

Telecentres Use in Rural Communities and Women Empowerment: Case of Western Cape

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Abstract. Women are still facing exclusion in the use of telecentres, largely because of cultural perceptions that they are responsible for the home; telecentres are also widely perceived appropriate for men to find employment. This paper presents an analysis of the benefits women derive from using telecentres. This study explores how telecentres empower women in the rural communities by analysing three telecentres in the rural setting of Western Cape, South Africa. A qualitative approach involving semi-structured interviews was used to gather in-depth details on individual empowerment of the rural women. The results obtained show that some rural women used the telecentres to enhance economic standards, which resulted in individual empowerment in social, psychological, information and economic dimensions. This study highlights the potential of telecentres in empowering women and proposes that the government and NGOs consider the telecentre as a means of addressing gender digital divide issues.

Keywords: Telecentres · Women empowerment · Gender · Rural communities · ICT use · Western cape

1 Introduction

The purpose of the study was to assess the contribution of Information and Communication Technologies (ICTs) for women empowerment and human development in South Africa. In particular, the study seeks to establish the current status of the ICT sector development in selected rural areas; secondly, to determine the pattern of ICTs use and impact of ICT use on women empowerment and development; and, thirdly, to identify factors affecting effective utilisation of ICTs. Access to ICT continues to be unequally distributed and, in most cases, segregated along income, education, age, gender and geographical location [1]. Although South Africa has made substantial efforts to make ICT infrastructures available in rural areas by providing access to the internet and other ICT facilities through telecentres, the problem of internet access persists. Women are faced with the problem of ICT access due to a host of socio-economic factors [1]. Nevertheless, most telecentres do not focus on gender and how women can be empowered by the use of the telecentre [1]. Empowerment is the process of gaining substantial, new capability to perform some specific action [2]. The process

of empowerment enables the transformation of individual lives to achieve goals and reach targets, which they had thought impossible [3]. This study investigates the impact of telecentres on woman empowerment in the Western Cape Province of South Africa. Previous literature shows the telecentres as a valuable ICT initiative that can be used to empower women in rural South Africa through the receiving and disseminating of information [4].

More studies demonstrate the personal characteristics of respondents in the rural areas; the extent of their effect on the diffusion and adoption of telecentres; and challenges women encounter in the use [5, 6]. The gap in research illustrates that enhancing people's informational capabilities is the most critical factor that determines the impact of ICTs on women's well-being. Although a number of studies have looked at the effects of the use of telecentres on the well-being of communities in South Africa [7] insights on the benefits derived from the telecentre and how they are expected to empower women are still lacking [8]. While most telecentre research addresses the benefits women derive from using telecentres, gender implications for the use of telecentres are not being addressed [9] Women, especially those in rural communities, carry a huge responsibility of looking after their families. Women are saddled with the responsibility of managing their homes, while the men work and engage in other economic activities [4]. In addition, it is assumed that in rural communities men are better positioned to benefit from ICTs than women and this contributes to gender inequality and digital divide [1]. Furthermore, ICTs can play an important role in this process of enhancing informational capabilities to achieve individual empowerment [9]. The failure to address the specific ICT needs of women in rural areas continues to contribute to the barriers women face in accessing ICTs. Therefore, this study was guided by the research question: How are telecentres empowering women in rural communities? Specific focus is on the Western Cape Province of South Africa. An investigation into the dimension of empowerment, the socio-cultural perception of the gender (male) computer culture, and how these reflects on women in rural communities was carried out. This paper adopted the empowerment framework as a theoretical foundation. The framework was considered appropriate because it explains the different dimension of empowerment in relation to individual capabilities and issues of gender (male) bias of computer culture are addressed.

2 Literature Review

2.1 Telecentres: An Overview

Telecentres are non-profit centres that offer access to computers. Furthermore, telecentres are established to solve the problem of digital divide, i.e., the gap between the 'information haves and have-nots'. Telecentres can be private enterprise, government-supported, and public-private partnership [10]. Private-owned telecentres such as the internet cybercafés are mainly for profit and are usually more financially sustainable. Moreover, telecentres are sometimes non-government organisations (NGOs) and government-owned and exist in almost every country [11]. Although they

sometimes go by different name such as e-centre, computer centre, kiosk, e-chopper, information centre, cyber-café or public internet access points (PIAP) [12]. Access to telecentres is perceived as part of a process that can provide support to individuals for personal needs and goals [13].

2.2 ICT for Development

Over the years, a proponent of ICTs for development agenda claims technology creates opportunities for social and economic development of poor communities in developing nations [14]. [15] claims that, if information is critical to development, then ICTs, as a means of sharing information, are not simply a connection between people, but a link in the chain of the development process itself. ICT is perceived to not reach the under-privileged but, rather, the privileged in the society, which widens the socio-economic gap within developing countries [16]. ICTs enhance inequalities and potentially lead to social exclusion [17]. Scholars like [18] suggest that women are likely to select actions that are approved by their families and friends, as opposed to following rules or principles that are separated from their relationships. This indicates that women are somewhat reluctant to being introduced to technology or its utilisation in their everyday life. Technological empowerment is achieved by supporting the individual use of technology for personal needs and goals [13].

Individuals who have the opportunity to be empowered using technology usually have the confidence; high self-esteem; feelings of self-efficacy; control over their life; increased critical awareness; and increased civic participation [19]. According to [20], technologies contribute to the multiplier effects across income levels and innovative capacity. Modern technologies can support the empowerment of individuals and contribute to community development. However, lack of ICT skills in remote areas is one of the reasons telecentres are established in rural communities [21]. ICT skills development has been integrated as part of the service of telecentres to overcome the challenges of learning computer skills. Thus, the aim was to support the community to access ICT facilities and information via the internet or computer training skills offered at the telecentre to improve the livelihood and self-development of users [13]. Access to ICT initiatives, such as telecentres in themselves, cannot be a solution to poverty but can be adopted as a tool in poverty reduction initiatives. [22] claim “ICT for development” agenda examines the link between ICT and development, and empowerment of marginalised communities is under-researched whilst the “ICT in developing countries” agenda, comprising of cultural implications and local adaptation, is over-researched. Scholars such as [23] also questioned the potential of telecentres in empowering individuals and communities.

2.3 Rural Communities in South Africa

A rural community can be defined as a geographic area that is located outside towns and cities, with a generally not large population [24]. There are 1.4 billion people living on less than US\$1. 25 a day and at least 70% of them live in rural areas [25]. The South African poor mainly live in rural communities, and a large number of South Africans

live in poverty [26]. Statistics show that 52% of the South African population are women and 47% of these women live in rural communities [27]. A rural location is described as residents in settlements above or below a certain size where agriculture is presumed to be the principal activity of its populations [28]. A large number of rural South Africans live in poverty [27]. The make-up of the rural communities of South Africa consists of Blacks and the Coloured race who live in settlements in diverse locations outside of the cities in different provinces of the country.

2.4 Telecentre Implementation for Gender Empowerment

Telecentres are established to transform rural communities into a computer-skilled labour force which can support innovation [29]. Although telecentres are created in rural communities, the gender aspects are not put into consideration in the design-planning phase [30]. Furthermore, the approach to universal services and ICT policies in general neglect gender issues which may affect women's socio-economic and social conditions when the policies are implemented [31]. This is demonstrated in some government-sponsored telecentres in South Africa, where gender issues are not considered [32]. There is need to understand the actual use of telecentres in rural communities, how gender equality can be promoted and can also avoid exclusion of women [33]. This is because there are often limited resources available in the rural communities; men have the prospect to be exposed to possible job opportunities outside their environment, while women are expected to take up the responsibility of managing their homes [4]. There are also issues beyond access that need to be taken into account when implementing telecentres in rural communities; for example, skills development, local content, social capital and cultural issues [5, 21].

2.5 Impact of Telecentres on Women

The objective of the study is to understand how rural women can use the telecentres to improve their economic standard. The purpose of implementing telecentres in poor communities is to provide access to ICTs; inform; train; and provide economic opportunities to rural people on computer skills. The establishment of telecentres in rural communities has not really focused on how it can be used to benefit women in the rural areas. Therefore, the failure to address the challenges women encounter in using telecentres continues to contribute to the factors women face in accessing ICTs [34]. The use of telecentre services may support women in the process of self-reflection and problem solving to deal with their day to-day life challenges. These may assist women to strengthen their human capital in areas of knowledge, skills and ability to work and attain good health from the information obtained from using the telecentre. Women may benefit from the use of telecentre services if countries with existing telecentres create gender awareness programmes on the actual benefits from using telecentre facilities, and provide an encouraging environment for women's participation. This is most important in poor communities where women have limited access to information and minimum access to computer-training opportunities.

3 Conceptual Framework: Empowerment

This paper adopts the empowerment framework as a theoretical lens. The framework illustrates the different dimension of individual empowerment. Also how this relates to women empowerment [9]. The choice of this framework was to present the perception of women respondents. [35] views empowerment in the context of addressing women's "strategic gender needs", that is to say transforming structures, institutions and beliefs that embody "women's subordinate position to men in the society". She argues that meeting these needs helps women to achieve greater equality. Strategic gender needs include broader social, political and economic issues such as gender division of labour, legal rights, domestic violence, etc. which would be discussed in the dimension of empowerment. Past scholars such as [36] claims, if African women do not take the opportunity offered by ICTs initiatives such as telecentres to "catch up" technologically, they will find themselves further marginalised. Technologies including ICTs are not gender-neutral; rather, the use of ICTs and other technologies by women and men reflects to a large extent the wider socio-cultural and economic context within which the technologies are produced or used.

Furthermore, there have been studies based on the analysis of women and their relationship with ICTs that say women consider the word "technology" to have male connotations, even though "information" seems more feminine. It is assumed that some women even believed that working with ICTs would drive women mad. These examples indicate a high level of women's discomfort with information technologies [37]. Women empowerment refers to women having a right to develop their potential and improve on their self-development. The paper is focused on the individual empowerment of women through the use of the telecentre. Individual empowerment refers to the transformation of individuals' lives in achieving goals and reaching targets which they had previously thought impossible (i.e., to gain authority, skills, status, self-belief and image, progressing to greater things and increasing rewards) [38, 39]. Individual empowerment is also referred to as psychological empowerment because it involves an individual's participation in shared actions and has a greater control over his or her livelihood, a phenomenon referred to as "human agency" [9, 13]. Empowerment can be classified into different dimensions: Information, Economic, Social, Political and Cultural empowerment. Table 1 summarises the different dimension of individual empowerment [9].

Social empowerment refers to all members of the society being treated fairly and equally [40]. It is a multi-dimensional social process that helps people gain control over their own lives. Individuals can have the ability to enhance their technology and ICT literacy skills, enhance leadership skills and improve programme management skills through the services provided in the telecentre. This process fosters power (that is, the capacity to implement) in people, for use in their own lives, their communities and society, by being able to act on issues that they define as important [41]. Women using the telecentre can access social media platforms to communicate with friends and family and access information that addresses their personal needs.

Economic empowerment ensures that people have the appropriate skills, capabilities, resources and access to secure and sustain incomes and livelihoods, through the

Table 1. Dimensions of individual empowerment (Gigler, 2014)

Dimension	Output indicator
Information	<ul style="list-style-type: none"> • Improved capital to use different forms of ICT • Enhanced information literacy • Enhanced capacity to produce and publish local content • Improved ability to communicate with family members and friends outside immediate location
Psychological	<ul style="list-style-type: none"> • Stronger self-esteem • Improved ability to analyse one's own situation and solve problems • Stronger ability to influence strategic life choices • Sense of inclusion in the digital world
Social	<ul style="list-style-type: none"> • Enhanced ICT literacy and technology skills • Enhanced leadership skills • Improved programme management skills
Economic	<ul style="list-style-type: none"> • Improved access to markets • Enhanced entrepreneurial skills • Alternative sources of income • Stronger productive sources • Improved employment opportunities • Improved income through (a) lower transaction costs, (b) reduced transport need, (c) improved timeliness
Political	<ul style="list-style-type: none"> • Increased access to information or services • Improved capabilities to interact with local government and party politics
Cultural	<ul style="list-style-type: none"> • Improved social-cultural context that prevents gender (male) bias of computer culture and expectations

use of the telecentre, to seek for employment and other opportunities [42]. Through telecentre use, women can be empowered to gain computer skills that can equip them to be employable and improve on their economic standards.

Political empowerment is when individuals acquire the capacity to analyse, organise and mobilise in their respective communities. It can also be recognised as individuals having a say in how things are organised and how decisions are made in their environments [43]. Women living in poor communities are usually not involved in decision-making and political activities in their communities, because of the socio-cultural perception of only being expected to manage their homes [1].

Cultural empowerment is individuals having the freedom from socio-cultural norms to use the computer. Many feminist critics have argued that computer culture and the internet were inherently gendered; predominantly androcentric; therefore reproduced existing power structures and gender differences of the offline world in virtual reality [44]. According to this argument, many women non-users of the telecentre were not using the telecentre due to lack of computer skills and the gender (male) bias of computer culture. Women are usually limited by their cultural belief's, which sometimes hinders empowerment. Some cultures do not allow women to expose themselves to opportunities that can empower them, but rather they are expected to be committed to the management of their homes and families.

4 Methodology

A qualitative research design method was used for this study. The aim of the study was to gain more insights into how telecentres empower women in rural communities. We selected a qualitative research due to its ability to provide insights into the interactions within a particular context [45]. To understand the potential benefits rural women derive from using the telecentre, the study was rooted in the interpretive paradigm [46]. An explanatory study was employed in the study to add a description and explain why certain outcomes occurred.

4.1 Case Description

The settlements used for this study were situated in the Western Cape Province of South Africa. The study selected three (3) telecentres from three (3) different districts in the province. The communities used for the study were mainly rural communities. The criteria for selecting the telecentres were: (1) to be situated in the rural communities; (2) to have been in operation for more than one year and (3) to offer a variety of services such as the internet, information services, computer-training and free services to the community.

Cape Access. The participants for this study were drawn from the three (3) selected telecentres with a view to ensure that the study was homogeneous. The telecentres were selected from the Cape Access project which is an ICT initiative of the Western Cape Government. This project provides ICT infrastructure such as e-centres (telecentre) for community development in rural communities. There are fifty-four (54) telecentres established in six (6) districts of the Western Cape Province. ICT facilities such as computers, printers, fax machines and internet facilities are made available in the e-centres for community members to access at no charge. The telecentres provide forty-five (45) minutes' free internet access to respective community users who have signed up to use the services provided at the e-centre/telecentre daily. Training sessions are offered on the International Computer Driving Licence (ICDL) and e-learning and basic computer training are offered to community members at no charge, while certificates are issued to successful participants who have completed the training services. To operate and manage the Cape Access e-centres (telecentres), telecentre managers, assistant managers and development managers are employed for the project.

4.2 Locations

Elim Community. Bredasdorp/Elim region is a small rural community situated in the Southern Overberg of the Western Cape Province of South Africa. It is a community with farming as the main source of livelihood and has a high rate of unemployment. It consists of 2,500 people who are mainly Afrikaans-speaking and Coloured [47]. Elim community consists of 91.6% Coloureds, 7.4% Black Africans and 1.0% Whites.

Klawer Community. Klawer Community is a rural town lying in the emerald green, tranquil Olifants River Valley just off the road to Namibia. There is a high rate of unemployment and the main source of livelihood in Klawer community is agriculture. The community is mostly occupied by an unemployed Afrikaans-speaking Coloured population. Klawer community is situated amongst the Matzikamma Mountains and on the Olifants River; the town is mainly into grape farming for wine production [48]. The community is 281 km from Cape Town; 24 km west-south-west of Vanrhynsdorp and 283 km north of Cape Town [49]. Klawer community is a small town, which consist of 6,234 inhabitants, of whom 9.42% are Black Africans, 75.25% are Coloureds, 0.98% are Indian/Asian, 0.72% are other and 13.62% are Whites [50].

Mbekweni Community. Mbekweni is an urban black township near Paarl in the Western Cape Province [47]. It is a community occupied by Afrikaans and Xhosa-speaking people who had migrated from the Eastern Cape Province in search of job opportunities. Mbekweni is situated in the Drakenstein Municipality (the municipality located within the Cape Winelands District Municipality), and is situated between the towns of Paarl and Wellington in the Berg River Valley region of the Western Cape. Mbekweni has a growing population estimated to be 50,000 [51]. The wine and fruit industries are the main source of informal job creation in the Paarl/Wellington area, having 80% of vines in the country located in the Wellington region [51]. Though the wine and grape industries situated in the community serve as the backbone of the agricultural industry in the region, there is still a high rate of unemployment in the community because very few workers can be employed. The town population consist of 124, 878 residents [49].

4.3 Population and Sample

Three communities were used as study sites of the research. Elim, Klawer and Mbekweni are relatively small towns in the Western Cape. The women were categorised into users (women who used or accessed the telecentre) and non-users (women who did not use or access the telecentre). The non-users were used as a control sample for the study; these non-users were selected from women living in the surrounding environment of the telecentre. Twenty-eight (28) women within the age of fifteen (15) and above participated in the interview session from the communities. We studied the perceptions of a sample of women who are users and non-users of the telecentre. We investigated the reasoning structures of twenty-eight (28) rural women. Purposive sampling was used for selecting the respondents. The users were identified with the assistance of the telecentre managers. Women living within the surrounding environment of the telecentre were selected; women who were present during the time of the interview sessions were selected; and telecentre managers were also interviewed.

Sampling. The sampling strategy used to select the target population and provide the information used in the study was purposive sampling. Purposive sampling is used when the population is too small for a random sample [52]. The purposive sampling

technique is used when the researcher selects samples because they have particular features and characteristics to enable detailed exploration and understanding of central themes and puzzles which the researcher wishes to study [53]. The sample used a qualitative research that allows interviewing until the redundancy of concepts; this is a situation where no new concepts are any longer emerging [54]. The samples used in the study were the telecentre managers, assistant managers, women users (women who use the telecentre), and non-users (women who do not use the telecentre) who were interviewed in different selected communities. Furthermore, focus group discussions were held with women telecentre users.

4.4 Data Collection

The data collected for this study was obtained from twenty eight (28) semi-structured in-depth interviews from women users across three villages. The factors considered in the purposive sampling included usage, gender and age, thereby allowing the researcher to gain a more robust insight into the data by purposely selecting a sample from which most can be learned [45]. Interviews lasted between eighteen (18) and sixty (60) minutes each and were audio-recorded. The interviews were conducted in the languages of English, Afrikaans and IsiXhosa, with the assistance of IsiXhosa and Afrikaans research translators. The study limitation identified was the limited number of women non-users available for the interview sessions. We explained and studied the cognitive representations that these individual women made. Due to ethical reasons, the identities of the participants have not been disclosed.

4.5 Data Analysis

Data was analysed using statistical techniques such as descriptive statistics to analyse the data, while content analysis was used to analyse qualitative data. Thematic analysis from field notes was performed to analyse the data. A descriptive analysis of all study variables and demographic variables examined in the survey interviews was carried out. Data collected from the interviews was recorded, transcribed and translated. Data was collected using a Dictaphone to record the interviews. The data was transcribed word for word into a textual format and digital copies of the data were retained for future reference. In addition, pictures were taken on the study site and used to further give a visual explanation of the activities of the study. Furthermore, data was analysed using statistical techniques. A descriptive analysis of all study variables and demographic variables examined in the survey interviews was conducted. We used codes to represent the identities of the respondents. For example codes K, E and M represent Klawer, Elim and Mbekweni locations respectively. Therefore, codes K2 and E1 were used to identify the participant 2 of Klawer and participant 1 of Elim. Table 2 below shows the profile of the participants.

Table 2. Profile of participants (N = 28)

		Users	Non-users	Total
Ages	15–19	5	2	7
	20–29	9	1	10
	30–39	5	0	5
	40–Above	6	0	6
Qualification	Degree	1	0	1
	Professional certificate	5	0	5
	Matric	9	1	10
	Grade 9 to 11	10	2	12
Location	Elim	6	2	8
	Klawer	7	3	9
	Mbekweni	8	3	11
Employment	Employed	9	0	9
	Unemployed	16	3	19

5 Result

The significant contribution of the research to existing literature is that ICTs are believed to be key drivers for rural development; therefore telecentres are established in rural areas. However, women are usually not specifically considered to be main beneficiaries of the telecentre but rather there has been significant male dominance of the telecentres. Thus there is limited literature on women empowerment and telecentres; therefore there is need for more literature to be provided. Findings show that the use of the telecentre by rural women has been actualised. Some women benefited from using the telecentre despite the socio-cultural perception and gender (male) bias of computer culture.

5.1 Uses

The purpose of the creation of the telecentre is to provide services to communities at a subsidised rate and to empower various communities where they are situated. Government-sponsored telecentres constitute a common non-profit mode of delivery that provides free services to the different communities. The computers in the telecentre have been used to create CVs for job-seeking applicants. Some women also had success stories of getting employment after using CVs created at the telecentre to apply for work. Furthermore, some women entrepreneurs used the computers at the telecentre to source and apply for grants for their personal businesses via the internet. Additionally, the telecentre offered free computer-training to users who signed up to be trained. Other free services such as faxing, scanning, printing, email and internet browsing were also used by women-users. Finally, this study shows the different outcomes from the use of the telecentre in relation to the empowerment dimension.

Information Empowerment. The outcomes from women's use of the telecentre to information empowerment were ICT literacy, access to information and public services amongst some women. Most women-users only visited the telecentre to access social

media platforms such as Facebook and Instagram, and to play games and browse other websites. Very few women visited the telecentre to access their emails and to research. However, women who made use of the telecentre were empowered as a result of having better access to information and knowing what was happening within their communities. Some of the women-users claim women non-users of the telecentre were missing out and not informationally empowered. Women non-users of the telecentre were assumed to have been deprived of the benefits of using computers. Therefore, it is suggested that women should utilise the telecentre to access information that may assist them to deal with issues in their life. A respondent claims:

“I think the telecentre adds value to the people of Elim because they can learn more. You can read there, visit other sites and you can even buy stuff and shop online” (User-E2).

Psychological Empowerment. Women users were able to use the services provided at the telecentre to overcome difficult social situations through self-reflection. Furthermore, the women non-users did not visit the telecentre due to their insecurities and lack of confidence. One of the challenges also confronting these women was the lack of self-esteem to use computers. The assumption was that telecentres are mainly for those with previous computer or personal experience and people who can relate to the use of computers effectively. Most women non-users believed they would be mocked if they visited the telecentre without having the knowledge of using a computer. In addition, some participants lack basic education and do not have the confidence to use the ICT facilities at the telecentre, as in this claim:

“Women’s lack education and some are afraid to come and sit here to learn from the training. They lack confidence and they don’t want to come here” (Non-User-E1).

Social Empowerment. Due to socio-cultural perception, some women did not perceive the telecentre as a public space that could improve their economic standards. Some claim, however, that the telecentre empowered them to strengthen their social relations, knowledge sharing and computer skills. Some women users also claim to use the telecentre to communicate with friends and family via social media platforms such as Facebook, despite having internet-enabled smart phones, as the following participant claims:

“I think the women use the e-centre for social networking because you don’t see a lot of men using the internet for social media but for only if it is business related. I think it is the women that use it mostly for social media not men (lol!)” (User-M1).

Economic Empowerment. Results from this study show that the aim of the telecentre for improving the economic standard was actualised. One of the reasons women used the telecentre was due to the free services provided. This allowed these women to save money to buy other things such as food. However, some women rarely use the telecentre because of the responsibility of managing their families and because of the perception that telecentres were mainly used by men to look for employment opportunities. Services in the telecentre include ICT skills development, support with job seeking and other assistance such as typing of CVs and application letters, job advertisements that are posted at the telecentres and free printing services. The free training courses offered

at the telecentres supported the women in using the ICT services with confidence and improving their employability. Furthermore, some women users claim to have success stories from the frequent use of the telecentre. Finally, women were using the telecentre to obtain information on how to apply for funds and loans. The women were able to get a job and increase their income using the telecentre services, resulting in improved economic empowerment. A telecentre manager says women were able to get employment after completing the computer skills training programs as in this claim:

“Yes, there is this woman whom we helped at the e-centre to get a job, she is a chef and we helped with her CV and she got a job at the children school” (Telecentre manager-K5).

Political Empowerment. There was limited political participation by women in the communities. Despite this, some women use the telecentre to communicate with the authorities through the assistance of the telecentre managers. The telecentre managers attested to the fact that they constituted a link to the government by assisting women to get their complaints across to the government sub-departments such as the parliament, through emails. However, some women users claim they were facing challenges such as unemployment and gender issues, which required support from the government. In addition, women in the rural communities did not know the procedure to initiate contacts with higher authorities. The telecentre managers supported the women to contact NGOs working in the communities to address women’s challenges that were beyond the services of the telecentre, as in this claim:

“The telecentre helps the community to plug in with other community-based organisations and non-governmental organisations” (User-E5).

Cultural Empowerment. The socio-cultural reason that non-users were not using the telecentre was due to their cultural beliefs about the role women play in the responsibility of caring for their family, as in this claim:

“Yes it can because we are poor people and we don’t have computers for our services and many of the women were stranded and many of them have men and because of culture the men would say no to the women and these are not be able to come to the e-centre because she must respect the man” (User-K4).

6 Discussion and Conclusion

6.1 Benefits Women Derive from the Telecentre

The study analysed how the telecentre empowered women in rural communities. Based on empirical evidence from rural communities’ uses of ICTs in the Western Cape Province, the study concludes that enhancing women’s information capabilities is the most critical factor in determining the impact of ICTs on their well-being [9]. Findings derived from the psychological and information empowerment show few women utilised the telecentre to search for information for improving their economic standards. Furthermore, it was shown that, economically, most of the women were unemployed because they were not frequent users of the telecentre and did not partake in the

computer skills training programme. In addition, politically, the telecentre added limited value to women. Results further show some women benefited socially from the use of the telecentre through interaction with friends and family. Some women benefit from the services provided in the telecentres. These include ICT skills development, improved communication, access to information, employment opportunities, access to government information and strengthening of social capital. The findings from the study were consistent with similar studies on telecentres in other rural communities [5]. However, this study did not differentiate the usage of telecentres in terms of gender. This study joins the past debate about the benefits of using the telecentres not being the same between men and women users [1]. However, it is indicated that gender-(male-) biased computer culture did influence the behaviour of some women in the communities who were considering using the telecentres. Subsequently, not all women benefited from the use of the telecentre.

7 Recommendation

The study recommends for future research that telecentres should be used to accommodate programs that can enhance women's capabilities. Moreover, telecentres should also be consciously created as a space that can embrace the information needs of women, thereby empowering women. The limitation of the study was caused by insufficient funds, which was a major limitation in carrying out this research. An additional limitation of the study was the language barrier, which was due to some women lack of spoken English. In addition, some of the respondents had difficulty in reading the interview questions, which was written in English. Based on the analysis of the study, for policy, telecentre design, or future research, the study would suggest to government and NGOs using the telecentre as an intervention mechanism for empowering women in the rural communities of South Africa. This study suggests recommendations to policy makers and NGOs to consider the difference in ICT access and socio-cultural issues that may affect the implementation of the telecentres in empowering rural women. In addition, this study informs the national policy makers on the contribution of the telecentres for women empowerment, rural livelihoods and poverty reduction. The study will also make practical contributions and allow the South African Government and NGOs to use telecentres for socio-economic development. Finally, Cape Access should focus more on the creation of campaigns and awareness programmes for promoting the telecentre in the rural areas to increase women's output of the telecentre.

References

1. Hilbert, M.: Digital gender divide or technologically empowered women in developing countries? A typical case of lies, damned lies, and statistics. In: *Women's Studies International Forum*, vol. 34, no. 6, pp. 479–489. Pergamon (2011)
2. Dasuki, S., Quaye, A.: *An Evaluation of Information Systems Students Internship Programs in Developing Countries: A Capability Perspective* (2016)

3. Wilson, P.A.: Empowerment: Commun. economic development from the inside out. *Urban Stud.* **33**(4–5), 617–630 (1996)
4. Ngumbuke, F.: Gender Impact and Mobile Phone Solutions in Rural Development: A Case Study in Rural Iringa, Tanzania (2010)
5. Mbatha, B.: Pushing the agenda of the information society ICT diffusion in selected multipurpose community telecentres in South Africa. *Information Development* (2015). 0266666915575544
6. Chigona, W., Mudavanhu, S.L., Lwoga, T.: Framing telecentres: accounts of women in rural communities in South Africa and Tanzania (2016)
7. Attwood, H., Diga, K., Braathen, E., May, J: Telecentre functionality in South Africa: re-enabling the community ICT access environment. *J. Commun. Inf.* **9**(4) (2013)
8. Uys, C., Pather, S.: Government Public Access Centres (PACs): a beacon of hope for marginalised communities. *J. Commun. Inf.* **12**(1), 21–52 (2016)
9. Gigler, B.-S.: Informational capabilities: the missing link for understanding the impact of ICT on development. Closing the Feedback Loop, p. 17 (2014)
10. Gomez, R.: When you do not have a computer: public-access computing in developing countries. *Inf. Technol. Dev.* **20**(3), 274–291 (2014)
11. Bell, T.: Village computing: a state of the field. reflections on the village computing consultation, Grameen Foundation, Telecentre.org. Center for Internet Studies and USC. Information and Communication Technologies for Women's Socioeconomic Empowerment, p. 41 (2006)
12. Maitrayee, M.: Telecentres in rural India: emergence and a typology. *EJISDC: Electron. J. Inf. Syst. Dev. Countries* **35**, 5 (2008)
13. Aji, Z.M., Yusof, S.A.M., Osman, W.R.S., Yusop, N.I.: A conceptual model for psychological empowerment of telecentre users. *Comput. Inf. Sci.* **3**(3), 71 (2010)
14. Mukerji, M.: Introduction. In: *ICTs and Development*, pp. 1–11. Palgrave Macmillan, Basingstoke (2013)
15. Hudson, H.E.: Access to the digital economy: issues in rural and developing regions. In: *Understanding the Digital Economy: Data, Tools and Research*, 25–26 May. Department of Commerce, Washington, DC (1999)
16. Heeks, R.: Where next for ICTs and international development. In: *ICTs for development*, pp. 29–74 (2010)
17. Adera, E.O., Waema, T.M., May, J.: ICT pathways to poverty reduction: empirical evidence from East and Southern Africa. In: *IDRC* (2014)
18. Adeya, C.N.: ICTs and poverty: a literature review. In: *IDRC*, Ottawa (2002)
19. Clark, H., Barry, J.: Business ethics and the changing gender balance. *Bus. Ethics: Crit. Perspect. Bus. Manag.* **2**, 273 (2001)
20. Röger, U., Rütten, A., Frahsa, A., Abu-Omar, K., Morgan, A.: Differences in individual empowerment outcomes of socially disadvantaged women: effects of mode of participation and structural changes in a physical activity promotion program. *Int. J. Pub. Health* **56**(5), 465–473 (2011)
21. Hettiarachchi, C.: Role of Information and Communication Technologies (ICTs) in Human Development in South Asia. Department of Management of Technology, University of Moratuwa, Sri Lanka (2006)
22. Brown, A.E., Grant, G.G.: Highlighting the duality of the ICT and development research agenda. *Inf. Technol. Dev.* **16**(2), 96–111 (2010)
23. Bailey, A., Ngwenyama, O.: Community mediation and violence prevention through telecentre usage: ICTs mediating the 'Border Line'. In: *Proceedings of SIG GlobDev Third Annual Workshop*, Saint Louis, USA, 12 December 2010

24. Munyua, H.: Application of ICTs in Africa's agricultural sector: a gender perspective. In: *Gender and the information revolution in Africa*, pp. 85–124 (2000)
25. Hafkin, N.J., Nancy, T.: *Gender, information technology, and developing countries: an analytic study*. In: Office of Women in Development, Bureau for Global Programs, Field Support and Research, United States Agency for International Development (2001)
26. Carter, M.R., May, J.: Poverty, livelihood and class in rural South Africa. *World Dev.* **27**(1), 1–20 (1999)
27. Bobo, T.: *Challenges of rural women*. East London. Masimanyane Women's Support Centre, South Africa (2011)
28. Tacoli, C.: Rural-urban interactions: a guide to the literature. *Environ. Urban.* **10**(1), 147–166 (1998)
29. Sey, A.: *Public access to ICTs: a review of the literature*. Center for Information and Society, University of Washington (2008)
30. Sey, A., Bar, F., Coward, C., Koepke, L., Rothschild, C., Sciadas, G.: There when you need it: the multiple dimensions of public access ict uses and impacts. *Inf. Technol. Int. Dev.* **11**(1), 71 (2015)
31. Nath, V.: Empowerment and governance through information and communication technologies: women's perspective. *Int. Inf. Libr. Rev.* **33**(4), 317–339 (2001)
32. Jorge, N.S.: Engendering ICT policy and regulation: prioritising universal access for women's empowerment. In: *Cinderella or Cyberella: Empowering Women in the Knowledge Society*, pp. 15–47 (2006)
33. Asiedu, C.: Information communication technologies for gender and development in Africa: the case for radio and technological blending. *Int. Commun. Gaz.* **74**(3), 240–257 (2012)
34. Potnis, D.: Beyond access to information: understanding the use of information by poor female mobile users in rural India. *Inf. Soc.* **31**(1), 83–93 (2015)
35. Moser, C.O.N.: *Gender Planning and Development: Theory, Practice and Training*. Routledge, London, New York (1993)
36. Knight, P., Boostrom, E., Brajovic, V., Baranshamaje, E., Cader, M., Clement-Jones, R., Hawkins, R., Schware, R., Slaon, H.: *Increasing internet connectivity in sub-Saharan Africa: issues, options, and World Bank Group Role*. Online World Bank Publications (1995)
37. Obayelu, A., Ogunlade, I.: Analysis of the uses of information communication technology (ICT) for gender empowerment and sustainable poverty alleviation in Nigeria. *Int. J. Educ. Develop. using ICT* **2**(3) (2006)
38. Barnard, Y., Bradley, M.D., Hodgson, F., Lloyd, A.D.: Learning to use new technologies by older adults: perceived difficulties, experimentation behaviour and usability. *Comput. Hum. Behav.* **29**(4), 1715–1724 (2013)
39. Wilson, P.A.: Empowerment: community economic development from the inside out. *Urban Stud.* **33**(4–5), 617–630 (1996)
40. Ahmad, A.L.: The social reality of the Malaysian blogosphere. *Int. J. Arts Sci.* **4**(3), 239–252 (2011)
41. Macdonald, D., Hedge, N.: Enabling voices, making choices: explorations of gender, power and technologically enabled learning cultures. In: *CATaC 2006 Proceedings, Cultural Attitudes towards Technology and Communication*, Tartu, Estonia, Murdoch University, Murdoch, Australia, pp. 435–452 (2006)
42. Suresh, L.B.: Impact of information and communication technologies on women empowerment in India. *Syst. Cybern. Inf.* **9**, 17–23 (2011)
43. Geetha, G.S., Indira, R.: Women, income generation, and political capital in the silk industry in Karnataka. *Gender Technol. Develop.* **14**(3), 423–440 (2010)

44. Bruestle, P., Haubner, D., Schinzel, B., Holthaus, M., Remmele, B., Schirmer, D., Reips, U.-D.: Doing e-learning/doing gender? Examining the relationship between students' gender concepts and e-learning technology. In: 5th European Symposium on Gender and ICT Digital Cultures: Participation-Empowerment-Diversity, pp. 5–7 (2009)
45. Merriam, S.B.: Qualitative research and case study applications in education. Revised and Expanded from "Case Study Research in Education." Jossey-Bass Publishers, San Francisco (1998)
46. Walsham, G.: The emergence of interpretivism in IS research. *Inf. Syst. Res.* **6**(4), 376–394 (1995)
47. Schoeman, S., Visagie, C.: Local history teaching in the Overberg region of the Western Cape: the case of the Elim primary school. *Yesterday Today* **11**, 118–132 (2014)
48. du Plessis, M.: The role of knowledge management in innovation. *J. Knowl. Manag.* **11**(4), 20–29 (2007)
49. Census 2011: Community data profile. <https://census2011.adrianfrith.com/place/160012>
50. Ladley, A.: A guide to legal aid-some issues arising from the refusal of legal aid in the Mbekweni community council case. *S. African Law J.* **99**, 237 (1982)
51. Municipality, Drakenstein: Annual report 2011/2012 (2013)
52. Tran, V.M., Perry, J.A.: Challenges to using neem (*Azadirachta indica* var. *sianensis* Valenton) in Thailand. *Econ. Bot.* **57**(1), 93–102 (2003)
53. Chigona, W.: Should communal computing facilities cohabit with public facilities. *J. Commun. Inf.* **2**(3) (2006)
54. Trotter, R.T.: Qualitative research sample design and sample size: resolving and unresolved issues and inferential imperatives. *Prev. Med.* **55**(5), 398–400 (2012)