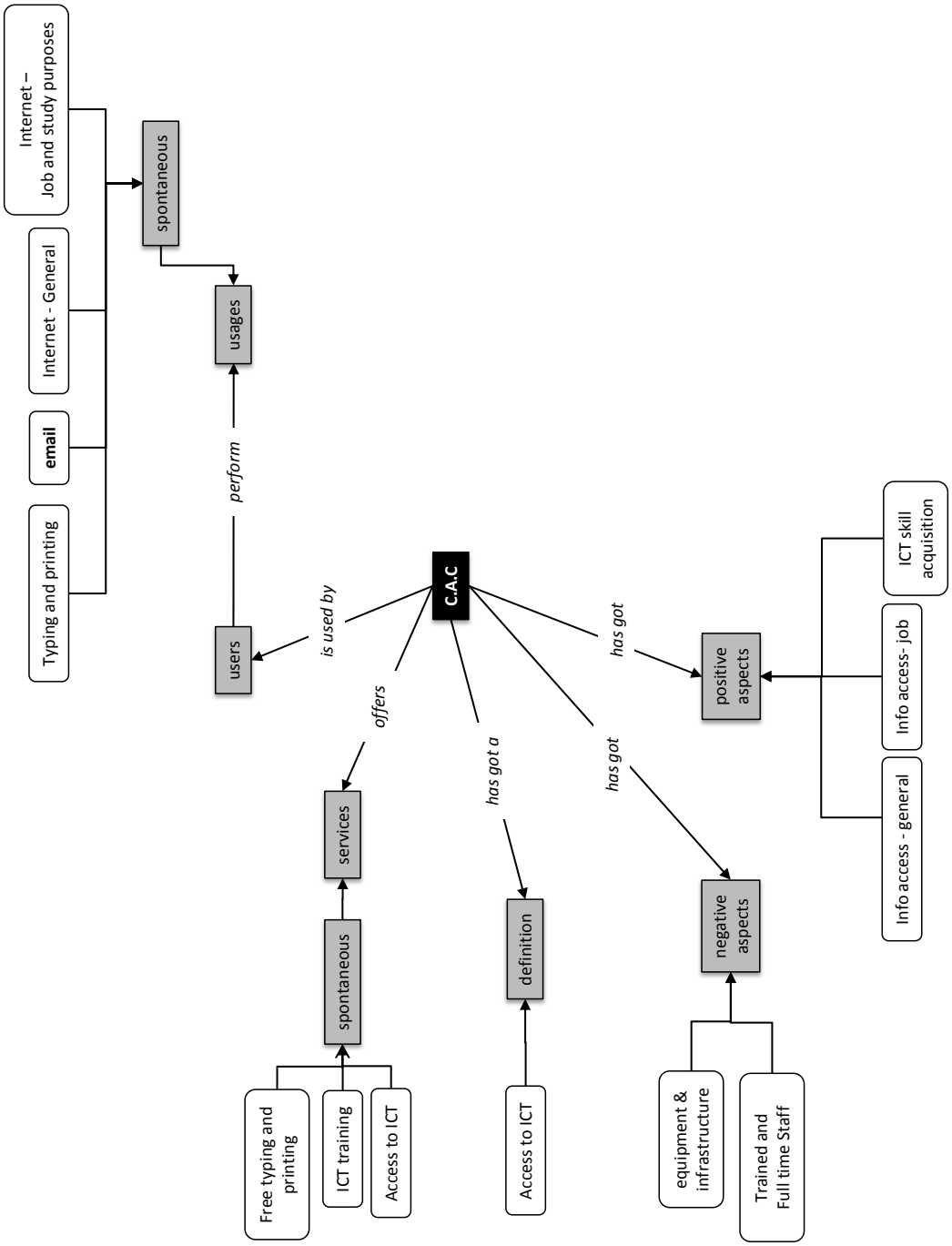


Figure 8.18 OU2 Individual Representation

CAC Services
As services the interviewee mentioned ICT access and, consequently, learning more ICT skills. She also mentioned the printing facility.

CAC Usages
As spontaneous uses, the respondent mentioned typing CVs and documents in general and the use of emails to communicate with friends and of the internet to access information. Another use she mentioned is searching the internet to look for a job.

Users
The respondent did not mention any particular user category.

Positive and Negative Aspects
As positive aspects the respondent highlighted that the CAC offers the chance of gaining ICT skills, of communicating and gathering information from all over the world and, finally, that people can look for job opportunities on the internet.
As negative aspects she stressed the need for more and newer computers. Another aspect she mentioned is the need for more staff able to assist CAC users:

> "Other things is, there must be someone, at least one, who came always, be around the people who are using the computers and learn them some stuff if they want to know something." (lines 98-99)

Personal Motivation
The respondent mentioned the possibility of becoming digitally literate.

Computer and Internet Vision
The respondent defined the computer as a tool to use for business purposes and then described its components:

> "What is a computer? A computer is a collection of electronic parts you can use for home or for business related tasks. […] A computer you can just write your documents and save your information actually, so that you can use It in the future maybe, or something." (lines 151-155)

As regards the internet, the respondent highlighted both its information and communication dimensions.

8.2.7 Oudtshoorn User 3 (OU3)

OU3 is a 15 year old boy living in Bongoleto. He is in grade 10 and has been taught ICT at school from grade 1. He can use the computer at school but not on a daily basis. Before the centre opened he also went to a telecentre downtown.

CAC Definition

OU3 presented the CAC as a centre where it is possible to use computers and access the internet:

> "So forth, in my understanding, CapeGateway is all about understanding and knowing computers. In a sense that we surf the internet, you do all that type of stuff, in a much faster way" (lines 208-210)

CAC Services

The respondent mentioned internet and email and the possibility of using Microsoft Office programs to type as services offered by the CAC.

Services to Add

The respondent thinks that the services offered are sufficient.

CAC Usages

OU3 mentioned internet for general purposes and the use of the facility by secondary school children to do their homework.

As a secondary service the respondent mentioned the use of internet and the facility to look for jobs.

Users

The respondent did not mention any particular user typology except for secondary school children.

Positive and Negative Aspects

The interviewee mentioned free internet and the possibility of typing as positive things offered by the CAC. Furthermore, he stressed the fact that it allows secondary school children to arrive at university computer literate.

On the other hand, OU3 complained about the limited space allocated to the computers in the library, about the connection speed and about the obsolescence of the computers.

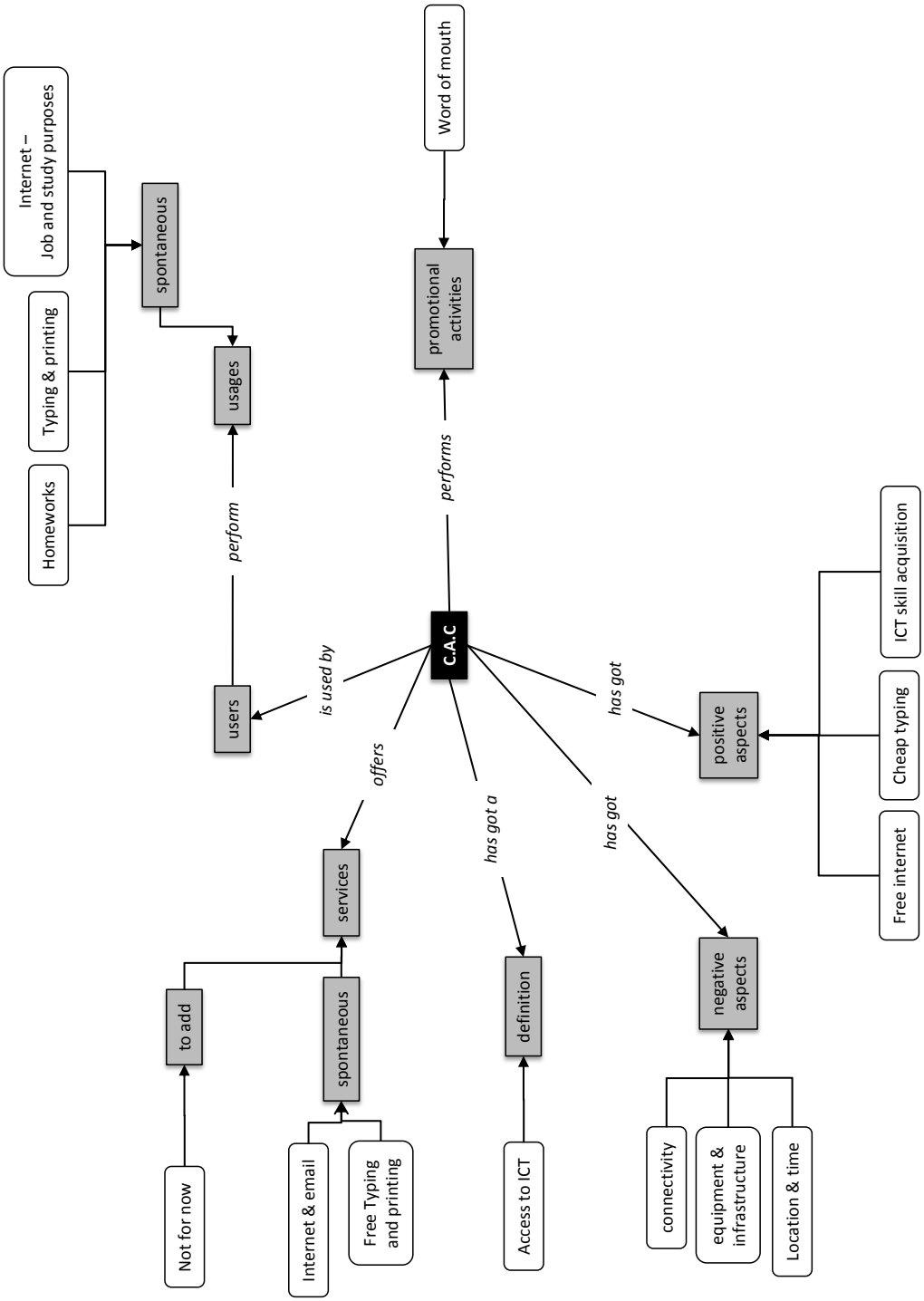


Figure 7.8 OU3 Individual Representation

Personal Motivation
The respondent mentioned the possibility of learning more about technologies, of broadening his horizons and of learning more. The centre gives him a place where he can stay out of trouble and off the street:

> "It has opened up my mind towards technology and how it works, I mean I'm more literate I'm no more in school, or in the street most time, you see, so I can take my time and learn more." (lines 151-152)

Computer and Internet Vision
The respondent compared the computer to a typing machine and highlighted the information dimension of the internet:

> "The internet, how could I explain that, is a collection of data, the internet is a collection of information which you browse on the computer to see if a certain website is there to provide you with information that you need. Say, now I have a question about politics, or stuff, then I can go there, and ask someone if they know a politics site, maybe, then I can view that site to know better about, and understand more about politics." (lines 222-225)

8.2.8 Vanrhynsdorp User 1 (VU1)

VU1 is a 43 year old woman. She attended a course on agriculture at a college in Vriedendaal and at the moment of the interview she was working in a centre for the disabled. She also attended a computer course in Vriedendaal where she learnt computer basics. She does not go to any other telecentres.

CAC Definition
When defining the centre the respondent said that it is a place to access ICT and to learn how to use them:

> "I tell them it a place where you can learn to use the computer, you can learn other programs and you can use it for your Internet and emails and things. And you can use it to do your work so you don't have to need a computer at your home." (lines 89-91)

CAC Services
As spontaneuous services VU1 mentioned access to ICT, computer training and one-to-one support offered to users.

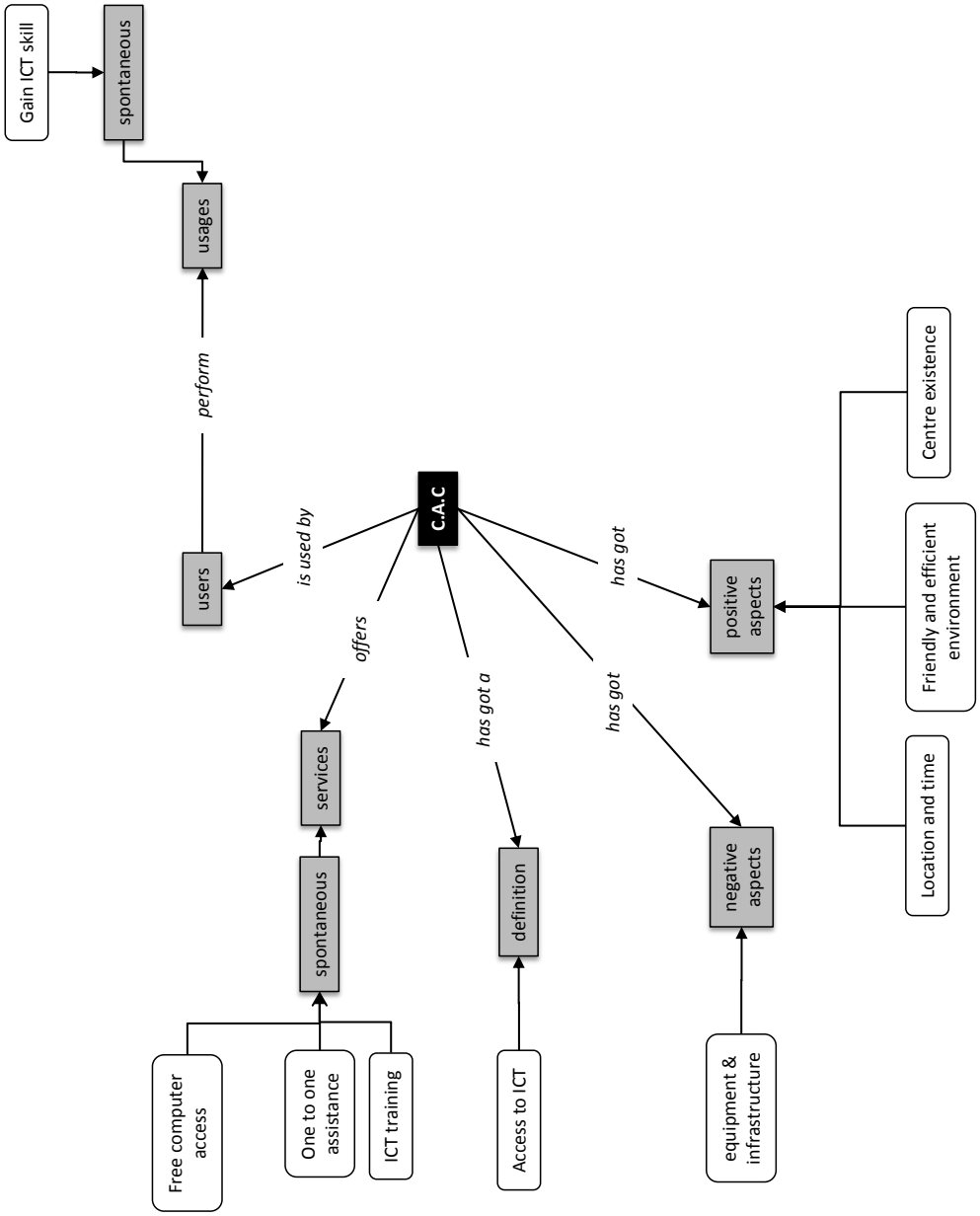


Figure 8.19 VU1 Individual Representation

CAC Usages
As spontaneous uses the respondent stressed the acquisition of digital literacy skills.

Users
The respondent did not mention any particular typology of users.

Positive and Negative Aspects
As a positive aspect first of all the respondent pointed out the existence of the centre in a town such as Vanrhynsdorp:

> "[…]it is good that it is on our town, because we are so far from all the things." (line 66)

Other positive factors highlighted are the location, near the community, and the competence of staff members, especially the staff teaching disabled people:

> "[…] the person that gives the lessons are great, they know what to do, they do it in a way that our people can understand it." (lines 66-67)

As negative aspects the interviewee stressed the lack of adequate equipment in terms of the number of computers and of the software installed.

Computer and Internet Vision
The respondent highlighted two characteristics of computers: they are a tool to do things faster and easier and they are also a tool to communicate:

> "Is a kind of tool that help you to do your work better. It make the world open for you because you can communicate with other peoples, other towns, other things and do it more faster and neater." (lines 96-99)

The respondent highlighted both the communication and information dimensions of the internet.

8.2.9 Vanrhynsdorp User 2 (VU2)

VU2 is a 47 year old man living in Vanrhynsdorp. He is a qualified teacher who taught for 20 years in the local school and was also its director for a few years. He currently works at the ABET centre, an NGO providing basic education for adults in the local community. He acquired computer literacy skills when he worked at the school, through self-study. He owns a computer and has access to a computer also in his office but the only possibility of using the internet is at the CAC.

CAC Definition

The respondent tended to confuse or merge the community centre where the CAC is hosted and the CAC itself. According to the interviewee the CAC is a computer centre belonging to the Vanrhynsdorp Community Centre:

> "First, it's a computer centre. Internet and printing. It's a community centre, for all people in the community, children, adults. Yeh, you can go there anytime." (lines 105-106)

CAC Services

The respondent highlighted free computer and internet access.

CAC Usages

As spontaneous uses the interviewee mentioned internet in general and for work purposes. He, for example, uses the internet to find activities at the ABET centre.
The respondent mentioned email as a secondary use.

Users

He did not mention any particular user category.

Positive and Negative Aspects

As positive aspects the respondent mentioned the discipline of the centre (it is worth remembering that the Vanrhynsdorp CAC is the only CAC to ban children) and its opening hours.
As aspects to improve he mentioned the insufficient number of computers.

Computer and Internet Vision

A computer is a multipurpose object, according to the respondent, allowing users to communicate and find information:

> "Computers is an instrument you can use for typing, it's got different programs, you can get information on it, you can send a fax to someone, you can read the latest news on it, you can see photos and pictures on it, yeh all kinds of things, reading and written… yeh." (lines 110-112)

As regards the internet, the respondent highlighted the information dimension and the possibility of having access to the entire world.

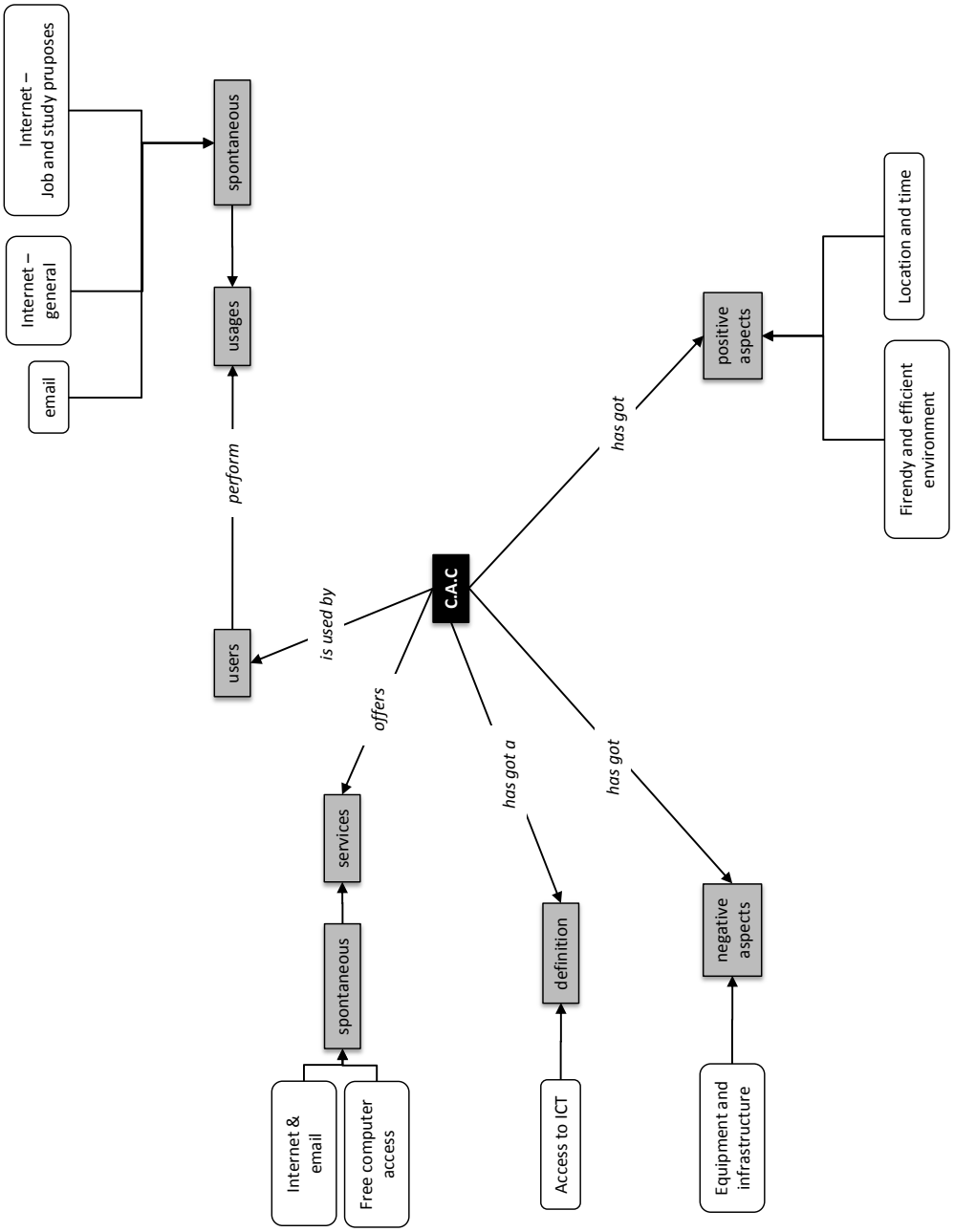


Figure 8.20 VU2 Individual Representation

8.2.10 Struuisbaai User 1 (SU1)

SU1 is a 44 year old housewife living in Struuisbaai. She finished grade 4 at school and learnt how to use the computer at the CAC supported by the eCommunity Forum staff. She does not go to other telecentres except the CAC.

CAC Definition

Like many interviewees in Struuisbaai, SU1 sees CAC as a public library offering computer access:

> "There is a library, there is a computer that can help you and there are people here who can show you how to manage it. You must register, you must register as a user." (lines 147-148)

CAC Services

As service the respondent mentioned one-to-one assistance on the use of the ICT provided by eCommunity Forum volunteers.

CAC Usages

As spontaneous uses the interviewee mentioned the acquisition of ICT skills and the possibility of typing.

As induced uses the respondent highlighted the possibility of sending emails and looking for jobs on the internet and the use of the facility to do homework and school projects.

Users

The category of users mentioned by the respondent are secondary school children.

Positive and Negative Aspects

As positive factors, the respondent highlighted the possibility for high school children to gain ICT skills and to do their school projects; the kindness and friendliness of the environment and, thirdly, that it is open to the whole community.

On the other hand, the respondent complained about the small size of the centre, the insufficient number of computers, the insufficient time (45 minutes) allowed to use the facility and the insufficient number of trainers.

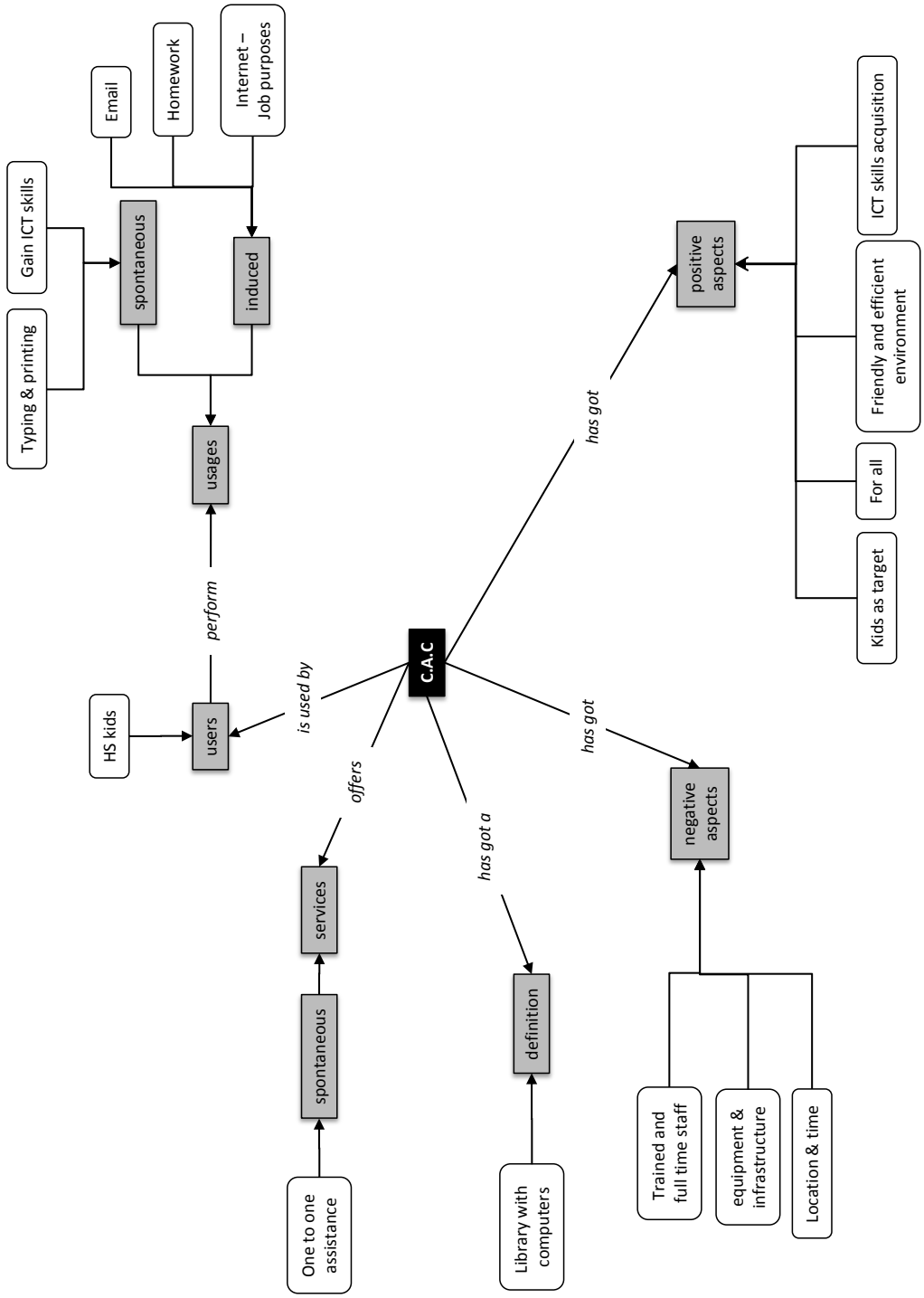


Figure 8.21 SU1 Individual Representation

Personal Motivation
The respondent mentioned the possibility of accessing ICT and of gaining ICT skills. However, most of all the CAC stopped her from being bored:

> "So, I was bored at home, normally I'm a housewife, so, I thought I must come here to light up my life with a computer." (line 46)

Computer and Internet Vision
To define computers the respondent used the metaphor of the electronic brain:

> "Computer is just electronic brain. An electronic tool to help other people to get wise. A tool to help other people to get computer wise. To fix what they don't know. To me a computer knows almost everything." (lines 154-162)

As regards the internet, the respondent stressed its information dimension.

8.2.11 Struuisbaai User 2 (SU2)

SU2 is a 44 year old woman living in Struuisbaai. She studied Cosmetology at college and was unemployed at the time of the interview. She learnt how to use the computer on her own and has a computer at home, without internet access. So the CAC is her only possibility of accessing the internet. She was not a usual user as this was her first time at the centre.

CAC Definition
The respondent defined CAC as a place where everybody can have free access to ICT.

CAC Services
The interviewee mentioned internet and email facilities.

Services to Add
The respondent considered the services offered to be sufficient.

CAC Usages
As uses she mentioned the use of internet for general purposes and for emails.

Users
The respondent did not mention any particular category of users.

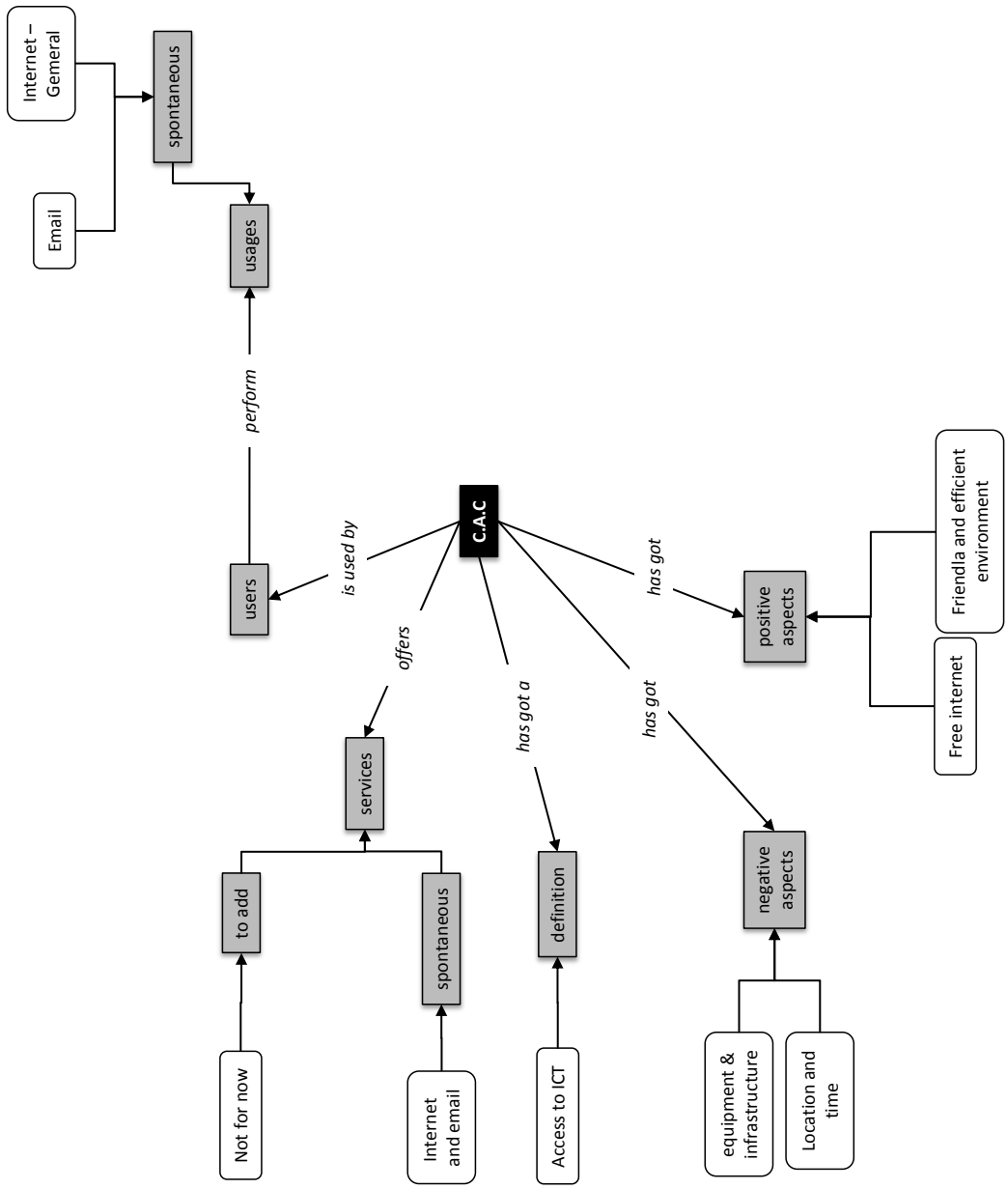


Figure 8.22 SU2 Individual Representation

Positive and Negative Aspects
The respondent highlighted the fact that the facility is free of charge and that it is a quiet place with helpful staff.
She complained about the short time allocated to each user to access the facility: 45 minutes, and about the impossibility of downloading files onto USB drives or CDs.

Personal Motivation
The respondent highlighted the possibility of having free access to ICT and the consequent possibility of accessing a wide range of information that broaden her horizons:

> "It's opened up a new world to me, the world of the internet, because you are able to go on the internet and find out more info about things you have never seen before and looked at, and when you are needing information, you are able to go in and find out information about which you wouldn't always have with books and things like that. It's more up to date information than what you have with books." (lines 82-87)

Computer and Internet Vision
The respondent defined a computer as a magical system:

> "It's a screen with a brain and a key board and a mouse that you are able to work with, to use the computer, this magical system. " (lines 96-97)

As regards internet, the respondent stressed both the communication and information dimension.

8.2.12 Struuisbaai User 3 (SU3)

SU3 is a 15 year old boy living in Struuisbaai North. He is in grade 9. He learnt how to use the internet at the CAC. He has a computer at home but does not have an internet connection; the only place where he can access the internet is at the CAC.

CAC Definition
The respondent identified the CAC with the library:

> "I will just say the library and there's computers and everything to use. [It is a library] where there is computers to use for everybody" (lines 104-106)

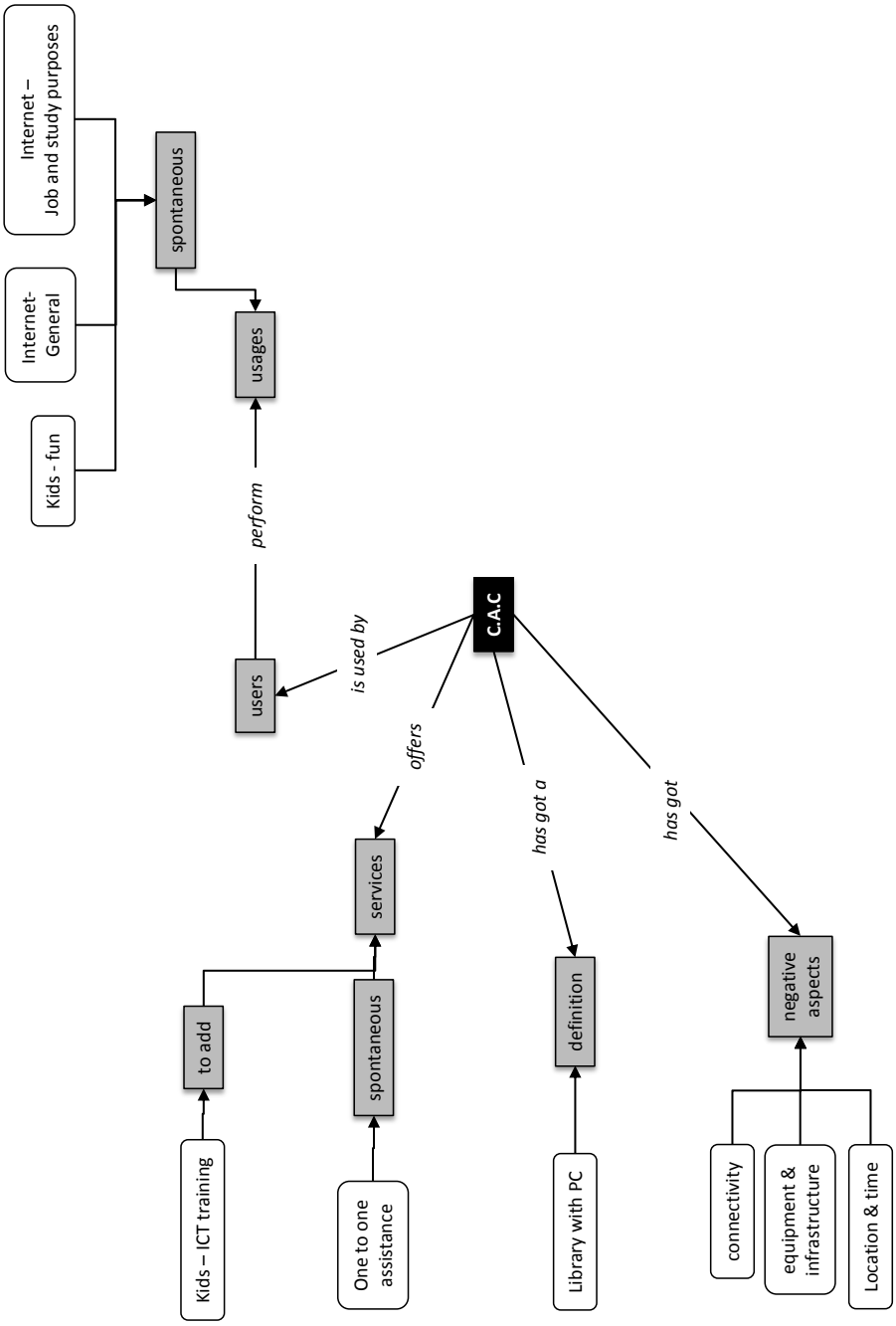


Figure 8.23 SU3 Individual Representation

CAC Services
The service he mentioned was the one-to-one assistance provided by eCommunity Forum members.

CAC Usages
As uses the boy mentioned internet for general purposes, for work purposes and to play games.

Users
The respondent did not mention any specific user category.

Positive and Negative Aspects
The respondent mentioned as positive aspects the possibility of learning how to use computers and the fact that the centre allows children to stay in a safe place, this is a benefit highlighted by many Struuisbaai interviewees:

> "It's for keeping our children from the street, to stay out of trouble." (line 69)

As a negative aspect he highlighted that most of the community is still not involved in the project:

> "We would like to learn other people to play the computer, there is still people who cannot play the computer." (lines 75-76)

Personal Motivation
The respondent mentioned that he goes to the CAC to have fun.

Computer and Internet Vision
According to the respondent the computer is an object that can be used to work and to play games, and internet is an information provider.

8.2.13 Struuisbaai User 4 (SU4)

SU4 is a 41 year old woman living in Struuisbaai North. She works at the supermarket and completed grade 12. Previously, she worked as a receptionist in a hotel in Struuisbaai and learnt how to use the computer there on her own. The CAC is the only place she uses to access ICT.

CAC Definition
The respondent sees the CAC as a place to access ICT in general:

> "I would tell him that the he can do basically everything there. Can do his banking on the website, can communicate with his friends, can use the e-mail, so I can tell him, but I can also tell him about the other software of the centre." (lines 129-131)

CAC Services
As regards services, the respondent mentioned internet in general, to communicate and do online banking transactions. Another service she mentioned is one-to-one assistance to small children.

Services to Add
The respondent suggested ICT training programs.

CAC Usages
As uses she mentioned the use of the internet, of emails and of the typing facility. She also mentioned the use of online games by children.

Users
The respondent mentioned small children as frequent users of the centre.

Positive and Negative Aspects
A positive factor highlighted by the respondent is the existence of the centre in such a rural place as Struuisbaai. She also mentioned that it is a good thing that the youth of Struuisbaai have the chance of becoming digitally literate:

> "The first thing, it's very good for the young people, it's very good for them to start learning the computer." (lines 68-69)

A third positive aspects is that the CAC is a safe place for children to go after school:

> "And the third one, let me think, It is a safe some place for the little kids, for just after school, when their mother is still working they can stay there for 45 minutes" (lines 79-81)

According to the interviewee aspects to improve include the limited space and the opening hours to allow adults to access the centre after work. The other suggestion the respondent made was to appoint someone to run the centre and not to have the librarian run the library and the centre at the same time:

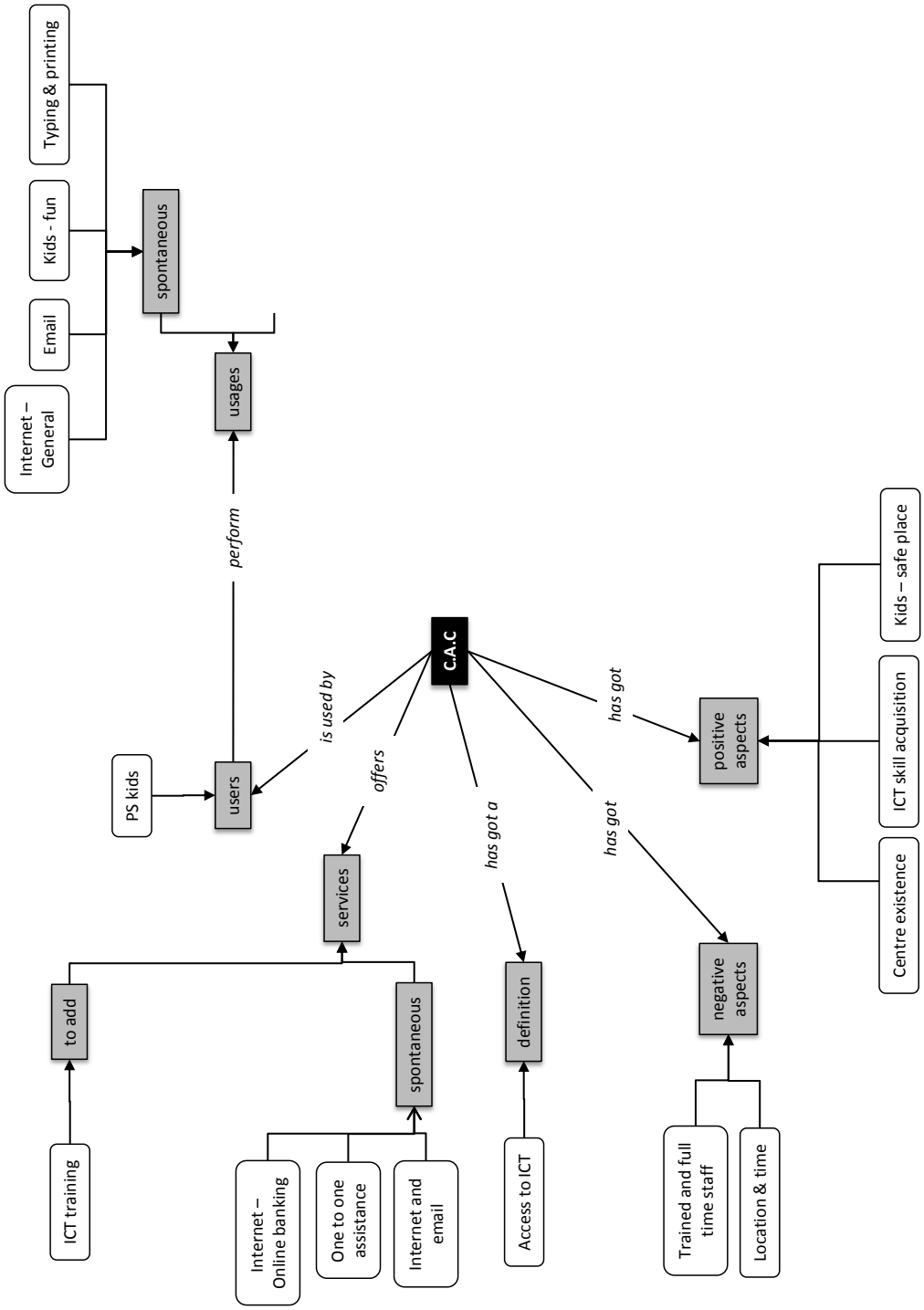


Figure 8.24 SU4 Individual Representation

> "And I think there must be not a librarian, but just one people for the computers and to handle the kids, help the big people, whatever." (lines 85-86)

Personal Motivation
The respondent mentioned that she goes to the centre because she loves computers and because she has the possibility of keeping in touch with her friends living faraway.

Computer and Internet Vision
The respondent compared the computer to a typewriter with a screen and highlighted the communication dimension of the internet.

8.3 Individual Representations: Non-users

8.3.1 Bitterfontein Non-user 1 (BNU1)

BNU1 is over 50 years old. He is a bricklayer and completed grade 6. He is not computer literate. When asked about the CAC he confirmed that he knows it exists.

CAC Definition
The respondent was not able to answer.

CAC Services
The respondent was not able to answer.

CAC Usages
First of all the respondent answered that he was not able to mention any uses but when pushed he said that people probably use the typing facility in the CAC.

Interest and Reasons to go to the CAC
The respondent is not interested in going to the CAC. He answered that he is too old for ICT. He believes that computers are something for very young people:

> "Because I'm too old to use it. I'm over fifty years. That's for the youngsters. From fifteen to twenty, around, about there." (lines 6-7)

Computer and Internet Vision
The respondent was not able to answer.

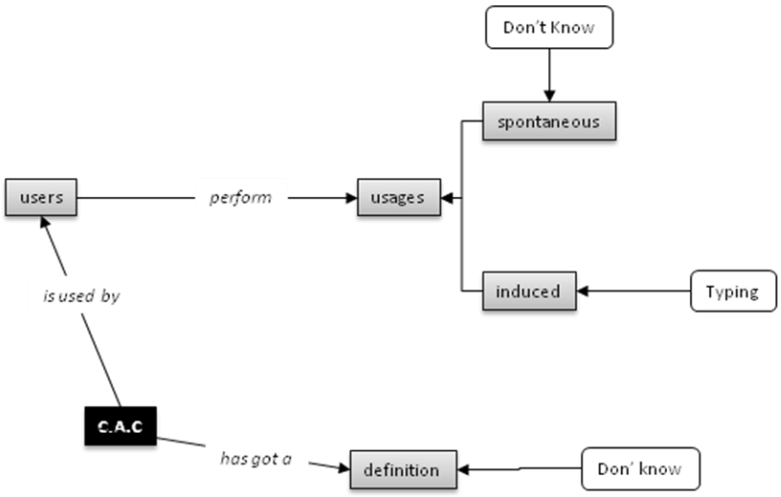


Figure 8.25 BNU1 Individual Representation

8.3.2 Bitterfontein Non-user 2 (BNU2)

BNU2 is an 18 year old man. He completed grade 12 at school and is unemployed. He is thinking about joining the army. He learnt to use the computer on his cousin's machine but has never surfed the internet. When asked about the CAC he said that he didn't know it exists.

CAC Definition
The respondent was not able to answer.

CAC Services
The respondent was not able to answer.

CAC Positive and Negative Aspects
The respondent was not able to answer.

Interest and Reasons to go to the CAC
The respondent would be interested in going to a centre where he could become computer literate but did not know that the CAC existed.

Computer and Internet Vision
The respondent defined the computer as a tool to do many tasks but was not able to define the internet.

8.3.3 Bitterfontein Non-user 3 (BNU3)

BNU3 is a 32 year old man. He is unemployed but used to work in the health care sector. He completed grade 8. When asked about the centre he said that he knew it existed.

CAC Definition

Even if the respondent was aware that the centre existed, he was not able to define what the centre is and what people do there.

CAC Services

The respondent was not able to answer.

CAC Positive and Negative Aspects

The respondent was not able to answer.

Interest and Reasons to go to the CAC

The respondent said that he does not go to the CAC because he is an alcoholic and so cannot go into public places:

> "That is why I don't go there. Because I am drinking too much , that's why." (line 6)

However, when pushed, he explained that even if he wasn't an alcoholic he would not have the time to go there because he would be busy working or doing other things. Only at the end did he declare that, if he had the time, he would go and see what the CAC is.

Computer and Internet Vision

The respondent defined the computer as an iron brain but was not able to define the internet.

8.3.4 Oudsthoorn Non-user 1 (ONU1)

ONU1 is a 55 year old man. He lives in Bongoleto but his family lives in Queens Town. He is unemployed and is looking for a job. When asked about the centre he said that he knew that it existed.

CAC Definition

ONU1 has a rough idea about what the CAC is; he said it is a computer centre:

> "They are using the computer, I think they are typing the pages they are required to make it here in this area. " (lines 49-50)

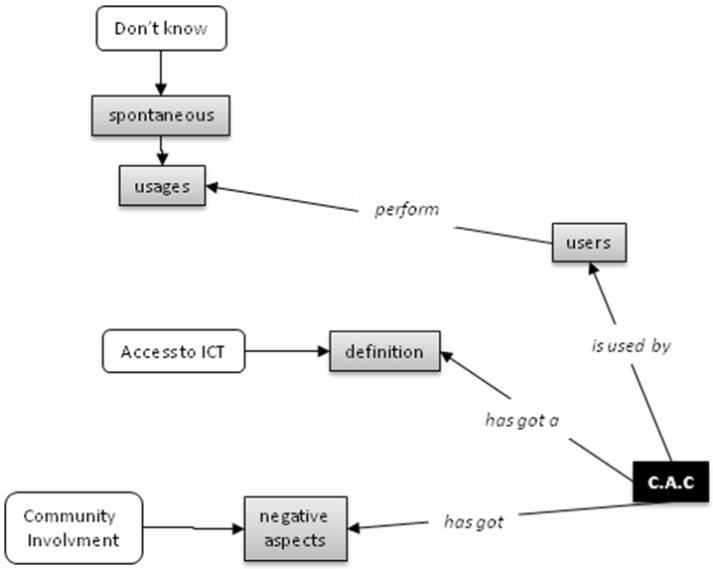


Figure 8.26 ONU1 Individual Representation

CAC Services/Usages

The respondent was not able to answer.

CAC Positive and Negative Aspects

The interviewee complained about the lack of involvement of the community; he suggested that staff members should do more to involve the community:

> "That's, that's help people. They must help people or however it is. Yes. They should help people in the place in the community." (lines 151-152)

Interest and Reasons to go to the CAC

The respondent indicated the urgent need he had for information which he could solve using ICT: he had still not received his unemployment card and wanted to know how to get it:

> "Maybe for instance I have [...] is a pipeline in welcome. It was 1973 and 74. I'm sure that, no I'm not talking about that, because why those people did not give in their unemployment cards. Now why don't you search them? Where are they? And I want to look for them in the computer. Will the computer tell me." (lines 67-72)

He does not want to go to the CAC because he is not qualified and needs someone to help him use the computer; however, he is convinced that there is nobody in the centre that could support him:

> "I want to use, but that's the problem there nobody who can teach me." (line 29)

Computer and Internet Vision
The respondent called the computer a machine, and was not able to define the internet.

8.3.5 Oudsthoorn Non-user 2 (ONU2)

ONU2 is a 15 year old girl living in Bongoleto. She is enrolled in grade 9 at the nearby high school. She knows that the centre exists but does not use it. She uses the computer lab at school to do homework, projects and also to surf the internet.

CAC Definition
The respondent was not able to give a definition of the CAC.

CAC Services/Usages
Consequently, the girl did not mention any uses or services of the CAC.

CAC Positive and Negative Aspects
The respondent was not able to answer.

Interest and Reasons to go to the CAC
The respondent does not go to the CAC because there are too few computers for too many users.

Computer and Internet Vision
The respondent defined the computer as an object used to communicate, for example, sending emails.
The internet was defined as a tool to connect the world.

8.3.6 Vanrhynsdorp Non-user 1 (VNU1)

VNU1 is a 20 year old girl living in Vanrhynsdorp. She has finished high school and is looking for a job. She knows about the CAC but is not computer literate.

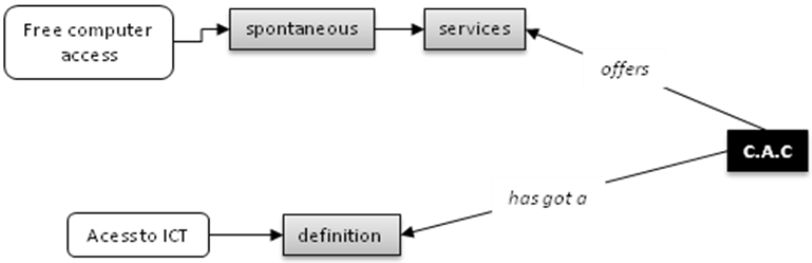


Figure 8.27 VNU1 Individual Representation

CAC Definition
The respondent stated that the CAC is a computer centre.

CAC Services/Usages
The respondent stated that the centre provides computer access to the community.

CAC Positive and Negative Aspects
The respondent was not able to answer.

Interest and Reasons to go to the CAC
The respondent does not go to the centre because she is not computer literate. However, she would be interested in going there if someone could teach her. The respondent said that she went to the CAC to ask if they offered training courses; they said they didn't for the moment but that maybe they would in the future. She did not go back to ask again:

> "[…] they don't offer training, they would or they said that would, but then I didn't go ask again, that apparently didn't happen." (lines 17-18)

If she could the respondent said that she would use ICT to get information in general and to find a job in particular.

Computer and Internet Vision
The respondent defined the computer as a typing machine, and the internet as an information provider.

8.3.7 Vanrhynsdorp Non-user 2 (VNU2)

VNU2 is a 53 year old woman who lives in Cape Town and was in Vanrhynsdorp to visit her family. In Cape Town she works as housekeeper. She completed grade 7 and has never used ICT. When asked if she knew that the centre existed she said that she did.

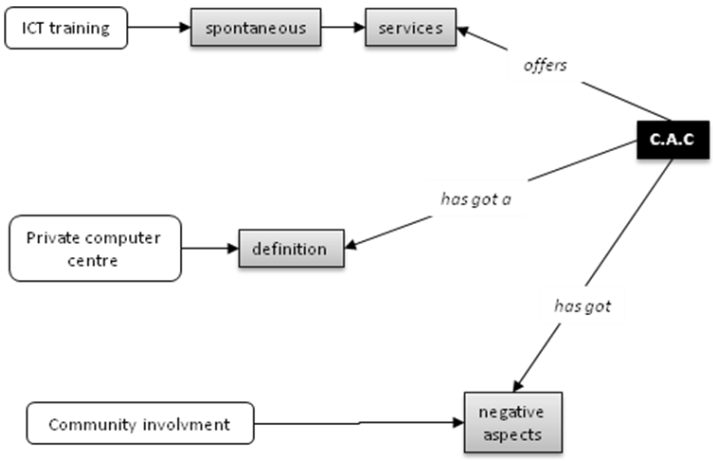


Figure 8.28 VNU2 Individual Representation

CAC Definition

When asked to define the CAC the respondent said that it is a private computer centre giving classes to young people.

CAC Services/Usages

According to the respondent the CAC's main service is to give high school children computer training courses.

CAC Positive and Negative Aspects

The respondent mentioned only one point to improve: the need for more community involvement.

> "To see probably how to make things easier, more accessible for everybody, and not targeting a certain group of people, who have access to the computer." (lines 153-155)

Interest and Reasons to go to the CAC

The respondent would be interested in going to the CAC to learn how to use the computer. The interviewee said that she would love to learn how to use ICT to increase her employability:

> "Because I can get a part time job." (line 70)

However, she does not go to the CAC because she thinks she is too old to learn and because she thinks that the CAC is a private centre.

Computer and Internet Vision
According to the respondent computers are objects to make the work of the mind easier:

> "It's something that you take with you that makes the work of your brain easier." (line 126)

The internet is a communication and teaching machine.

8.3.8 Struuisbaai Non-user 1 (SNU1)

SNU1 is a 45 year old man who lives in Struuisbaai North but comes from Cape Town. He is the owner of the local supermarket. He learnt to use the computer on his own on the job. He knows about the CAC. He has a computer at work and is waiting for an internet connection.

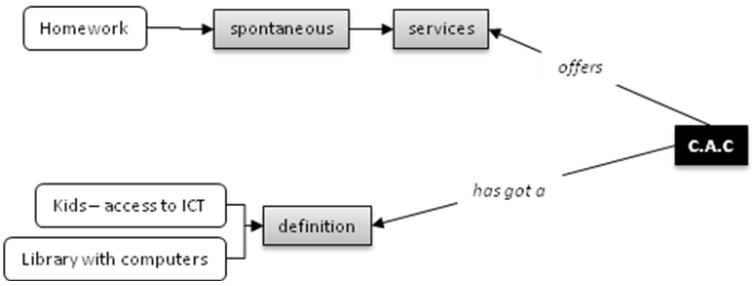


Figure 8.29 SNU1 Individual Representation

CAC Definition
According to the respondent the CAC is a computer centre in the public library targeting children for educational purposes:

> "I would say it is a public library that houses computers for children to use as well for educational purposes and I don't know what other things they have there to be honest with you. " (lines 37-39)

CAC Services/Usages
The respondent said that the main service offered by the centre is the use of the computer facility for students to do their homework.

CAC Positive and Negative Aspects
The respondent was not able to answer.

Interest and Reasons to go to the CAC
He would be interested in going to the centre to check his email but does not have the time.

Computer and Internet Vision
The respondent compared the computer to a typewriter and then listed its components. As regards the internet, the respondent highlighted the communication dimension.

8.3.9 Struuisbaai Non-user 2 (SNU2)

SNU2 is a 21 year old girl living in Struuisbaai North. She knows about the centre and works in the nearby supermarket as a cashier. She studied on a secretarial course at college where she learnt how to use ICT. She uses her mobile phone to surf the internet.

CAC Definition
According to the respondent the CAC is a youth computer centre:

> "They are teaching the children how to work on the computers." (line 39)

CAC Services/Usages
According to the interviewee the centre offers users, especially children, the possibility of approaching ICT and of becoming digitally literate.

> "They help the children a lot because some of the children don't have computers at home and they can go there and learn how to work on the computers; they can learn how to meet people over the internet and things like that." (lines 43-45)

As regards uses, the respondent mentioned that children go to the centre to play games and have fun.

CAC Positive and Negative Aspects
The respondent mentioned two positive aspects: the centre is a place where young people can learn ICT skills and it is a safe place for them to go after school.

> "It's fun and it keeps him off the streets because he is in there everyday. He is playing and learning new things. How to work on the computers and things like that." (lines 36-37)

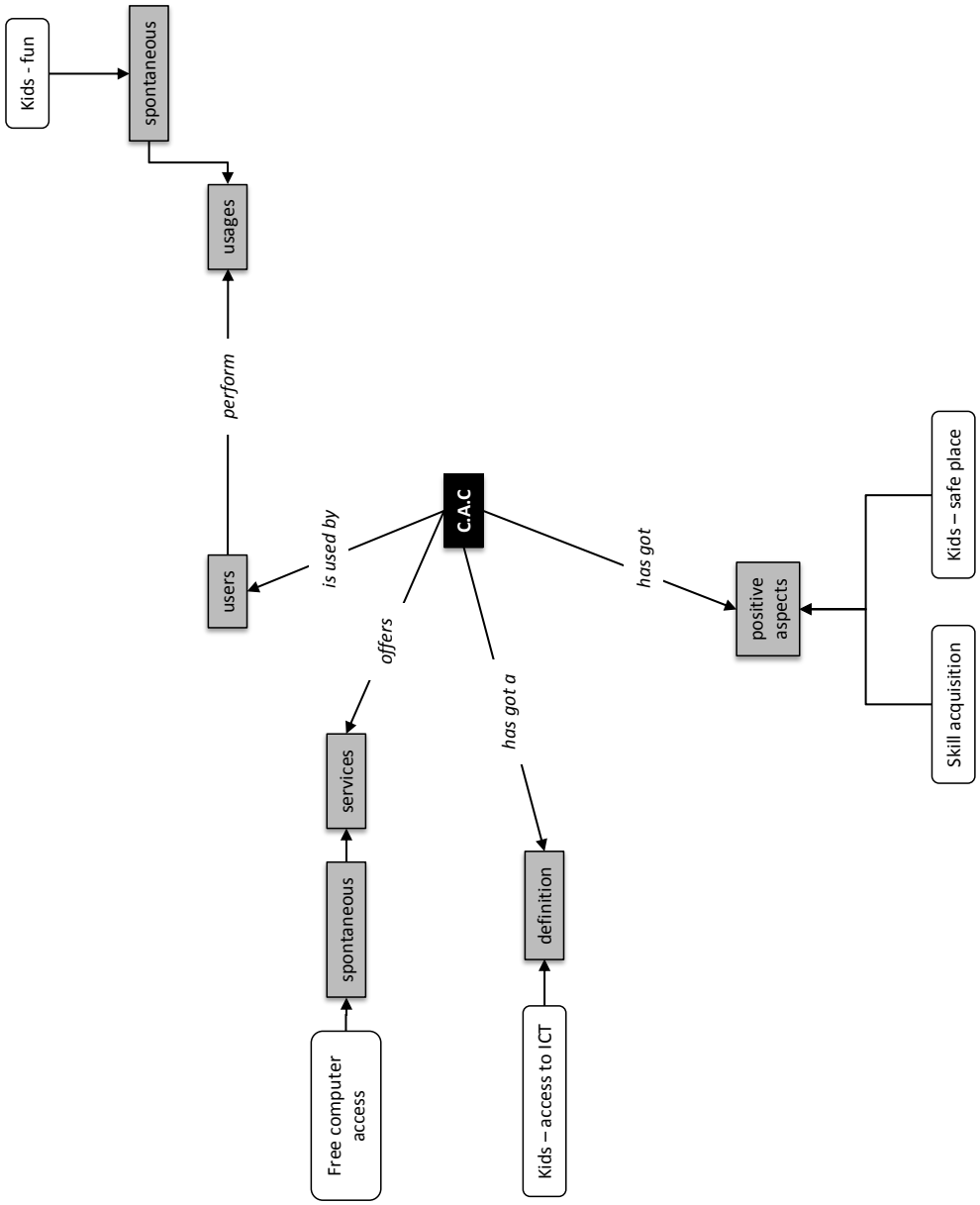


Figure 8.30 SNU2 Individual Representation

Interest and Reasons to go to the CAC
The respondent would be interested in going there to use the internet for personal reasons but does not have the time.

Computer and Internet Vision
The respondent compared the computer to a television:

> "What would I say? A computer is almost like a television but it only has a keyboard with all the letters of the alphabet and you can learn lots of things on the computer. It's a fun way, you can like play games and you can keep you busy for the whole day." (lines 64-66)

As regards the internet, the respondent highlighted the communication and information dimensions:

> "The internet is, you can meet lots of people, you can make friends and you can find out more about the world about the people and celebrities." (lines 68-69)

8.3.10 Struuisbaai Non-user 3 (SNU3)

SNU3 is a 65 year old man. He lives in Struuisbaai and he is a fisherman. He completed grade 5. He knows about the CAC. He is not computer literate.

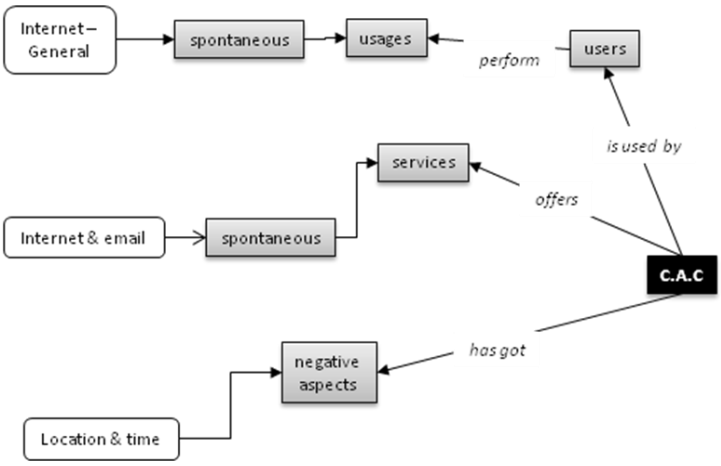


Figure 8.31 SNU3 Individual Representation

CAC Definition
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CAC Services/Usages
According to the respondent people go to the centre to use the internet.

CAC Positive and Negative Aspects
According to the respondent the location of the CAC is not the best but gave no reason for this opinion.

Interest and Reasons to go to the CAC
The respondent would be interested in going to the centre to look for information about his job:

> "I want to go to the website and look for MCM [Marine Coastal Management] for regulation of the fishing and everything like that." (line 1)

Computer and Internet Vision
The respondent was not able to define either a computer or the internet.

8.4 Individual Representation: Director

CAC Definition
According to the director CACs are centres that provide free access to ICT in disadvantaged communities, in particular offering eGovernment services. The vision of the CAC is that ICT can be a tool to fight poverty and improve living conditions in disadvantaged areas.

> "Cape Gateway is about providing, using particular technologies to actually provide access to government. […] The centers are part of Cape Access. So Cape Gateway and Cape Access are linked so what we do is that we take Cape Gateway into the people using the Cape Access model. So the community now will use the Cape Gateway tools among other things to create the knowledge we are talking about. So we will put a portal into a Cape Access center and we will let the community know about the Cape Gateway call center. Cape Access is more than that, ok now we have got technology, how do we then drive them into the community, so it is standing on two particular legs, one is technical infrastructure, your networks, the productivity tools, all of those kinds of, the centers, the things, the tangible things that you can touch, the second leg that it is standing on is the community leg your e-community forum, your training all those kind of things." (lines 55-67)

> "Well I mean if I have to tell as friend I would tell him that these centers are about providing rural or disadvantaged communities, providing them with an easier option to dealing with the issues around poverty, that's what these centers are about; these centers are about that, that's what." (lines 380-382)

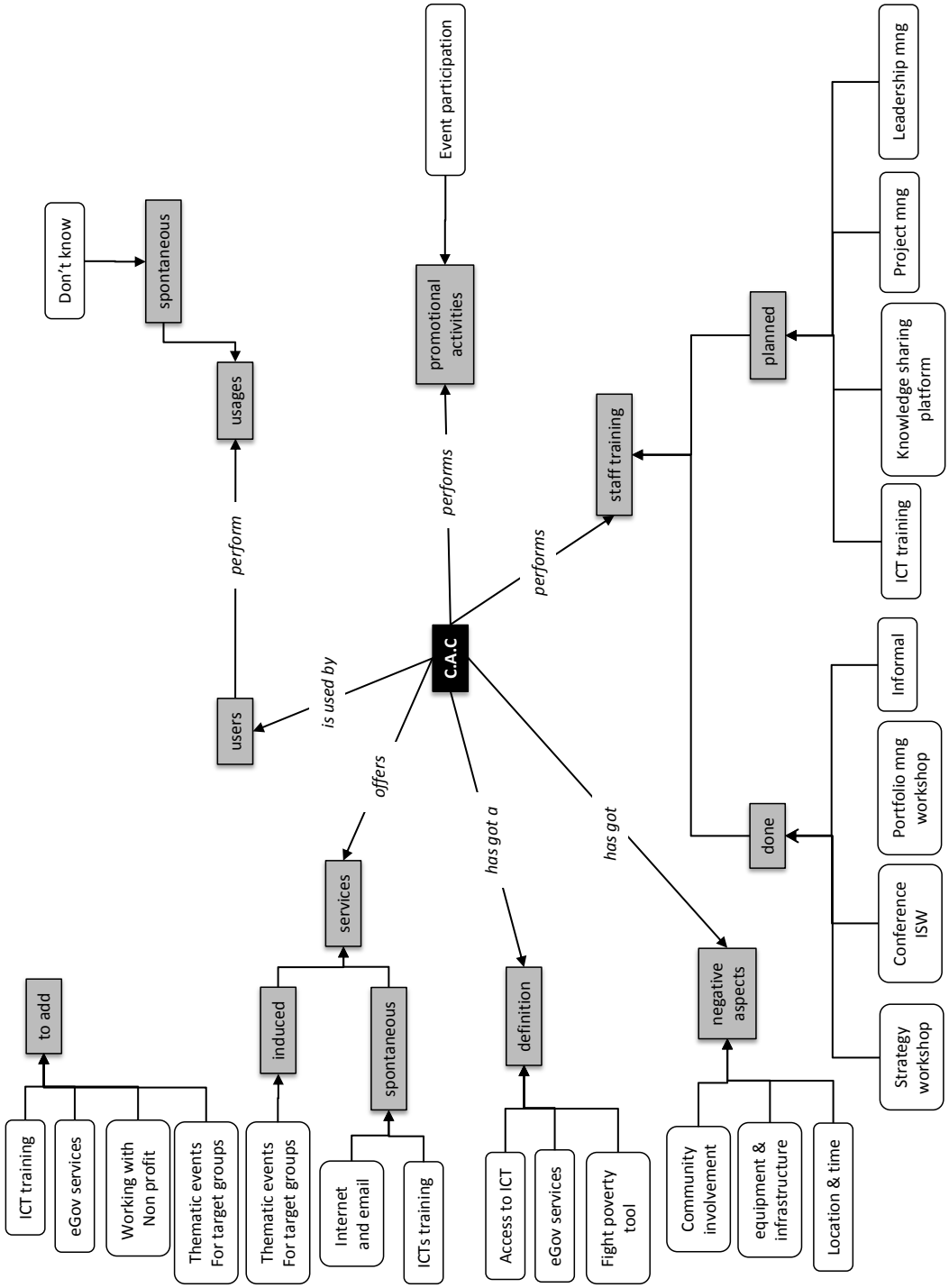

Figure 8.32 Director Individual Representation

CAC Services

According to the director the CACs are still in a consolidation phase and offer the public free access to internet and email. He also mentioned an ICT training program for people looking for jobs:

> "[…]social services we are trying to pilot the project together, is called the job seekers program, and we are trying actually to pilot it together with the West Coast, so that we actually provide people with tools on how do you actually look for a job using ICT." (lines 348-351)

As induced services the director mentioned special events for target groups, such as Career Days for final year high school students:

> "I know that one of the e-Community Forums, Ouluasi e-Community Forum, they will be running a career day for the matrics students, so they'll be have stalls and people coming and they will be providing access to valuable web sites that would be appropriate for the matric students when they leave school, is those kinds of things." (lines 346-348)

Services to Add

The director mentioned ICT training programs for the community and the roll out of eGovernment services:

> "Well I mean, I think that our eGovernemnt tools like the portal is the one that we are gonna drive very aggressively because, so basically when you go into a center the first thing you will see is our portal and we will basically use that portal as the core of the kind of information that we need to deliver but then the portal will be a sort of a gateway to a broader cyberspace environment. So the communities in order for them to actually gain access to the cyberspace they'll have to go through the eGovernment tool that we have, they will have to go through the portal then give them gateway to other things, cause we believe that people don't only live for government they do other things, so we have to be actually nice enough to provide them with other information. But other than that, and also we are gonna provide, we are gonna market our call center and show that if they don't want to use the centers if they want to use telephones but they want to link up to government they can actually use the center that they actually have, the call center that we actually have to give access to this big thing called government. And of course also the call center has got a facilitator, or call center agent that will be able to take them in to the other areas of government. And the walking center, the center, the walking centers are basically also the physical space of government where government does business and the e-centers will also act as walking centers as well, so they will sort of double

> up in terms of also serving as information desks or information areas for people in those communities." (lines 154-168)

He also mentioned thematic sessions for targeted community groups:

> "And I think also one of the things that we are gonna be doing and moving forward is that we are going to be having sessions, evening sessions where, we are going to divide the community into different sectors so different needs profiles, or needs categories and then we'll host evening sessions where we will invite members of the community to come and we will take them through various sites, for instance we will invite aspiring entrepreneurs for instance if there is a need for that to come into a center one day to show them how to tender online, kind of things, so those are the kind of things, invite the elderly people to show them how to get access to pension information, kind of things so those are the kind of things that we will now start doing, the reason being that we want to link now these centers to the issues that are being [...] that community as [...] so we want to say that whatever is happening in Elim, whatever people are struggling with in Elim, that center has to be able to provide solutions for whatever those issues are, and the sessions will be around how you actually provide solutions for the issues that Elim people are dealing with and if you can do that then you get demand rising and you can get more demand, if you can get demand from these communities then the project will grow, we will not roll out unless will have demand for it, it is just as simple as that." (361-373)

And, finally, he mentioned connecting more with the social sector:

> "[…] but I think the other thing is that the project is a means to an end what we want is that we want the project to be a vehicle for development, so the project has to basically link up to developmental initiatives, so if social services comes up with a program that will benefit the community we want to be part of that and we want to actually provide a facility within which those programs can actually run and fly, so information society yes, nice good, but useless if it doesn't provide any developmental impacts on the people." (lines 225-230)

CAC Usages

The director did not want to say what the most common uses of the CACs are. The Department was carrying out a survey on uses and he did not want to say anything before the data were gathered.

Users

The director did not want to say what the categories of users are. The Department was carrying out a survey on users and he did not want to say anything beforethe data were gathered.

CAC Positive and Negative Aspects

As regards aspects to improve, the director mentioned the need for convergence in a single networked system and the need to switch from a less user friendly environment (Open Source) to a more user friendly one (Microsoft).

> "So at the moment these centers have got computers, actually from 5 to about 21, depending on where they are, the schools have slightly more computers, they are linked to different systems, […]. But what we are trying to do at the moment what we are trying to do is to develop a single network." (171-177)

> "[...] we are using an open source environment with the Smart Cape technology but it is incredibly not user friendly and people didn't understand it. So we thought people are complaining we have to move to an environment where people actually can feel comfortable in use, so we formed partnership with Microsoft, so Microsoft is giving us free licenses and we are converting our OS to propriety software. So they are giving us a number of things and a partner in terms of rolling these things out, and another thing is that the other centers, because we also use existing facilities, other centers are operating on a Microsoft platform, so in order for us to actually standardize we have to use same technology cross the board, so that's the other reason why we decided for Microsoft, just to standardize." (lines 185-191)

The second aspect he mentioned is the location of CACs. The program began using libraries but they have started to set up CACs in other public places too:

> "So, but we started with the libraries but we realized that we had to actually go a step further, we actually have to use a strategy where we say, that wherever there is a public, a potential public centre we will go in, if there is a school with computers we will go in, if there is a multipurpose centre with the computers we will go in and we will use the infrastructure that is sitting there to actually drive the project. And ...you we now have schools, we have multipurpose centre we have libraries, it's a hybrid of centres that we are using. The biggest determination for us is that we do not go into an area unless the community wants it." (lines 31-37)

The third aspect he mentioned was the need for community involvement:

> "So, and also I think the other thing is that I work very hard on actually getting the trust of the community, which is very important, because what you find is that we all make a lot of promises to the communities and we don't follow through. The most difficult things about this project is when I say I wanna do something then I do it, and it is hard to do it. This project is one of the most difficult projects I know. But, so you get the community participation through getting their trust, you get

> community participation through promising them that they are going to look after it, you get community participation by making sure that all the time you get them involved." (lines 93-99)

Promotional Activities

Promotional activities mentioned by the director include the organization of public events to target specific sectors of the population. In this sense the career day mentioned above can be considered a promotional event as well.

Staff Training

The director has a comprehensive vision of the training already carried out and planned at the CACs. First of all, he mentioned informal training provided everyday on the job:

> "[…] but the thing is that most of the training that we are providing is on the job, so it's real time training, so when they do something and they don't know how to do it and sounds like we can train them then we do it." (lines 258-260)

Another training activity offered by the direction is participation in the Information Society Week:

> "the second one was the ISW, the Information Society Week where we bus them all in here and they came and they shared ideas with other people from other places around the world and they dealt with issues around the information society," (lines 313-315)

The director then mentioned the Portfolio Management Workshop and Strategy Training. He described the Portfolio Management Workshop as follows:

> "[…] the training is very specific to the functions that they have to perform, we have just done portfolio management workshops at the moment, and right now we are rolling out the project management template, so we are training them on how to do it." (lines 260-262)

While Strategy Training, mentioned only by him, is described in this way:

> "We have had about 3 so far, we have had an introductory workshop which was just to take people through what it is that our goals and what are the things that we wanted to do, it was very much strategic basis, very broad. […] The third workshop was the plenary session workshop at the end of last year where we actually had plenary sessions, region by region and the e-Community Fora had the opportunity

> of basically sitting with us and together we strategize on the aims for this year." (lines 310-318)

The director then mentioned a series of training activities planned for the future; first of all a course on Microsoft software:

> "but then also what we will training them is also on online Microsoft digital, it's a digital learning system that they are providing us for free to learn how to use not only Microsoft products, it teaches people first of all how to, it is a basic computer training, then take people on to the internet training, how do I actually use the internet, and there is a third one that is actually productivity tools, so probably that would be their tools and then the fourth module would be security, how do you actually secure your system, your computer and then people will write an online test and then get accredited." (lines 265-270)

He then mentioned the set up of a knowledge sharing platform for all the CACs:

> "One of the things that we are doing at the moment is that we are now developing a website for them, where they can actually post most of the things that they are doing and we are going to look actually as well putting out discussion, online discussion board or thing where they can actually discuss things online you, see, because again I want them to use ICT and they communicate online that's good. But in that web site each e-Community Forum will publish its report, its monthly report, it will also publish its strategic documents, and it will also publish every event that they are doing they will put it online, so other e-Community Forums can learn from what they are doing and they actually meet them and so on, but they meet online. I think eventually from next year once a month I will have a sort of e-Community Forum general meeting where all of them, but that will be once a year." (lines 286-294)

And, finally, he mentioned the need to contuinue the Portfolio Management and Leadership Management courses.

Computer and Internet Vision

The director's definition of a computer:

> "I have no idea, a computer is a box, it's got stuff in it and it's got I mean I am not necessary a technical person but I mean I think that for me a computer is a tool to provide people with different options that they have around the way that they live, a computer is a tool to provide people with knowledge, something that they need to be able to make better decisions about their lives, that's what a computer is, that's what a cell phone is, that's what a telephone is, that's what a TV is, it's just a tool to

> get people to do things better, to be … themselves, to get knowledge out of it, that's what these things are for." (lines 384-389)

When defining the internet the director highlighted its information dimension:

> "It's just a big, what is internet Daniel, internet is a sort of a repository of information basically, so you just dump information and organize in a particular fashion sort of like a directory with a number of sources of information the way you can actually get, go into and get whatever is that you need." (lines 391-393)

9 Social Representations of CACs

In this chapter the social representations are presented along divided by interviewees typology (staff members, users and non-users) and by location.
The attributes expressed by the director are indicated in undelined. Among the attributes indicated by the director only the ones shared by the local community are mentioned below.

9.1 Social Representations by Typology

9.1.1 CAC Definition

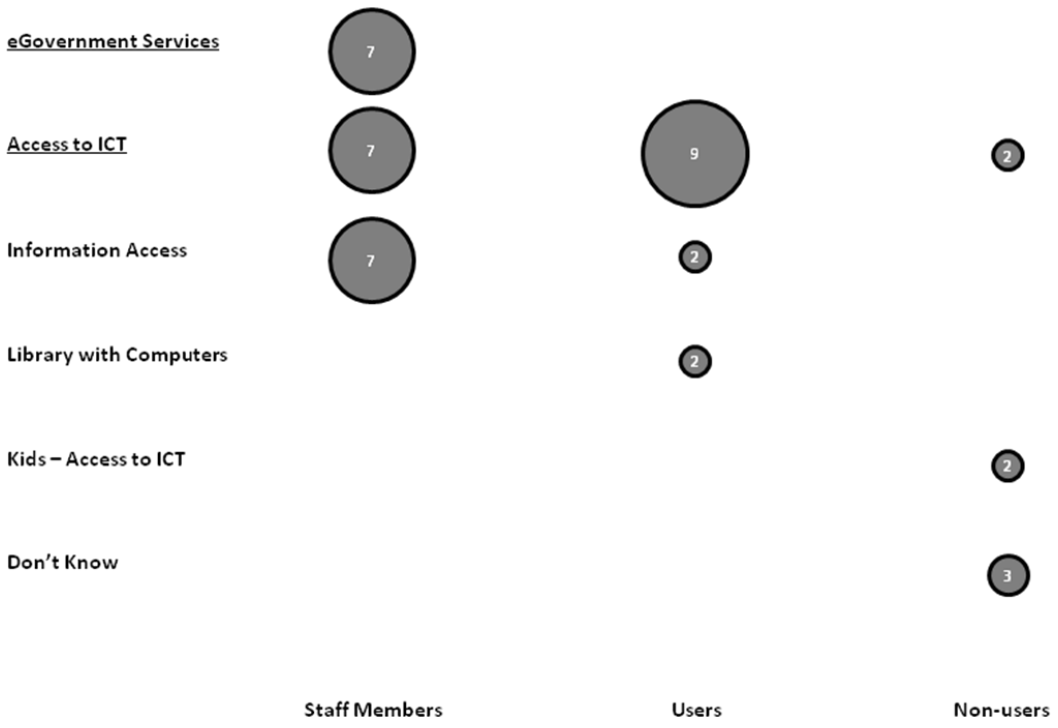

Figure 9.1 CAC Definition by Typology

According to staff members the CAC is a centre that provides access to Information and Communication Technologies, provides the community with eGovernment services and offers the community access to a wide range of information, otherwise inaccessible in disadvantaged areas. The only element of this view shared by users is the fact that the CAC is a place where it is possible to access ICT.
This finding is extremely important because it highlights a consistent gap in representation between staff members and users: for users the CAC is only a place to

access ICT while the link with its founding organization (the Western Cape Government) is not perceived at all.

Non-users have a completely different view of the CAC. Not surprisingly, many of them were unable to explain what the CAC was although, interestingly enough, 2 of them see the centre as a place only for children, where children could learn to use computers.

9.1.2 CAC Services

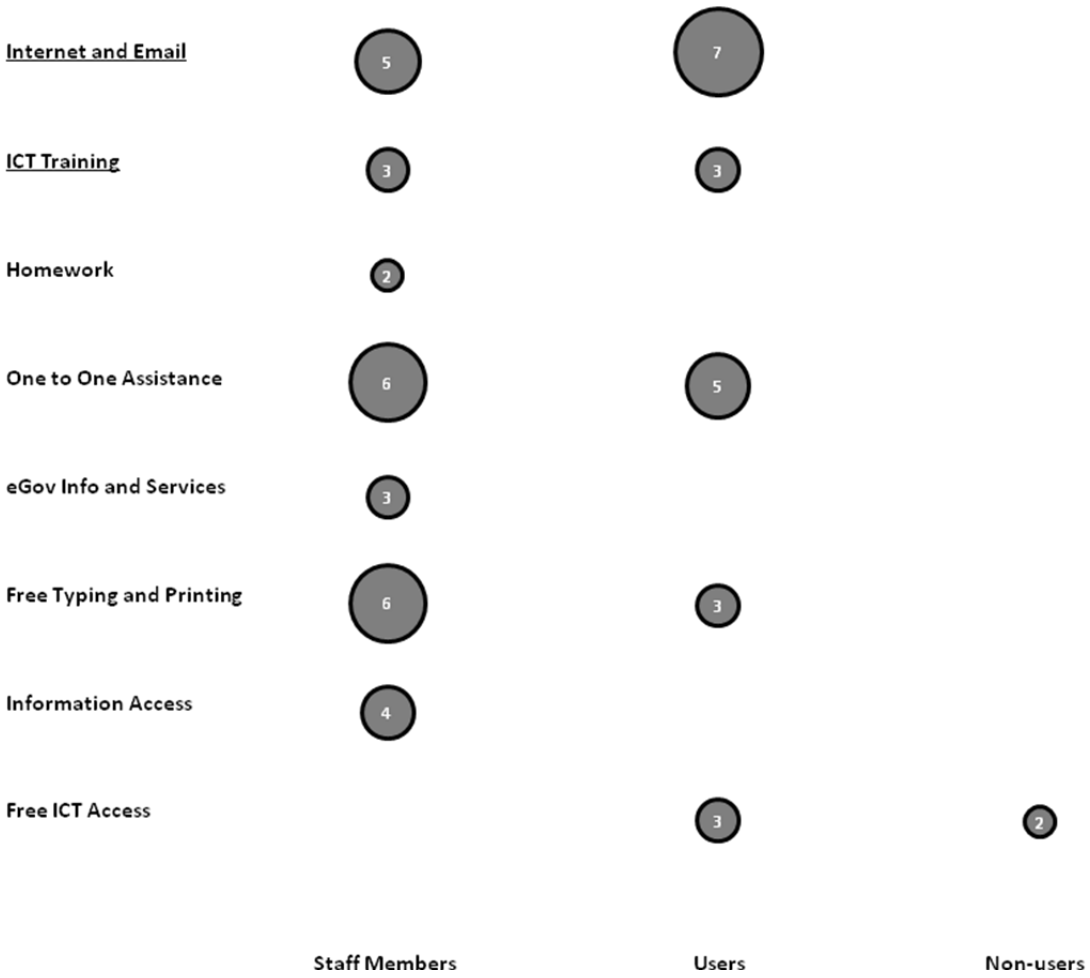

Figure 9.2: CAC Spontaneuous services by Location

The director knows that CACs are not exploiting eGovernment services and information yet; according to him the major services offered by the CAC are access to internet, email and ICT training.

Staff members highlighted that the CAC offered the possibility of typing and printing at low cost (actually the use of the computer is free but the CAC usually asks for a small fee for printing), the possibiity of using internet and email, and the one-to-one assistance they give users when needed. There is a good level of consensus regarding the fact that the facility, together with internet access, opens up the possibility of accessing all sorts of information previously not reachable in the community, while the awareness that the main service that the CAC provides is access to eGovernment services is not so commonly shared.
This is interesting because in the previous section it was noted that staff members define the centre as dedicated to the supply of eGovernment services. While the majority of the sample was able to identify the main objective for which the Cape Access Initiative was set up, that is the supply of eGovernment services, only a few of them recognized how this goal is realized and implemented in the daily activities of the CAC. This may also be caused by the fact that the director has still not decided how to exploit eGovernment services and so he was not able to effectively transmit to the staff an overview of possible eGovernment services.

The consequence is clear: users clearly understand that CACs offer free access to internet and email and that staff members are ready to help in one-to-one tutoring but none of them highlighted that the centre offers access to government services. This is a dangerous situation: the director's goal is to exploit eGovernment services in the future but the community is beginning to see the CAC as something completely unrelated to Government. When it shifts to eGovernment services the Western Cape Government will have to change the opinion that staff members, users and non-users have already formed of the CACs.

Non-users do not share a representation of the services offered by the CACs; however, some of them recognized that the centres were dedicated to offering ICT access and training for the community.

When the respondents were pushed, only staff members were able to list other services: and in this case eGovernment information and services was a shared answer. Another interesting finding is that of the use of the CACs by the unemployed and high school graduates to find jobs (3 occurrences).

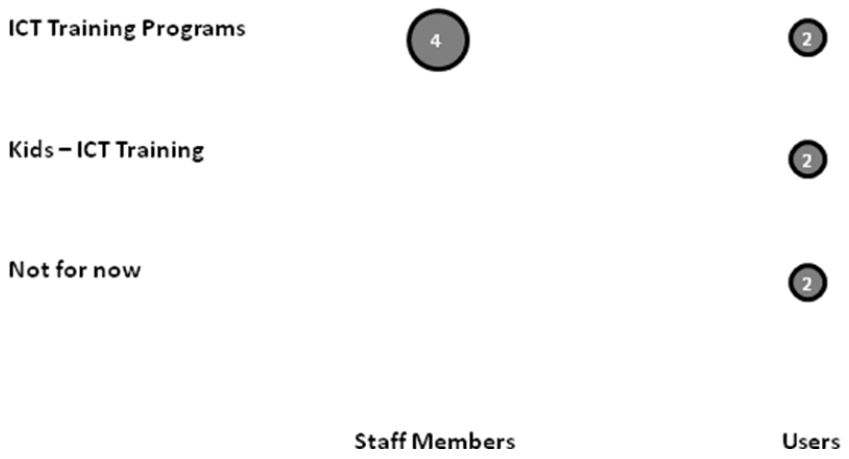

Figure 9.3 CAC Services to Add by Typology

Besides the ICT training activities, the director mentioned services such as eGovernment information and services that the CAC already considers to have implemented.
However, the direction, staff members and users all agree that CACs should provide more ICT training activities to promote digital literacy within the community. Interestingly, few users believed that the ICT training should be focused specifically on children.

9.1.3 CAC Usages

When asked to define the main uses of the CACs the director did not want to say too much; indeed, the founding organization was carrying out a survey to identify the uses made of the centres and he did not want to answer without having those data to hand.

Answers given by staff members, however, are very interesting. Alongside the most obvious answers such as the use of the internet for general purposes or the typing and printing facility, staff members highlighted uses by children and teenagers. According to them, the centre is mostly used by children to play games and have fun and by high school children to do their homework. This reveals a major shift from the idea of a CAC as an eGovernment services provider and services addressed to adults, to a centre dedicated to the youth, to introduce young people to ICT and to support them in their educational career. Along these lines there was also another answer: the use of the centre to find jobs, often by high school students in their final year, and to study for distance learning degrees.

According to users, CACs are used mostly for the internet and email, printing and typing and the internet for work or study related tasks. A few of them recognized the use of the centres by children to play games and do their homework.

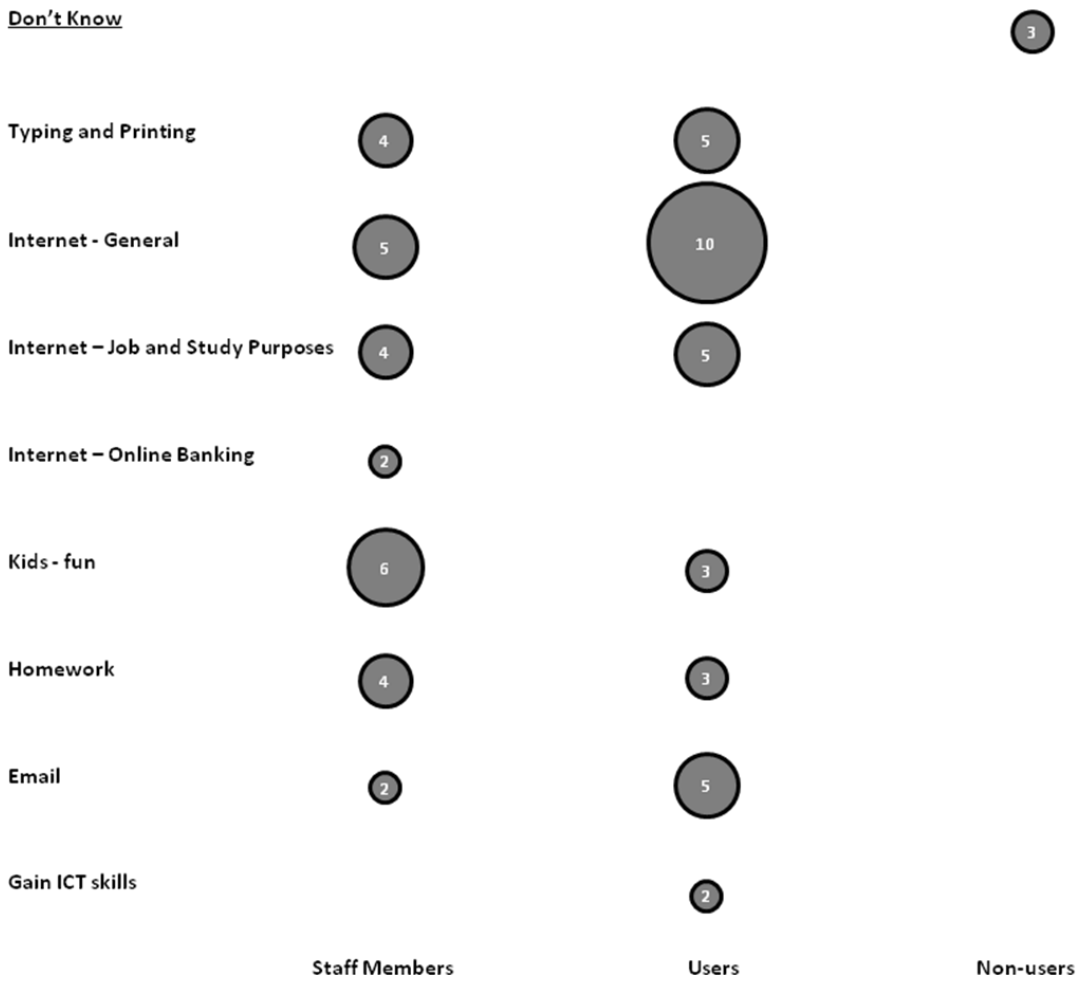

Figure 9.4 CAC Spontaneous usages by Typology

As regards induced uses, some of the staff members' answers are worth noting: CACs are used to do online banking, to access government services and to follow distance education courses.

According to users, on the other hand, the only induced usage that can be considered as being partially shared is the use of the internet to find jobs.

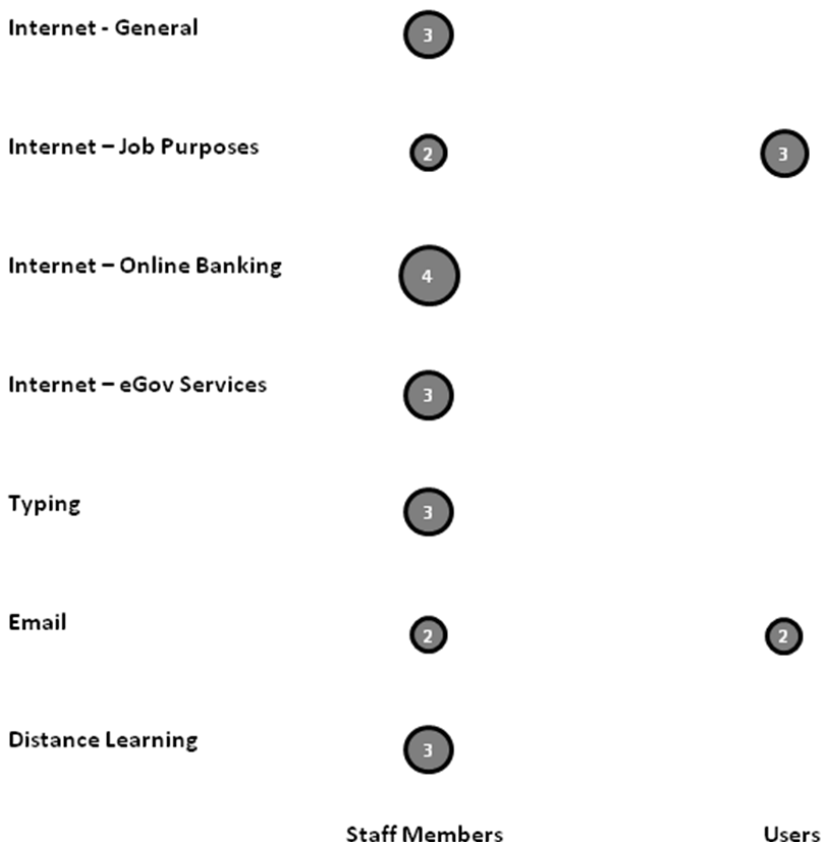

Figure 9.5 CAC Induced usages by Typology

9.1.4 CAC Users

The director did not mention specific types of users, first of all because he wants to wait for the results of the survey they were conducting and, secondly, according to the researcher, because centres that supply eGovernment services and information can have only one foreseen type of users: adults.

On the contrary, according to staff members the picture is much more complex: the most commonly shared category of users are secondary school children, followed by primary school children. This seems to demonstrate that CACs are moving towards becoming youth information centres. Users do not have a strong common perspective on this topic but the type most mentioned is, again, children: primary and secondary school students.

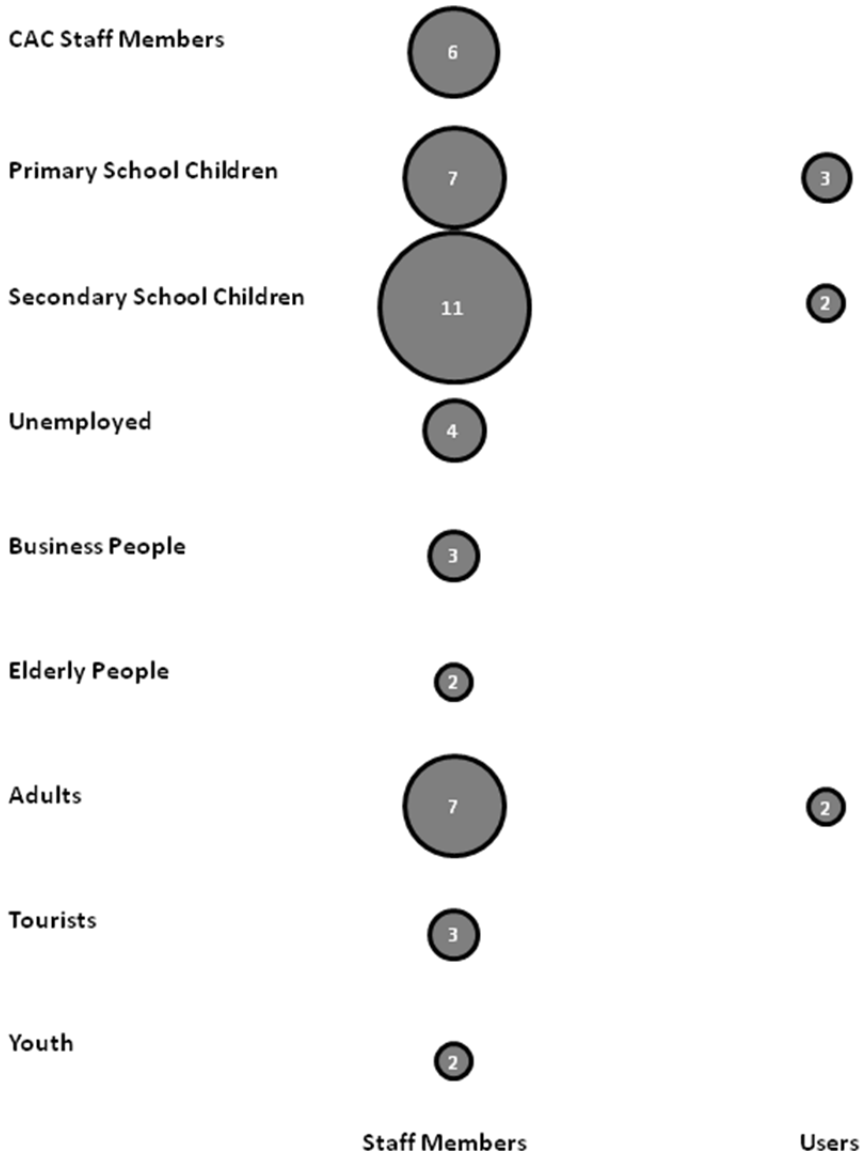

Figure 9.6 CAC Users by Typology

9.1.5 CAC Positive Aspects

Three positive aspects of CACs are shared by staff members: the possibility of accessing internet free of charge and the ensuing possibility of accessing all sorts of information, as well as the environment that they are able to create: friendly and efficient. A friendly and efficient environment is also one of the most commonly shared attributes among users. However, while for users the fact that CACs offer the possibility of learning ICT skills is the most commonly shared attribute, the same is not perceived by staff members.

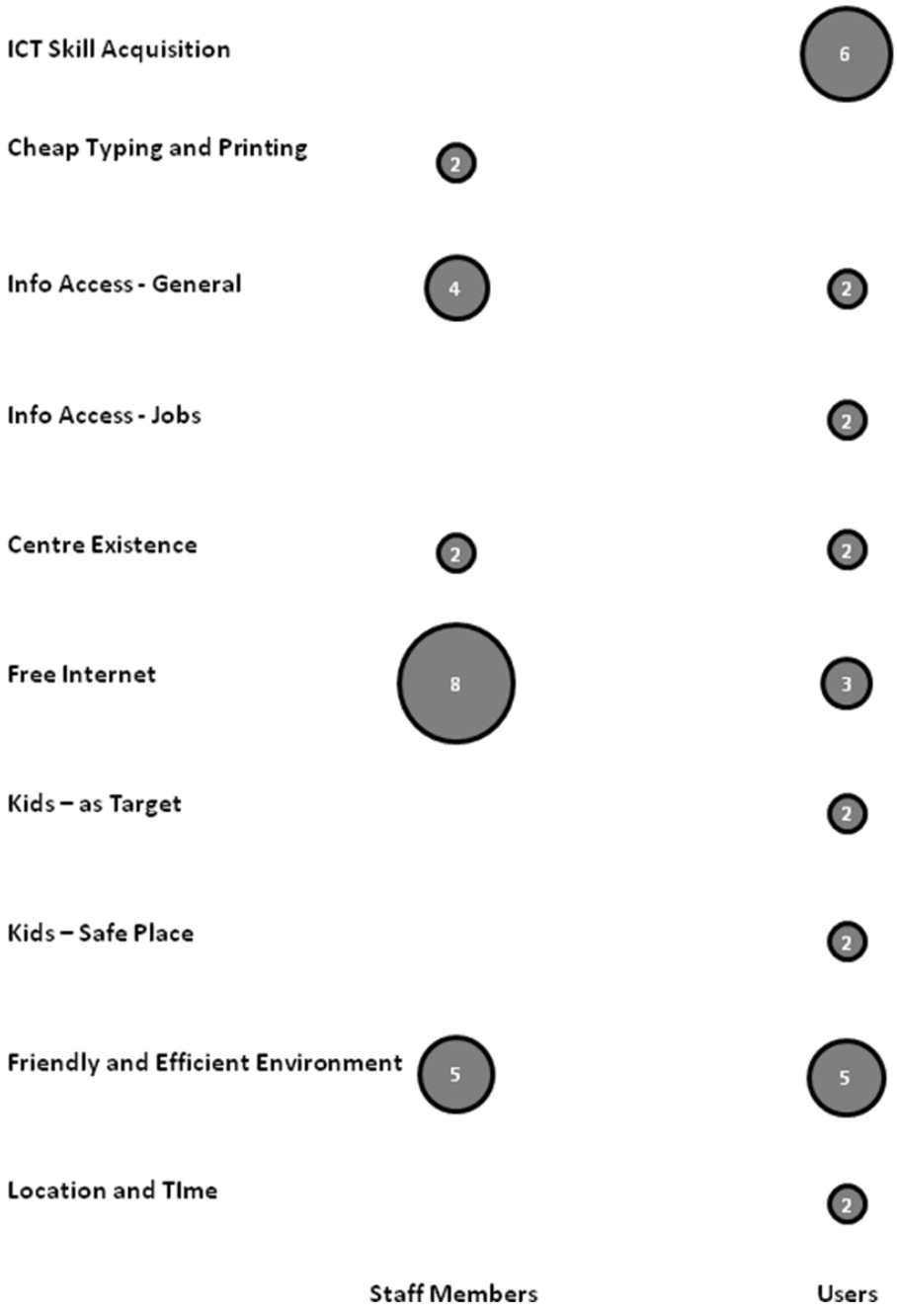

Figure 9.7 CAC Positive Aspects by Typology

9.1.6 CAC Negative Aspects

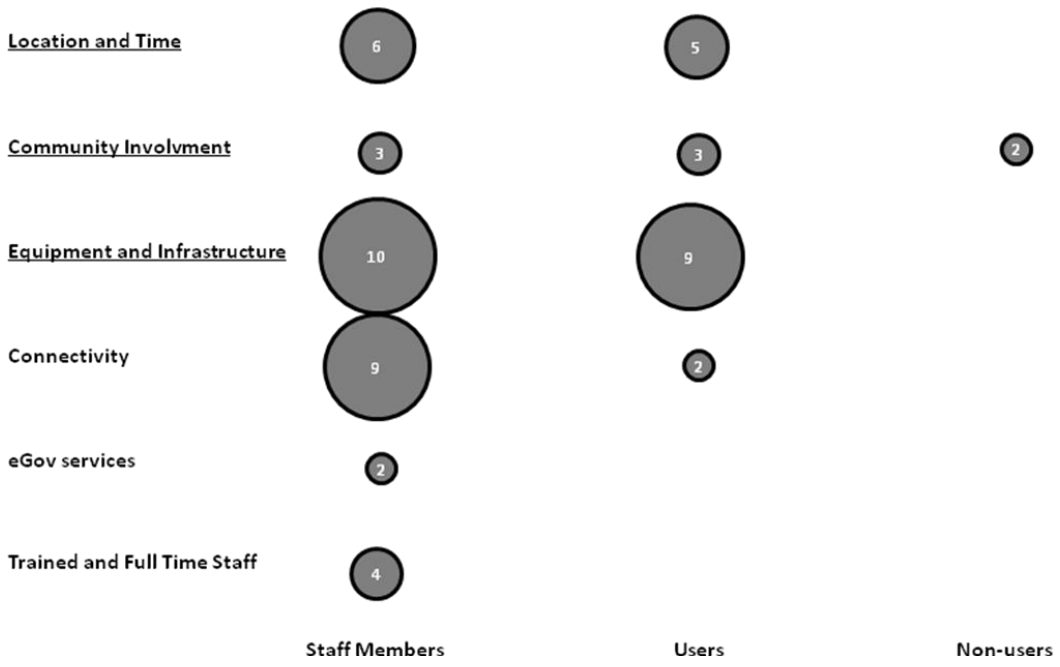

Figure 9.8 CAC Negative Aspects by Typology

The director mentioned three main issues to be improved: the location, often too far from the community they want to serve and housed in institutions/organizations with restrictive opening hours; equipment and infrastructure, from the number of computers for each CAC to the software installed; and, thirdly, community involvement.

Of these three issues two are certainly shared by both staff members and users: location and time and equipment and infrastructure.

It is interesting to note that the staff members' shared mental model differed from the director's vision and also from users' shared mental models on one issue: connectivity. The director did not mention that the CAC connection speed is very slow while for staff members this is a big issue. Users do not consider the slow connection speed to be a problem: one possible reason for this could be that for most users the CACs are their only possible access point and they have nothing to compare it against.

Two other aspects mentioned are worthy of note: first of all, community involvement. Greater community involvement is not one of the most shared aspects within any category (staff members, users and non-users); however it is present in all four categories (director included). CACs should be better integrated in the community, should be more linked to community activities and organizations and should try to involve more members of all kinds within the community. This feeling is not strongly

shared within each single interviewee typology but is like a pervasive background perception in all the categories of respondents.
The last interesting element is that the need of more expert and trained staff is perceived only by users, but neither the director nor the staff mentioned it.

9.1.7 Computer and Internet Vision

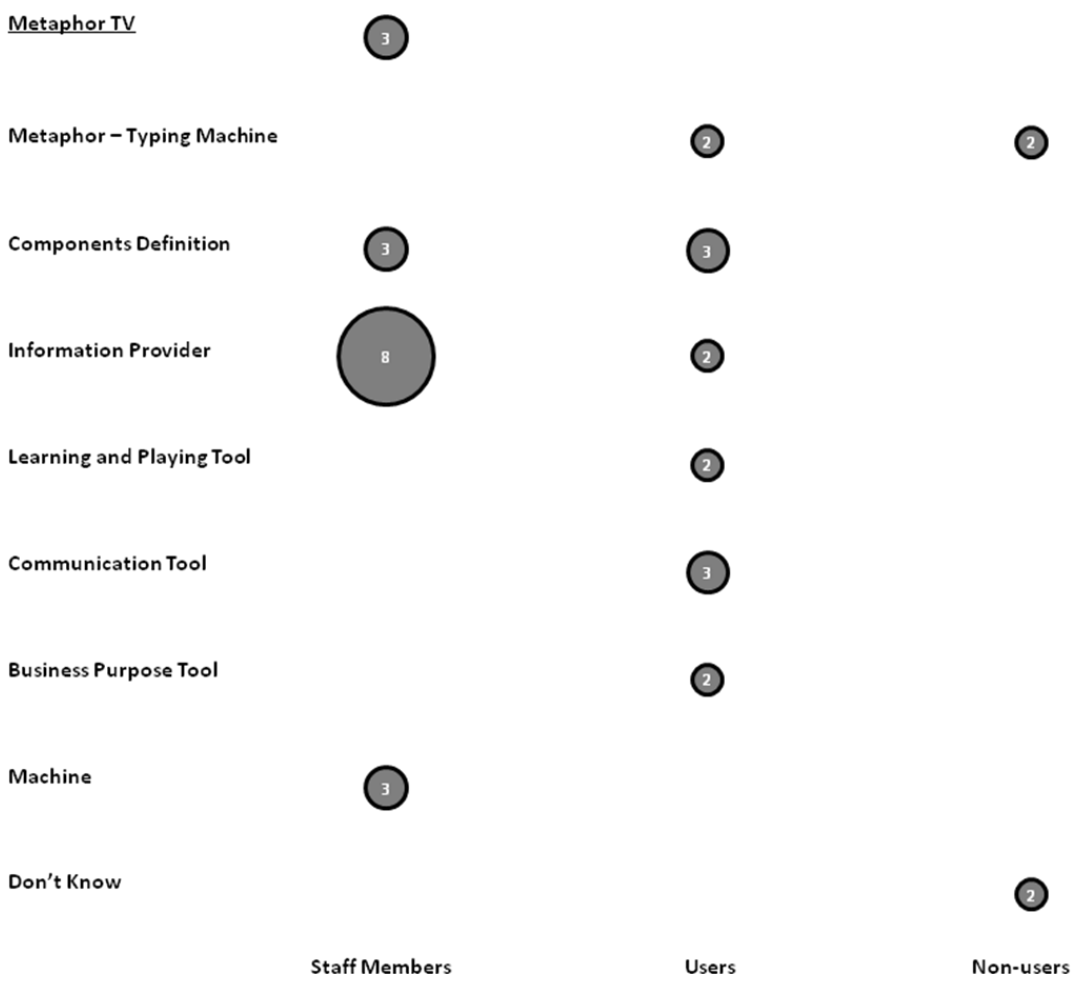

Figure 9.9 CAC Computer Vision by Typology

As shown in the graph, the mental models of respondents regarding the definition of a computer are very scattered. However, there is a very interesting element to be noticed in this definition: the information and communication dimensions are embedded in most of the definitions given. Computers are not perceived as stand-alone, but as part of the

network, of the internet. This is a valuable finding, or better, it is evidence of the so-called leap-frog mentioned and acclaimed in the literature. CAC communities had never experienced the computer as disconnected from the internet as it was in Europe or in the US until 15 years ago; the first exposure to computers of these communities already occurs within the internet landscape. A computer is, therefore, a tool to access information and to communicate.

Looking at the definition given of the internet, not surprisingly the information and communication dimensions are highlighted by all respondent typologies. One interesting element is the strong perception that users have of internet as a way of being connected to the rest of the world. While, not surprisingly, non-users are not always able to give a definition.

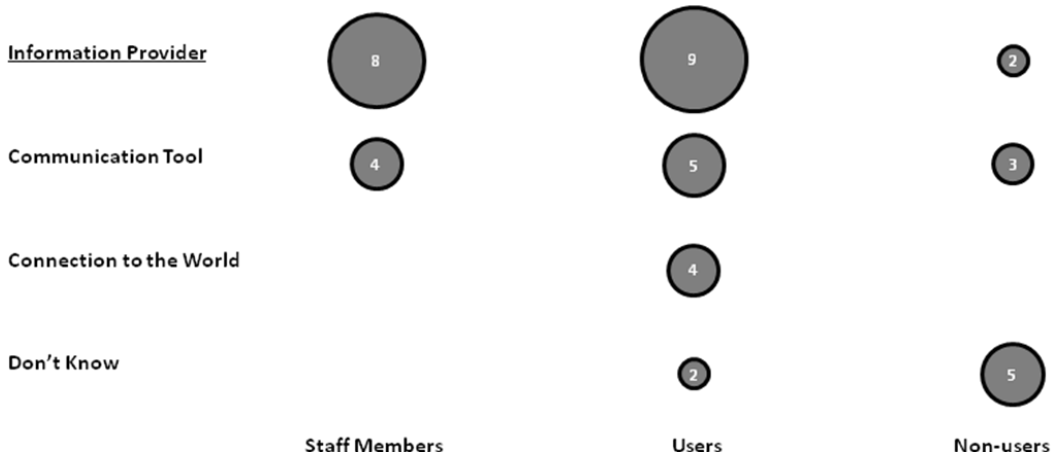

Figure 9.10 CAC Internet Vision by Typology

9.2 Social Representations by Location

9.2.1 CAC Definition

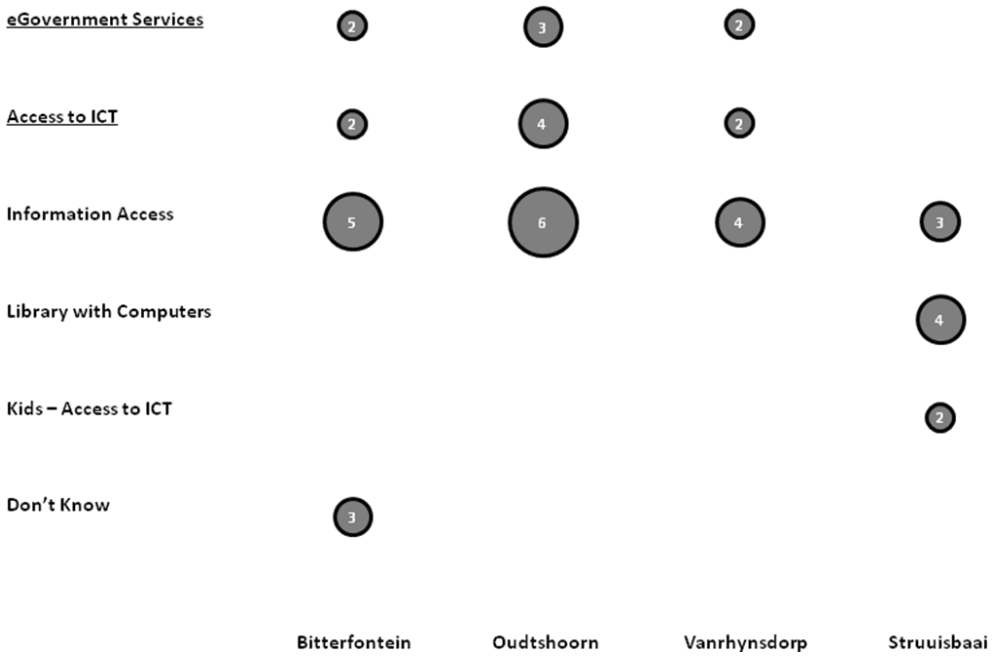

Figure 9.11 CAC Definition by Location

It is interesting to note that while in Bitterfontein, Vanrhynsdorp and Outdshoorn the most commonly shared definition of the CAC is a place that offers access to ICT, in Struuisbaai the connection with the host structure is so strongly perceived that the most common definition is a public library providing computer and internet access. This is a remarkable finding, first of all because in the literature there are authors for and against the setting up of telecentres in libraries exactly for this reason: an overly close identification with the library thus with access to the equipment limited to the habitual users of the library itself.

However, the same thing was not perceived by the Oudtshoorn respondents, even if the Oudtshoorn CAC is located in a public library too. One reason for this difference could be that Oudsthoorn staff members, not being librarians, had a different vision of the CAC and were therefore able to convey this to their users.

9.2.2 CAC Services

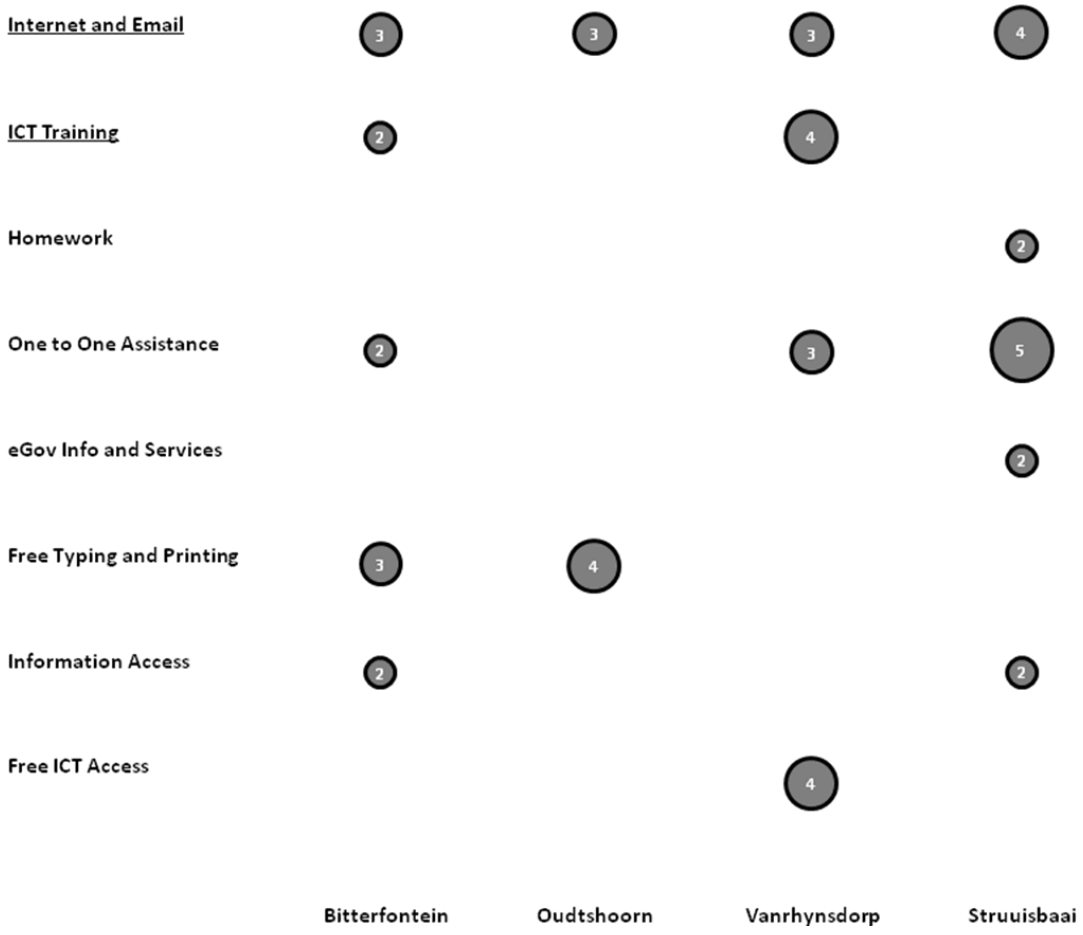

Figure 9.12 CAC Spontaneous services by Location

The most commonly shared service among all the CACs is the provision of internet and email. However, there are some interesting differences from one centre to another in the definition of their spontaneous services. According to Struuisbaai respondents the most common services offered by the centre is one-to-one assistance, while Vanrhynsdorp is the CAC that focused most on structured ICT training activities and, together with Oudtshoorn, mentioned the provision of free access to computers.

It is interesting to notice that what happens in the CACs in terms of services is much more complex than the vision of services expressed by the director who highlighted only the access to the internet and email and ICT training activities.

When considering added services, the only shared attribute was the need for an ICT training program in Oudtshoorn (3 occurrences) and in Struuisbaai (2 occurrences); the same need mentioned by the director.

In Vanrhynsdorp the need for ICT training activities was not mentioned, possibly because this is the centre that already offers the most varied palette of ICT training.

9.2.3 CAC Spontaneous usages

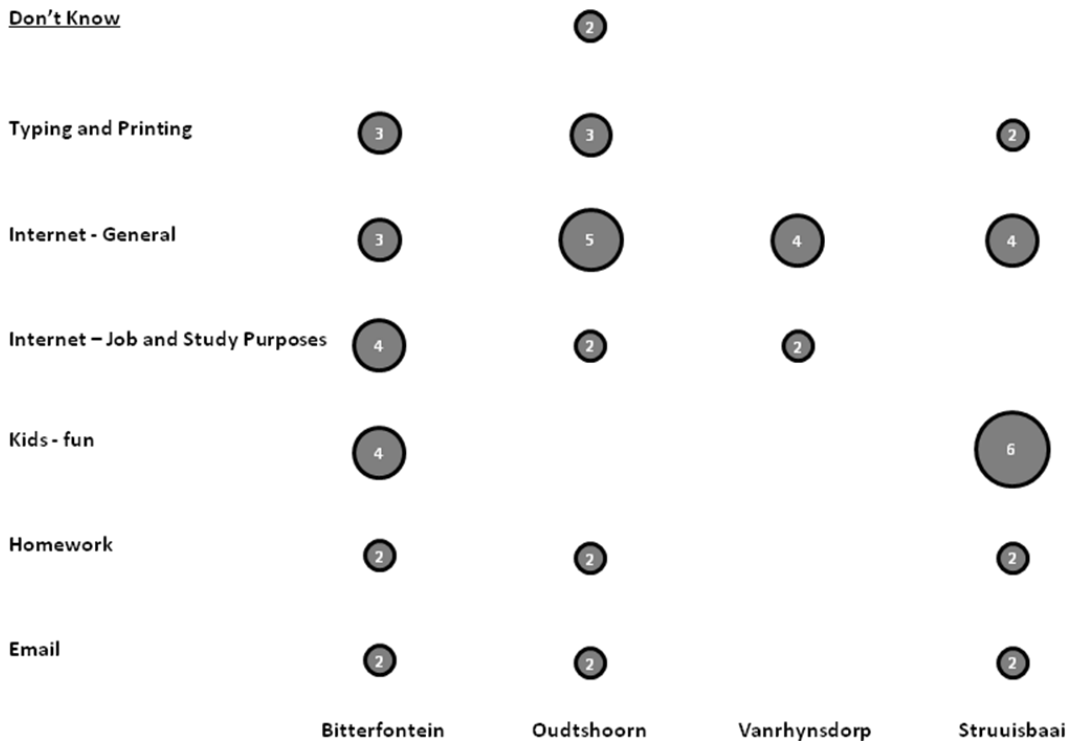

Figure 9.13 CAC Spontaneous usages by Location

The director did not want to say anything about the uses because the official survey results were not available. However, also in this case it is interesting to notice differences among the CACs.

In Struuisbaai and Bitterfontein the most common use of the facility is by children for fun. As seen earlier, in Bitterfontein some respondents felt overwhelmed by the presence of children. This massive presence of children is seen differently by staff members of different centres: in Bitterfontein and in Struuisbaai this is seen as an added value while in Vanrhynsdorp, for example, children have been banned because they took over the facility.

The use of the internet in general is common to all the centres, while another interesting point is that in Bitterfontein the use of the internet to find jobs or for study purposes is pervasive: Bitterfontein is by far the most rural centre visited in this case study and it is also the town that feels most isolated and has the biggest unemployment problem.

9.2.4 CAC Users

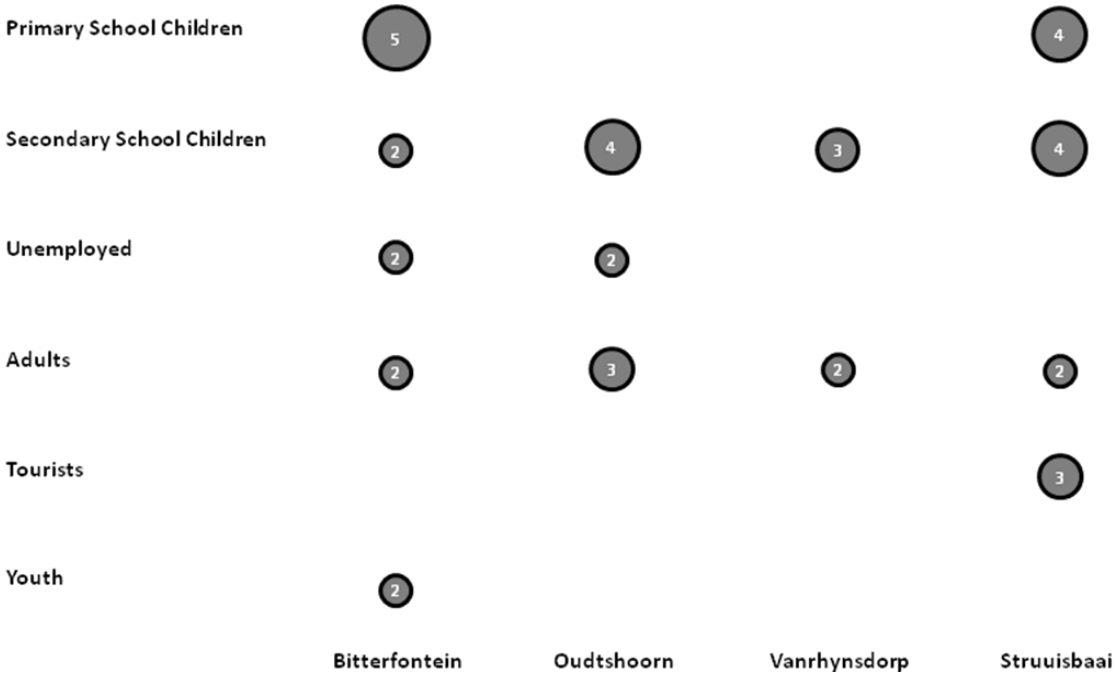

Figure 9.14 CAC Users by location

Primary and secondary school children are the most common users mentioned at all the locations: in Bitterfontein young children are the most common perceived category of users while in Struissbaas primary and secondary children are equally distributed. In Oudtshoorn and in Vanrhynsdorp secondary school children are the most common users mentioned.

Another interesting category are tourists, mentioned above all in Struuisbaai, a renowned seaside resort.

9.2.5 CAC Positive Aspects

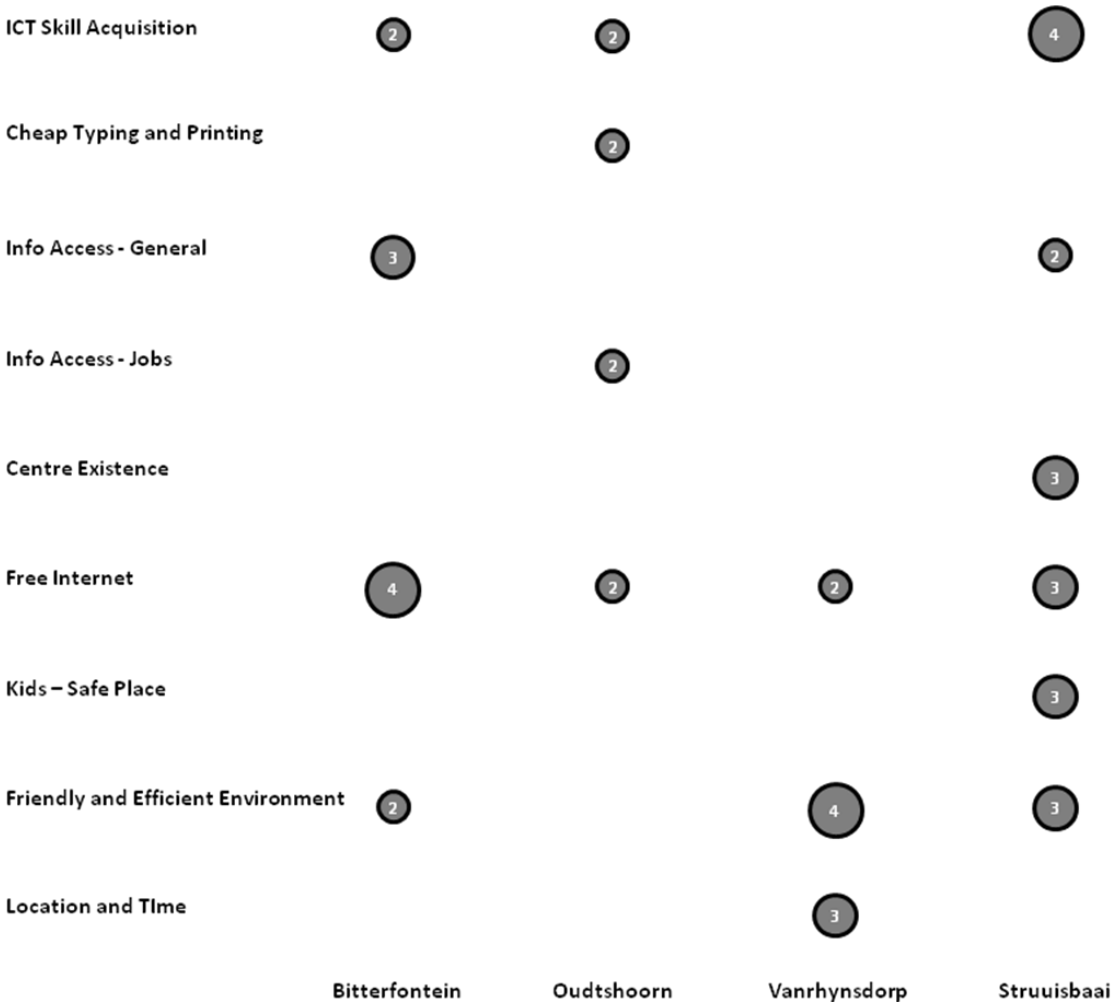

Figure 9.15 CAC Positive Aspects by Location

For Struuisbaai respondents the most valuable aspects of the CAC are that it is a place where ICT skills can be learnt, that the centre actually exists, that it is possible to have access to internet free of charge, that the environment is friendly and efficient and that (and this aspect was mentioned only in Struuisbaai) the CAC is a place where children can safely spend their afternoons after school, off the streets and out of danger.
Respondents in Vanrhynsdorp mentioned the efficiency and friendliness of the staff (this aspect was highlighted only in Vanrhynsdorp) and the location, near the community.
In Oudthsoorn there are no particularly striking or shared aspects to mention while in Bitterfontein the possibility of free access to ICT and consequently to information is the most commonly mentioned aspect.

9.2.6 CAC Negative Aspects

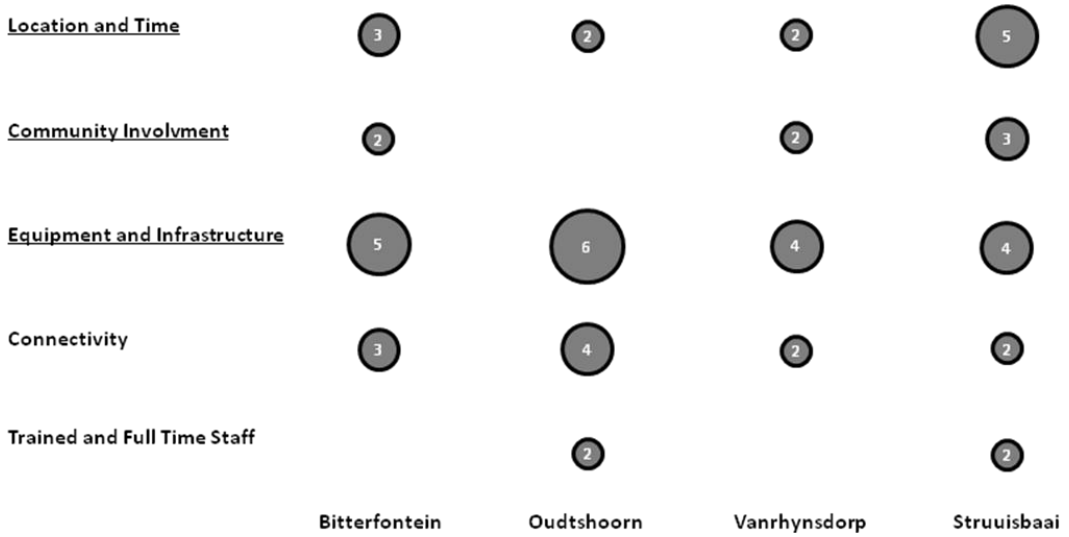

Figure 9.16 CAC Negative Aspects by Location

On the contrary there is a clear shared vision among the centres about what should be improved: connectivity, equipment, infrastructure, location and opening hours. It is interesting to note that the need for greater community involvement is also shared, even although not by so many respondents, by all the CACs involved in the case study.

9.3 Social Representations of Staff Members on Training

NB: Some staff members mentioned that they had not received any training and then mentioned informal training such as the help of a colleague.

9.3.1 Training Given

Findings about training are highly relevant. First of all because the majority of staff members did not think they had received any. Some of them thought that the Portfolio Management Workshop was intended to be a sort of training and some of them declared to have been trained informally by their colleagues. However, only one staff member saw the ISW conference as training, and so we cannot consider it as a shared representation, while no-one mentioned the strategic workshop mentioned by the director.

Figure 9.17 CAC Staff Training Offered

This shows how the training perception between the direction and the staff is not shared; even the few training initiatives organized by the direction are not perceived as training by the majority of the staff.

9.3.2 Planned Training

Even more interesting are the results about planned training activities. Some of the staff members are aware that ICT training has been programmed for them (4 occurrences); however, no one mentioned the other three training activities mentioned by the director: project management training, leadership training and the knowledge sharing platform tool.

So, there is not a common goal or vision about the training and skills an eCommunity Forum member should have.

9.4 Social Representations of Staff Members, Users and Non-users regarding Personal Motivations

This section highlights the personal motivation for staff members to volunteer at the CACs, users to go to the centres and non-users not to go to the centres.

There are three main motivations for staff members to volunteer at the centre: the possibility of becoming ICT experts, the possibility of learning something about the ICT domain (e.g. becoming an expert in the role they have been assigned) and the desire to help the people in their community improve their lives.

Figure 9.18 CAC Personal Motivation of Staff Members and Users

Users, on their hand, stated that their motivation to go to CAC is to become ICT experts. One unexpected answer is worthwhile highlighting: to have something to do. Some of the users said that the CAC gives them the chance to stay out of trouble and off the streets.

Answers among non-users about why they do not use the CAC were highly diversified. The shared attributes include feeling too old (two occurrences), feeling unqualified to use ICT (2 occurrences) and not having the time (2 occurrences).

9.5 Sharing of Social Representations by Different Social Groups

It is interesting ending the chapter with an overview of the degree of sharing of the social representations of CAC according to typology and location.

The graph below takes into consideration the following elements and their attributes: definition, spontaneous services, services to add, spontaneous usages, users, positive and negative aspects, computer and internet vision (for a total of 64 attributes) These are the elements shared to some extent by the interviewee typologies: director, staff members, users, non-users:

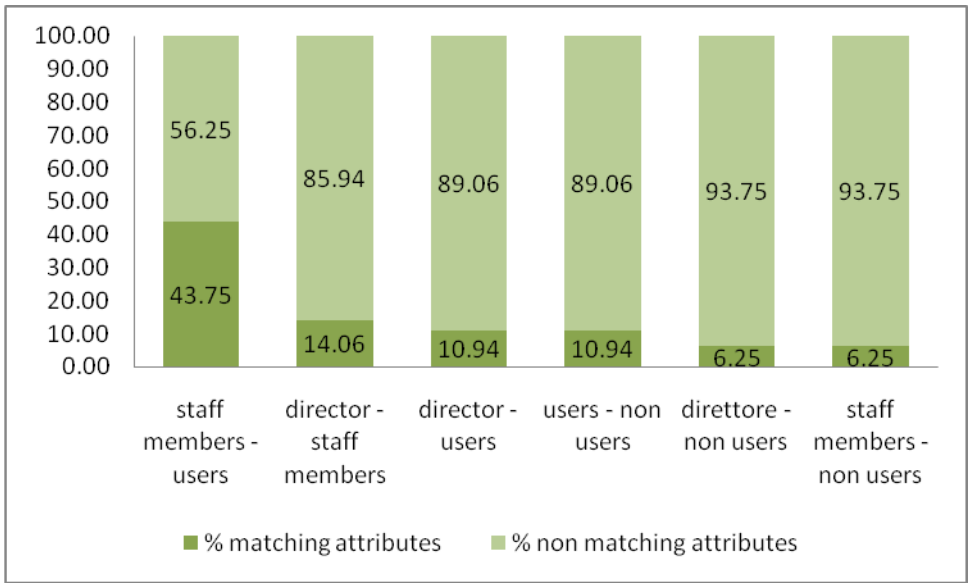

Figure 9.19 Matching Attributes

It is very clear that the representation of the director is not shared by staff members, only 14.06% attributes are in common between the two.

On the contrary, staff members and users have the highest degree of sharing, with 43.75% attributes in common. This datum shows that staff members and users come from the same socio-cultural background and have a very common view of CAC and of technology in general.

It is also interesting to notice that the representation of non-users, that are people that never approached the centre, is very different to the ones of staff members and even users, even thoug they belong to the same community.

Conclusions

Let us discuss the obtained results in the light of the hypotheses driving this piece of research[11], starting from H1, H2 and H3 and from the social representations presented in chapter 9, which showed that social representations of staff members, users and non-users are not homogeneous and do not coincide with the director of the Cape Gateway Project's conceptualization.

The definition of a CAC is in itself an interesting point of discussion; the director defined CACs as places where people can access ICT, in particular eGovernment services, and as a tool to fight poverty. However, the idea that the CAC can be a way of fighting the disadvantaged status of the communities is not shared in the social representation given by staff members. In some cases staff members recognize that the purpose of the centre is to offer access to ICT and in particular to eGovernment services. However, they are unable to convey these two meanings to the users of the CACs who, in their social representation, have the idea that CACs are places to access ICT but who do not contemplate the eGovernment services dimension at all. Interestingly, non-users add a relevant attribute to the definition of CACs: these centres are dedicated to introducing children to ICT. This is not the goal of the Western Cape Government. However, as we will see further on in the discussion, the use of the CACs by children is one of the most interesting and controversial features of this analysis.

When looking at the services offered by CACs the eGovernment dimension becomes even less defined and decisive: the director did not say that eGovernment services had already been implemented in the CAC but mentioned only the internet, email and ICT training. However, staff members did mention eGovernment services in the range of services offered by the CAC, even if they are not the most commonly cited. Staff members agree with the director that internet and email are an important service offered by the centre but add three other attributes: the fact that they provide one-to-one assistance when needed to users, the free typing and printing facility and that CACs are not only a place to access ICT but a place where people can obtain information (this

[11] H1: the social representation of a telecentre differs according to the social group (i.e. founding organization representatives, staff members, users and non-users) considered
H2: the social representation of the telecentre by the founding organization is fundamentally different from that of local staff.
H3: the social representation of the telecentre by the founding organization is less shared compared to that of local staff members, users and non-users.
H4: the social representation of a telecentre belonging to a network of centres differs according to the location in which it has been set up

attribute is one of the most relevant in defining the representation of staff members). Only when pushed to answer did staff members, both in terms of services and uses, mention eGovernment services as attributes.The fact that CACs provide eGovernment services is absolutely absent in the social representation of users, whose social representation is in many other elements similar to that of staff members; also for users CACs are mainly places offering access to the internet and email and where they can get one-to-one assistance when using the facilities. Non-users were only able to mention the possibility to access ICT for free.

The representation of the director is completely disallined with the one of staff members and users when addressing services which should be added to the CAC offer. According to him the CAC should offer in the future eGovernment services, should work with the non-profit sector and should focus more on thematic events. While staff members and users mentioned the need of having ICT training programs, and users mentioned once again the need of adding special ICT training programs for children.

Regarding the representation of uses the director did not answer this set of questions while staff members think that most people make use of the internet at the CAC for general purposes, for job hunting and for study. These attributes are shared also by users. The social representation of staff members and users is fairy similar also for the other attributes mentioned; it is important to note that the issue of children comes to the fore again when discussing uses: both the staff members and the users think that the centre is used prevalently by children for their homework or for fun.

The children issue is once again relevant when investigating the social representation of users: staff members say that the main users of CACs are primary and secondary school children, adults in general and unemployed people. Users did not have a broad and clear picture of people accessing CACs, but in any case they mentioned primary and secondary school children and adults too.

The representation of the positive aspects of CACs is also highly scattered: staff members and users share some perceptions, such as the fact that CACs offer services free of charge is a good thing, that they are places where people can access information and that the environment is efficient and friendly. However, it is worth noticing that there are some divergences in the two representations: first of all, users mentioned learning ICT skills as the best thing offered by the centre while this aspect is not mentioned by staff members; secondly, the issue of children arises once again: users see the fact that CACs have children as a target and that these centres are places where children can spend their afternoons in safety as positive.

As regards aspects to improve, there is a fairly commonly shared representation among the director, staff members and users: to improve equipment and infrastructure, to change the locations and to extend opening hours, the need for better connectivity (perceived more by staff members than by users) and the need to involve the community more, this last attribute is the only one shared also by non-users. There is an interesting attribute shared by users that is not relevant for the director or for staff members: the need for trained and full-time staff.

Findings about training of staff are highly relevant, first of all because the majority of staff members did not think they had received any, while the director mentioned four training activities plus informal peer-to-peer training. Some of the staff members thought that the Portfolio Management Workshop was intended to be a sort of training and some of them declared to have been trained informally by their colleagues, but not all the participants to the workshops perceived them as training sessions.
Even more interesting are the results about planned training activities. Some of the staff members are aware that ICT training has been programmed for them (4 occurrences); however, no one mentioned the other three training activities mentioned by the director: project management training, leadership training and the knowledge sharing platform tool. So, there is not a common goal or vision about the training and skills an eCommunity Forum member should have.

Regarding personal motivations for staff members to volunteer at the CACs, users to go to the centres and non-users not to go to the centres, staff members mentioned the possibility of becoming ICT experts, the possibility of learning something about the ICT domain (e.g. becoming an expert in the role they have been assigned) and the desire to help people in their community improve their lives. Users, on their hand, stated that their motivation to go to CAC is to become ICT experts. Some of the users said that the CAC gives them the chance to stay out of trouble and off the streets, and once again the issue of having something constructive to do for occupying the day is mendioned. Answers among non-users about why they do not use the CAC were highly diversified. The shared attributes include feeling too old, feeling unqualified to use ICT and not having the time.

Furthermore, taking into consideration the degree of sharing of representations, it has been found that the representation of the director shares with the one of staff members only 14.06% attributes, while staff members and users have the highest degree of sharing, with 43.75% attributes in common. Moreover, the representation of non-users shares only 10.94% of attributes with users, even thoug they belong to the same

community. This shows that staff members are quite able to transmit to users their view of the CAC, since people belonging to the same community but which are not exposed to technologies have a very different and less articulated idea of what ICT in general and a CAC is and how it can be used.

The results proved H1, H2 and H3 and highlighted that the most shared representations are the ones of staff members and users.

If taking another perspective, the one of the location in which CAC are placed and considering people belonging to a certain location as a social group, not taking into consideration their function of staff members, users or non-users interesting elements arise. Let us therefore discuss results concerning H4.

If we look at the definition of CACs we notice that while Bitterfontein, Oudtshoorn and Vanryhnsdorp have very similar social representations focused on three attributes: eGovernment services, access to ICT and information access; while Struuisbaai defined the CAC in a unique way: as a computer lab in a library offering children the possibility of accessing ICT.

Regarding services offered by CACs, Struuisbaai, Bitterfontein and Oudtshoorn were able to mention many different services, with an overlapping on access to internet and email and one to one assistance. ICT training was mentioned only in Bitterfontein and Vanrhynsdorp and possibility to access information only in Bitterfontein and Struuisbaai. Struuisbaai was the only location to mention support for homework as service offered by the CAC and eGovernment information and services.

The issue of children is highlighted again when considering usages: in Struuisbaai and in Bitterfontein one of the first uses mentioned is children playing with the technology while in Oudsthoorn and Vanrhynsdorp this is not mentioned for various reasons: the Oudtshoorn CAC is located near a secondary school, therefore more grown-up children use the centre to do their homework, while in Vanrhynsdorp, as seen before, staff members decided to ban children from using the centre to play games or surf for fun.

Of course, this is mirrored also in the elicitation of users. Secondary school children and adults are the shared attribute among all the centres, while primary school children, for the reasons explained above, are dominant in Bitterfontein and Struuisbaai but not in the other two centres. Furthermore, only Struuisbaai mentioned tourists as users category and only Bitterfontein and Oudtshoorn mentioned unemployed people.

When looking at positive aspects, the common element among the four centres is the possibility to access internet at no cost; three centres, except Vanrhynsdorp, mentioned the possibility of acquiring ICT skills, while three centres, except Oudtshoorn mentioned the friendly and efficient environment. At Struuisbaai the issue of children appears once again to be very important: if we look at the various centres, Struuisbaai is the only one that mentions the importance of CAC as a place to keep children safe.

About things to be improved social representation of the four centres are very homogeneous, all the four mentioned the need of having a more appropriate location and more flexible opening hours, the need of changing equipment and infrastructure and the need for a faster connectivity. Three centres out of four (except Oudtshoorn) mentioned the need for involving the community in a more decisive way, and two centres, Oudtshoorna nd Struuisbaai mentioned the need of trained and full time staff.

The results proved H4, in particular they highlighted the importance of the location in shaping the representation of the telecentres, as hypothized before by other studies and highlighted different strategies to overcome a misalignment between the goal of CACs, provide eGovernment information and Services and therefore targeting adults and a need of the community, find safe place for children.

In the thesis also findings regarding the representations of different typologies of interviewees (the director, staff members, users and non-users) about computers and internet are presented. No dedicated hypothesis has been introduced for this topic, because this was not the foucus of the research; but, in any case, it is very interesting to see the conceptualization of ICT in communities not exposed before to new technologies.

The representations of respondents regarding the definition of a computer are very scattered. However, there is a very interesting element to be noticed: the information and communication dimensions are embedded in most of the definitions given. Computers are not perceived as stand-alone, but as part of the network, of the internet. This is a valuable finding, or better, it is evidence of the so-called leap-frog mentioned and acclaimed in the literature. CAC communities had never experienced the computer as disconnected from the internet as it was in Europe or in the US until 15 years ago; the first exposure to computers for these communities already occurs within the internet landscape. A computer is, therefore, a tool to access information and to communicate.
Looking at the definition given of the internet, not surprisingly the information and communication dimensions are highlighted by all respondent typologies. One interesting element is the strong perception that users have of internet as a way of being connected to the rest of the world.

*** *** ***

This thesis explored the adoption of the theory of social representation and concept mapping techniques to research telecentres, and developed a cognitive tool to study and analyze telecentre conceptualizations with interesting results for deepening the knowledge the research community has of telecentres.
Furthermore, the cognitive tool delveloped may be a useful instrument to detect interesting case studies and to assess telecentres effectiveness. In fact, fully understanding how the founding organization's conceptualization of a telecentre is perceived by people working in the telecentres, by people using it, by non-users (members of the local community who do not use the telecentre yet) and at the different locations (in the case of networked telecentres) could help the founding organization defining ways of guaranteeing greater success and integration of the telecentre in the local community and it could also raise the telecentre's potential to contribute to the socio-economic development of the local community.

In this particular case, for example, some important issues have come to light from the analysis performed:

1. The eGovernment dimension: as shown above, the eGovernment dimension is not common in the social representations of staff members, who define the CAC as an eGovernment centre but do not have as a core service in their representation eGovernment-related-services. This dimension is totally absent in the social representation of users (and non users) both when defining CAC and when listing services and uses. This is a dangerous situation for the Western Cape Province: a common representation of the CAC is being formed in the local communities but it does not take into consideration the main intended aim of these centres: the provision of eGovernment services. Changing representations after they have been formed will probably be more difficult than shaping them from the outset.

2. Children issue: Children are not the main target of CACs but in many centres they are actually the main users: in Vanrhynsdorp they almost took over the centre so the use of games has been prohibited. This is a very important issue: acknowledging that children have a safe place to stay instead of being unguarded on the streets is a very important added value for some communities (especially Struuisbaai). At this point the CACs have two alternatives: either following the line adopted by Vanrhynsdorp and banning children from the centre or taking into consideration the positive impact that the CAC could have for children and families and improving the services offered

to them, besides the mere use of videogames, moving away, in this case, from the original aim and target of the CACs (eGovernment services and adults). Both alternatives are possible but the founding organization must have a clear picture of the situation in order to decide.

3. Staff training: users perceive the need for better training of staff members. The issue of training appeared to be very controversial: the director mentioned many training initiatives that have been completed such as a strategy workshop, the ISW conference, the Portfolio Management Workshop and many planned initiatives such as ICT training, knowledge sharing platform training, and a project management and leadership management workshop. However, staff members does not share the same idea: the only training mentioned is a portfolio management workshop and informal training. However, on the whole the staff members believe that they have not received any training. The results regarding planned training activities are even more interesting. Some of the staff members are aware that ICT training (4 occurrences) has been programmed but no-one mentioned the other three training activities mentioned by the director. This lack of alignment is dangerous: the director thinks that the staff are better prepared than the staff members themselves believe they are and the direction in which the CAC aims to go through training is not shared by staff members.

The cognitive tool, developed in the thesis and driven from the social representation theory and from the recognition of the existence of conceptualization misalignments, can be used in two ways also by telecentre practitioners:

- As was done in this thesis, on a one-spot basis to undesrstand the social representations of the telecentre and to identify areas of action to improve the impact of the telecentre in the local community
- In a longitudinal way, to regularly check how the telecentre is perceived by people working in it, by users and by non-users, and how these representations relate to the goals and strategies of the founding g organization. In this way, first of all, adjustment actions can be taken and the impact on the local community can be monitored and improved.

*** *** ***

This thesis can be the first pillar of a series of researches in the field of social representation that could strongly contribute to the assessment and the construction of awareness, one of the foundamental sustainability issue highlighted by the literature.

First of all, the methodology: the cognitive tool, developed for this thesis can be used in other contexts, both in terms of geography and in terms of telecentre typology to test its functioning. The model developed in this thesis (made of entities, elements and attributes), not considering the specific elements depending on the fact that CACs are eGovernment telecentres, can be the starting point for a quantitative research, mapping conceptualization of founding organizations, local staff members, users and non-users interacting with different typologies of telecentres around the globe.

Moreover, further researches can reflect more in depth on the concept of community and sharing, taking into consideration two new elements: that the exsistence of a social representation is a consequence of belonging to a common culture and that differences in social representations can derive from a social structure in which the telecentre, itself, becomes an element influencing the composition of social groups. In this case, telecentres could generate two opposite results in the definition of social groups and of a community: homogenization, that is that the function of the telecentre is of reducing differences between conceptualizations in the community, reducing the number of social groups; or, on the contrary, reinforcing differences of representation among social groups, and therefore reinforcing differences in the social groups and fragmenting the community.

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Annex I: Interview Protocol - Director

Interviews to the Director
Explain research telecentres; confidentiality; 1 hr. interview; tape; anonymity.

Perception of Telecentres
I would like to know something more about how you perceive the telecentre as a whole.

Could you explain the origins, the aims and the objectives and the structure of the Cape Access Initiative?
Could you tell me something about future plans for the Initiative?
What are the main services offered by the centres? Are there other services?
Which are the most frequently used?
Which are the good ones?
Which are the ones that could be improved?
Which are, in general, the improvements that the centre could undertake?
Are there other services that you would like it to offer?
Do you train the staff?

I would like to know how the telecentre fits in your community.

Do you know what users do at the centre?
Do you know why they come to the centre?

Telecentres are new in this neighborhood and not everyone knows about them, therefore I would like to know how your perception of them differs from the idea of other people.

If a friend of yours asked you to explain what a telecentre is, what would you answer?
If a friend of yours asked you what a computer is, what would you answer?
If a friend of yours asked you what the internet is, what would you answer?
How would change your village if this telecentre did not exist?
How would change your region if telecentres did not exist?
How would change South Africa if telecentres did not exist?
How would change your region if there will be a great number of telecentres like this one?
How would change South Africa if there will be a great number of telecentres like this one?
How do you imagine the telecentre within five years?

[If you were the director of a telecentre what would it be like? Please describe which facilities, services, tools, would you set in place.]
What would happen if all your community came to the telecentre?

Media exposure
I want to learn how information is exchanged in your community.

Do you watch television? Where?
How often do you watch it?
Which channels? Which programs?
Do you listen to the radio? Where?
How often do you listen to it?
Which channels? Which programs?
Do you read newspapers? Which ones? Where?
What kind of articles do you read?
Do you have access to a PC and the internet from other locations except the telecentre? Where?
Have you go a fixed telephone line? Have you got a mobile phone?
With whom do you communicate via telephone? How long last your calls?

Personal Background
Now, I would like to ask you some question about you to have an idea about how the characteristics of the staff of this telecentre

How old are you?
Where do you live (neighborhood)? Where is it?
Are you married? Do you have children?
How much education have you had?

Annex II: Interview Protocol – Staff Member

Interviews to staff member
Explain research telecentres; confidentiality; 1 hr. interview; tape; anonymity.

Experiences in the telecentre
First of all I would like to ask you about your experiences in the telecentre.

What is your job here? Which are your responsibilities? Which are your activities?
Do you have contacts with users?
Do you promote the telecentre? How?
Why did you decide to work at the centre? How come?
When did you come to the centre the first time?
How did you learn about the centre?
Do you use the centre also as a user?
If yes: What do you do in the centre? What type of things do you do? What type of services do you use? What do you use the centre for?
How did you do the same things before coming to the telecentre?
Do you also go to other telecentres? Which ones? To do what? In what are they different?
Where did you learn to use PC and the internet?
Which kind of training have you received for working here?

Perception of Telecentres
I would like to know something more about how you perceive the telecentre as a whole.

What are the main services offered by the centre? Are there other services?
Which are the most frequently used?
Which are the good ones?
Which are the ones that could be improved?
Which are, in general, the improvements that the centre could undertake?
Are there other services that you would like it to offer?
How would you or do you promote the centre?
What is the added value to work at the centre? Why did you decide to come to the centre?

I would like to know how the telecentre fits in your community.

Who are the people that are aware or use the centre?
Do your family, your friends, your colleagues, people from the same parish use the centre?
Do you know what users do at the centre?
Do you know why they come to the centre?

Telecentres are new in this neighborhood and not everyone knows about them, therefore I would like to know how your perception of them differs from the idea of other people.

If a friend of yours asked you to explain what a telecentre is, what would you answer?
If a friend of yours asked you what a computer is, what would you answer?
If a friend of yours asked you what the internet is, what would you answer?
How would change your village if this telecentre did not exist?
How would change your region if telecentres did not exist?
How would change South Africa if telecentres did not exist?
How would change your region if there will be a great number of telecentres like this one?
How would change South Africa if there will be a great number of telecentres like this one?
How do you imagine the telecentre within five years?
[If you were the director of a telecentre what would it be like? Please describe which facilities, services, tools, would you set in place.]
What would happen if all your community came to the telecentre?

Media exposure
I want to learn how information is exchanged in your community.

Do you watch television? Where?
How often do you watch it?
Which channels? Which programs?
Do you listen to the radio? Where?
How often do you listen to it?
Which channels? Which programs?
Do you read newspapers? Which ones? Where?
What kind of articles do you read?
Do you have access to a PC and the internet from other locations except the telecentre? Where?
Have you go a fixed telephone line? Have you got a mobile phone?
With whom do you communicate via telephone? How long last your calls?

Personal Background

Now, I would like to ask you some question about you to have an idea about how the characteristics of the staff of this telecentre

How old are you?
Where do you live (neighborhood)? Where is it?
Are you married? Do you have children?
How much education have you had?

Annex III: Interview Protocol - User

Interviews to user
Explain research telecentres; confidentiality; 1 hr. interview; tape; anonymity.

Experiences in the telecentre
First of all I would like to ask you about your experiences in the telecentre.

When did you first come to the centre?
How often do you come?
How much time do you spend at the centre?
What do you do in the centre? What type of things do you do? What type of services do you use? What do you use the centre for?
How did you do the same things before coming to the telecentre?
Why did you decide to come?
How did you learn about the centre?
Did you talk about it with other people?
Do you come to the centre by yourself or with someone? Why do you come here together?
Do you also go to other telecentres? Which ones? To do what? In what are they different?
Where did you learn to use PC and the internet?

Perception of Telecentres
I would like to know something more about how you perceive the telecentre as a whole.

What do you think are the main services offered by the centre? Are there other services?
Which are the good ones?
Which are the ones that could be improved?
Which are, in general, the improvements that the centre could undertake?
Are there other services that you would like it to offer?
What does the centre do to improve your life? How is your life changed since you come to the centre?

I would like to know how the telecentre fits in your community.

Do you know other people who are aware or use the centre?
Who are they? (your family, your friends, your colleagues, people from the same parish)

Do you know what users do at the centre?
Do you know what they do in the centre?
Do you know why they come to the centre?

Telecentres are new in this neighborhood and not everyone knows about them, therefore I would like to what you think about them.

If a friend of yours asked you to explain what a telecentre is, what would you answer?
If a friend of yours asked you what a computer is, what would you answer?
If a friend of yours asked you what the internet is, what would you answer?
How would change your village if this telecentre did not exist?
How would change your region if telecentres did not exist?
How would change South Africa if telecentres did not exist?
How would change your region if there will be a great number of telecentres like this one?
How would change South Africa if there will be a great number of telecentres like this one?
How do you imagine the telecentre within five years?
If you were the director of a telecentre what would it be like? Please describe which facilities, services, tools, would you set in place.
What would happen if all your community came to the telecentre?

Media exposure
I want to learn how information is exchanged in your community.

Do you watch television? Where?
How often do you watch it?
Which channels? Which programs?
Do you listen to the radio? Where?
How often do you listen to it?
Which channels? Which programs?
Do you read newspapers? Which ones? Where?
What kind of articles do you read?
Do you have access to a PC and the internet from other locations except the telecentre? Where?
Have you go a fixed telephone line? Have you got a mobile phone?
With whom do you communicate via telephone? How long last your calls?

Personal Background

Now, I would like to ask you some question about you to have an idea about how you fit in the typical user category of this centre.

How old are you?
Where do you live (neighborhood)? Where is it?
What do you do for living?
Are you married? Do you have children?
How much education have you had?

Annex IV: Interview Protocol – Non-user

Interviews to non user
Explain research telecentres; confidentiality; 1 hr. interview; tape; anonymity.

Perception of Telecentres
I want to know something about the telecentre X, how it is used by the community.

Do you know that the telecentre X exist? [picture]
Have you ever been there? Why not?
Are you interested in going to the centre?
Is there anyone in your family/friends that go there?
Has anybody told you something about this centre?
What do you think it is? Do you have an idea of what they do there?
If yes, do you think it is useful?
Do you have any idea of how it got started?
Are you able to use PC and internet? If yes, where have you learnt?
If a friend of yours asked you what a computer is, what would you answer?
If a friend of yours asked you what the internet is, what would you answer?
How would change your village if this telecentre did not exist?
How would change your region if telecentres did not exist?
How would change South Africa if telecentres did not exist?
How would change your region if there will be a great number of telecentres like this one?
How would change South Africa if there will be a great number of telecentres like this one?
How do you imagine the telecentre within five years?
If you were the director of a telecentre what would it be like? Please describe which facilities, services, tools, would you set in place.
What would happen if all your community went to the telecentre?

Media exposure
I want to learn how information is exchanged in your community.

Do you watch television? Where?
How often do you watch it?
Which channels? Which programs?
Do you listen to the radio? Where?

How often do you listen to it?
Which channels? Which programs?
Do you read newspapers? Which ones? Where?
What kind of articles do you read?
Do you have access to a PC and the internet from other locations except the telecentre? Where?
Have you go a fixed telephone line? Have you got a mobile phone?
With whom do you communicate via telephone? How long last your calls?

Personal Background

Now, I would like to ask you some questions about you to have a more precise idea about people living in this community.

How old are you?
Where do you live (neighborhood)? Where is it?
What do you do for living?
Are you married? Do you have children?
How much education have you had?

Annex V: Interviews Transcriptions

All the transcribed interviews are available in the attached CDrom.