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► **To cite this version:**

Samkelo Lutho Booï, Wallace Chigona, Priscilla Maliwichi, Khaya Kunene. The Influence of Telecentres on the Economic Empowerment of the Youth in Disadvantaged Communities of South Africa. 15th International Conference on Social Implications of Computers in Developing Countries (ICT4D), May 2019, Dar es Salaam, Tanzania. pp.152-167, 10.1007/978-3-030-18400-1_13 . hal-02285293

HAL Id: hal-02285293

<https://inria.hal.science/hal-02285293>

Submitted on 12 Sep 2019

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The influence of telecentres on the economic empowerment of the youth in disadvantaged communities of South Africa

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Abstract

We investigated how telecentres influence the economic empowerment of the youth in disadvantaged communities in South Africa and what factors affect their usage. For South Africa, the inequalities are greatly attributed to the apartheid government policy of segregating other races from major development activities. ICT is an enabler to development and may play a role in education, health and the economy. Interventions such as telecentres have the potential to deliver socio-economic benefits for people living in disadvantaged communities. Data for the study was collected through interviews with users of the Smart Cape and a privately-owned telecentre in Cape Town. The study used the Choice Framework as a theoretical lens. The study showed that (i) indeed the telecenters were aiding in empowering the youth living in disadvantaged communities (ii) the youth faced a number of personal, environmental and institutional challenges which limited their use and benefits from the telecenters. This research may help policymakers and project implementers on how to design and implement similar projects in future.

Keywords: telecentre, economic empowerment, disadvantaged communities, South Africa, youth, Choice Framework

1 Introduction

Economic challenges in South Africa are attributed mainly by inequality in the society [1]. Information and Communication Technology [ICT] is believed to play an important role in national development in areas such as education, health and economy [2]. ICT interventions are used to develop community ICT services in disadvantaged communities, for economic benefits, through participation in the global markets and citizens/government interaction [3]. One such intervention is the introduction of telecentres.

A telecentre is 'a physical space that provides public access to [ICTs]' [4 p.73]. Telecentres have the ability to improve human skills that enable people to find jobs and consequently extend their financial capital [5]. Furthermore, telecentres may indirectly improve social capital for youth to interact and share knowledge and directly improve capital assets. In addition, telecentres may contribute to empowerment of disadvantaged communities [6], [7].

There is a plethora of studies on the communal view of empowerment in disadvantaged communities. However, a particular concern is the level of youth unemployment and the inability of the education system to produce the skills required by the economy in sufficient numbers [8]. Existing empirical studies mostly evaluate and focus on the socio-economic influence of telecentres in disadvantaged communities as a whole. However, there is still a dearth of studies specifically focusing on the youth [7], [6], [9]. Most research on empowerment is adult-specific and does not specifically apply to youth [10]. Existing literature relates to the practical and theoretical approaches to youth empowerment that mirror adult issues, with some research relating to

youth [10]. However, there are studies that refer to adolescent empowerment which demonstrate development and self-efficacy as determinants that may lead to empowerment [11].

We argue that youth living in disadvantaged communities can be economically empowered through the use of telecentres. Thus, the research questions for this study are:

- *What factors affect the usage of telecentres by the youth of disadvantaged communities in South Africa?*
- *How do telecentres contribute to economic empowerment of the youth in disadvantaged communities in South Africa?*

South Africa offers an interesting context for the study due to its level of ICT penetration relative to other African countries [12]. The country has one of the highest penetration rates in sub-Saharan Africa [12]. The study used Smart Cape and a privately-owned café. Data was collected through semi-structured interviews conducted at these telecentres. This research may help policymakers and project implementers on how to design and implement similar projects.

2 Literature Review

2.1 Disadvantaged communities in South Africa

In the South African context, disadvantaged communities have a high level of informal settlements. The apartheid system is mainly blamed for the state of disadvantaged areas in South Africa. The apartheid system was designed to create ideological and judicial structures that ensured colour segregation amongst the people of South Africa [13]. The apartheid policy allowed only white people to live in city centre areas where most jobs were situated, whilst non-whites were forced to live in outlying areas, far from jobs [14]. Disadvantaged communities are an example of the post-apartheid effects such as poverty and unemployment which affect predominantly black people [15].

Disadvantaged areas are commonly known as townships. Townships are underdeveloped, usually [but not only] urban residential areas, which were reserved for non-whites [Africans, Coloured and Indians] who lived near or worked in areas designated for whites only during apartheid. The disadvantaged areas are identified by their low buying powers and poor quality of telecommunication infrastructure [16]. A large portion of households in the townships cannot afford technological devices such as laptops and cell phones [17].

South Africa has high crime rates, especially in major cities such as Cape Town [18]. Black townships have the highest crime rates in the country and most victims of crime in South Africa come from poor households located in townships [13]).

2.2 Telecentres

Telecentres are physical centres that provide access to the public for communications, training and information services, using a variety of technologies including telephones, library services, phones, faxes and computers, as well as internet and email [19]. Telecentres were initially established to minimise the inaccessibility of rural and isolated locations to ICTs [20]. The aim of telecentres was to bring benefits of ICTs to support communities through economic, educational and social development [5], [16]. Telecentres were built with an aim to bridge the digital divide between urban and rural communities [5], [21].

Telecentres provide computer access to people who cannot afford their own personal computers; they have become support services for disadvantaged communities [16]. Telecentres offer several benefits such as improving human, financial, natural, physical and social capital, by enabling users to easily communicate [5]. There is abundant literature on telecentre ability to minimise the digital divide amongst rural and urban areas; for decades this has been believed to be, and is, one of the core benefits of having telecentres [5], [21]. There

are many telecentres in developing countries; however, their usage is limited, especially for disadvantaged citizens [22].

2.3 Youth in South Africa

The term 'youth' means different things for different countries and organisations. It is used interchangeably with terms 'young adults' and 'pre-citizens' [10]. South Africa categorises youth as persons between the ages of 14 and 35 [11]. Of the total population of South Africa of 55.6 million, 20.1 million are classified as youth [23]. The current youth are born in a digital age and grow up using ICTs in their daily lives [24].

Youth unemployment in South Africa is high and rose drastically after 2008. Unemployment in South Africa affects youth, especially those who are classified as black, female and/or living in rural areas [25]. In an attempt to combat the shifting economic labour demand in South Africa, resources such as entrepreneurship development, computer access and training, and additional training skills are provided by organisations [25].

2.4 Empowerment

Empowerment is key to community development and enables individual self-confidence, self-direction, independence and self-worth [6]. There are multiple perceptions of empowerment and it is used in multiple disciplines, making it difficult to come up with a clear definition of empowerment that applies across disciplines [16]. Empowerment is the increase in an individual's ability to make effective choices and translate these choices into desired actions and outcomes [26]. Empowerment is also seen as a process that gives power to individuals or groups to make choices in their personal lives, communities and societies [27]. Empowerment is considered a multidimensional social method of enhancing the capacity of individuals or groups to make decisions and transform those choices into desired outcomes [27]. There are different dimensions of empowerment such as social, psychological, economic, cultural, information and political [28].

Economic empowerment entails:

- 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 needs, [c] improved timeliness.

Economic empowerment is the promotion of people by giving them the right skills, competencies, resources and access to secure incomes and livelihoods [29]. Economic empowerment has a strong impact on poverty alleviation, growth and human development [30]. It may be achieved through the use of telecentres to seek employment and alternative opportunities [29]. Literature on economic empowerment is centred on four areas, namely, the promotion of assets of people, transformative forms of social protection, microfinance and skills improvement [31].

2.5 ICTs and economic empowerment

ICTs have the potential to empower by alleviating poverty and facilitating socio-economic improvements [7], [9], [32]. Use of ICTs helps people acquire skills, enabling resources and access to ensure and sustain revenue and livelihoods, to seek employment and additional opportunities [29]. Individuals with high educational resources and information are more likely to find it more easily to use the facilities to enhance their skills and gain more [26]. ICTs may provide economic empowerment by increasing the income of its community members through job creation, job opportunities, saving the community from travelling and lower transaction costs, allowing acquiring of job skills and supporting local businesses with provision of information on the markets [5].

A number of studies allude that telecentres' initial aim is to promote universal ICT usage in underserved communities and eventually empower individuals living in these communities, thus mitigating the digital divide [5], [21], [29]. There are many factors that inhibit telecentres from empowering individuals [22]. Empowerment does not only depend on the availability of telecentres but also includes components such as intrapersonal factors, interactional factors and behavioural factors to achieve a form of individual empowerment [6].

3 Theoretical Framework: Choice Framework

The study adopted the 'Choice Framework' by Klein [33]. The Choice Framework is based on the 'Capabilities Approach' by Sen [34]. The Choice Framework attempts to understand different elements of the development process and aims to view this process systematically [33]. The approach is defined as a process of expanding the real freedoms that people enjoy, leading the lives they have reason to value [26]. 'Choice is both the aim and principal means of development' [33]. The Choice Framework suggests that individuals have the ability, with the aid of their resource portfolios, to negotiate a social structure to attain, using appropriate choices, the development outcomes they wish to achieve [26]. The Choice Framework has four key components: development outcomes, degree of empowerment, agency and structure. Figure 1 illustrates the Choice Framework.

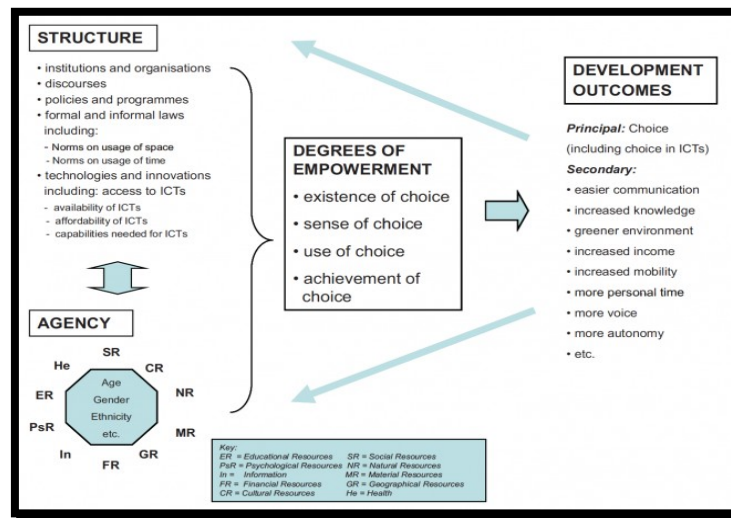


Fig. 1. The Choice Framework (Source: Klein, 2010 p.680)

3.1 Development outcomes

The outcomes may be primary or secondary outcomes. The primary outcomes of a choice are the actual choice itself, while the secondary outcomes are considered based on an individual's choice as to what they value in the lives they live [26]. Choice is considered to be the primary objective and depends on the kind of life an individual values.

Secondary outcomes of choice depend on an individual's choice and the type of life they value. These outcomes include increased mobility and more voice. ICTs may prove to be a useful tool to achieve these outcomes. Other economic outcomes include ease of communication, increased knowledge and increased income.

3.2 Degree of empowerment

Choice represents the degree of empowerment of an agency; this is a product of resources and structural conditions [34]. Degree of empowerment is composed of four categories: existence of choice, sense of choice, use of choice and achievement of choice. Table 2 summarises degrees of empowerment.

Table 2. Degrees of empowerment [Ojo, 2013]

Dimensions of choice	Description
Existence of choice	Describes whether various opportunities exist and are attainable for an individual, provided that their resources and their structural conditions allow it.
Sense of choice	Entails an individual's awareness of possibilities that new technologies offer.
Use of choice	Describes individual's usage of available choice.
Achievement of choice	Is determined by matching of outcome and choice made.

3.3 Agency

Agency talks about an object that has some abilities to use different resources that are inputs to achieving goals [34]. Agency has personal characteristics such as age, gender, ethnicity of an individual, in a given context, which may influence the scope and scale of resources. The resources may include educational, health, geographical, psychological, financial, natural, social, information, cultural or material resources.

To assess the degree of agency, it may be necessary to assess the resources which affect how telecentres empower the youth in disadvantaged communities. In this study, the youth may not be able to access ICTs due to geographical locations and financial resources, or due to limited education resources.

3.4 Structure

A structure has the ability to constrain or enable an agent in attaining their goals. The structure consists of formal and informal laws, rules, regulations, norms, customs, culture, access to technologies, policies and procedures [26], [34]. Elements within a structure have the ability to influence an individual's agency; these include dimensions such as the availability, affordability and capabilities that are needed to use the facilities effectively [26].

The framework enabled us to evaluate how different resources [agency] and structure affect the youth in their quest to achieve development outcomes. Successful economic empowerment of youth is dependent on the agency portfolio, structure and the type of choices the individual makes to attain that development outcome.

4 Study Context

The study used Smart Cape Access Project and Private Internet Café (PIC) telecentres. Smart Cape is a City of Cape Town initiative whilst PIC is privately owned. For ethical reasons we named the privately-owned café 'PIC'.

The Smart Cape project was launched in 2001 with the aim of serving mainly disadvantaged communities in Cape Town. The project runs in almost all public libraries in the city [19]. Smart Cape provides free computer and internet access to individuals residing in the city [19]. To use the facilities, an individual has to register as a member of the library. Users are allowed 45 minutes of free access per day and a limited amount of Wi-Fi bundles per month.

The two centres used in this study are located in the townships of Khayelitsha and Mitchells Plain. Both centres are easily accessible to the public. The centres have between five and ten computers each. All computers are running on open-source operating systems.

PIC was established in 2004 and its main office is located in Cape Town. The organisation has a presence in the Western Cape, Eastern Cape and Kwa-Zulu Natal provinces. PIC has a range of services, including computer training courses, ICT support and telecentre services. The PIC centre used in this study is located in Khayelitsha Township. The center has 30 computers and all computers have?? proprietary operating systems and software.

5 Methodology

The study used a qualitative approach and adopted an interpretive philosophy. Empirical data for the study was gathered, using semi-structured interviews. The research strategy selected is the case-study approach where an in-depth inquiry into the topic within a real-life setting was made.

5.1 Target population and sample

Youth who have lived or are living in disadvantaged communities and use the telecentres were the target population. The youth age group was between 18 and 34. The youth could be unemployed, working or studying at any educational institution. We also targeted telecentre management since they could potentially provide vital information on telecentre usage and opinions on the benefits that telecentres bring. The sample of the study consisted of 18 participants. Since it is challenging to determine that an individual is financially disadvantaged, all youth who used the telecentres in the disadvantaged communities were considered. The research used purposive sampling [35].

Data was collected in June 2017 (eight respondents) and July 2018 (ten respondents). This was done to obtain a diverse data for the study.

5.2 Data collection and analysis

We adopted face-to-face semi-structured interviews. The interview questions were based on the constructs of the Choice Framework. All interviews were recorded and notes were made available to respondents for validation. The interviews took between 30 and 60 minutes long each. The researchers used thematic analysis to organise and analyse the data.

5.3 Ethical consideration

Permission was obtained from Smart Cape and PIC. For ethical reasons, the identities of the respondents were hidden. We gave code names from one to eighteen, using prefix *Resp1* to mean respondent number one and *Man7* to mean manager number seven. ‘Man’ is a prefix we gave to a library assistant we interviewed at Smart Cape telecentre.

6 Findings

6.1 Demographics of respondents

Table 3 summarises the demographic profile of the respondents.

Table 3. Profile of research participants [N=18]

Ages		Gender		Occupation		Income level		Telecentre	
18-23	- 8	Male	- 12	Employed	- 5	ZAR0-ZAR5000 ¹	- 16	Smart Cape	- 12
24-29	- 6	Female	- 6	Unemployed	- 8	ZAR5000-ZAR15000	- 2	PIC	- 5
30-34	- 3			Student	- 5			Both	- 1
35-Above	- 1								

¹ Income is in South African Rand (ZAR), 1 US\$ is approximately 14 ZAR

The majority of the respondents had an income below ZAR5000. This, along with the unemployment status, confirms that the majority of the respondents may be classified as disadvantaged. Frequency of the respondents visits to the telecentres varied; some visited twice a week whilst others once a week.

6.2 Reasons for visiting telecentres

Most participants had similar motives for visiting the centres. These included the short travel distance to utilise resources, entertainment, convenience provided by the centre, technical support, good advertisements, affordability and good service. Customer service was good. '*. . . I feel safe and comfortable as well at PIC and their internet service, with assistance*' [Resp1]. However, they complained that there were too few centres and too many users. '*Firstly, it's convenience; there aren't many of these telecentres around*' [Resp5]. The services at Smart Cape telecentre were free, unlike PIC where there was a charge.

The internet access provided by these telecentres enabled the users to do a variety of activities online. Mostly, they visited the telecentres to do school work, seek employment and use the resources. The environment was quiet and they were motivated to work when they saw other people also busy with their work.

6.3 Agency

One factor which we assessed under agency was geographical resources. The majority of the respondents lived within walking distance to the telecentres and most of them took about 10 minutes to reach their respective centres. Only one respondent mentioned that it was normally about a 30-minute walk to the telecentre from home; however, the respondent did not consider it far.

Many respondents had access to technologies such as smartphones, laptops, TVs, DVDs, tablets and pay satellite TV. A number of participants were able to utilise different technologies in the telecentre such as computers, printing machines, accessing social media and emails, webcams and effectively made use of Universal Serial Bus (USB)'s. This contrasts earlier studies around use of public access points in Cape Town [19], [31]. The difference could be due to the focus on the youth, as young people are generally more technologically savvy [31].

A large portion of the respondents were either unemployed or were students. The income of the respondents ranged between R0-R5000 per month, implying that they did not have much income to spend on accessing ICTs, especially expensive items such as personal computers. Purchasing a computer would be out of reach for those coming from poor communities. Social resources (family and friends) assisted some respondents with funds to buy data before they found out about free internet services at the centre.

6.4 Structures

Policies and programmes: Some policies displeased respondents at PIC. There was a non-refundable usage charge that non-account users incurred at PIC telecentre. If a user paid for 30 minutes and only used a service for 15 minutes, the user did not get a refund for the remaining time. Some respondents mentioned that downloading at the telecentres was not permitted but people downloaded anyway. '*It is not allowed for people to download videos because it is costly due to data costs*' [Man7].

Some respondents felt that the Smart Cape telecentres' 45-minute free access had limitations. The allocated time was sometimes not enough for some respondents to watch all the content they wanted, especially learning material. The time was not enough for watching tutorials; downloading content would be a solution. Once the time was used up, one could not access any other library computer for that day. An alternative would be to go to a telecentre at Cape Town Central for the extra hour after 5pm. This option was not feasible for the majority of people living in disadvantaged areas. The distance to and from the two areas to Cape Town Central library is over 31km and a return fare would cost over ZAR30. Besides, it was not safe to travel after-hours in the townships, especially for women.

Some respondents preferred internet cafés as there was no limitation on time for usage. However, the choice to use the centre was dependent on their financial resources.

Other respondents mentioned that the telecentre users were not allowed to visit certain sites. This law was verbal and there was no automatic site blocker in place.

Norms of usage and laws: The majority of the respondents mentioned that the centres were congested at particular times and on particular days. Normally, weekends and between 1pm and 3pm, the centres were full. The centres were often full when school children came from school. The library assistant noted that children used the place and sometimes played games on the computers. The children's usage of the facilities sometimes caused conflict with adults.

'There is confusion and conflict because sometimes an individual could come in and find a child busy on the computer and ask the child to move so that they can use it . . . according to them, the child isn't doing anything constructive' [Man7].

Designated areas for adults and children would be a possible solution to this conflict. These areas would need to be monitored effectively to ensure fairness. However, the telecentres are too small and it would not be easy to demarcate spaces for different user groups.

The trading hours for the centres were 9am to 5pm, with exceptions of Thursdays (7pm) and Saturdays (midday). People who were impacted by business times the most were the employed because they arrived back at the community after telecentres were closed. A later time slot '*which closes at 8pm*' (Man7) would suit those people. A respondent noted a need for '*an extra hour, especially for people that come from work and are busy during the day*' [Resp4]. Despite fears of being attacked, respondents felt a later time slot should be considered.

Access to technologies: Two main challenges that affected the availability of ICT resources at the telecentres were limited resources and failure in ICT equipment. The computers at the centres were not sufficient for the demand: this resulted in people waiting in queues. Furthermore, the respondents complained about slowness in internet connections, slowness in computers and faulty printers. The hardware was outdated and there was a need for a technician within the telecentres to look into these problems

All respondents had a positive attitude towards the affordability of the ICTs at the centres. Resp1 of PIC believed that although the centers '*. . . are not expensive, they are very cheap*', there was still room for improvement and that there should be lower rates than the existing ones. '*. . . Smart Cape 'free' usage policy allowed users to use the facilities at no financial cost to them.*

One of the factors that require successful experience in telecentre usage is familiarity with ICTs [36]. The Smart Cape telecentres used open-source software. The software created confusion for novice users who were not used to this different software.

The different operating systems posed difficulties for users, especially those with low computer literacy. However, this was not a major problem as there were support services at the telecentres. '*. . . some find that it is an issue to print things on the webpage. So I have also helped some in that regard*'. Clients appreciated the assistance at the centres.

6.5 Degrees of empowerment

Existence of choice: The facilities afforded different choices to the users and potential users. Different opportunities existed and were attainable to the majority of individuals using the facilities. For most respondents, location was not a barrier, since they lived close to the telecentres. Further, they were computer-literate. Further, support from the assistants at the telecentres was available for those who struggled. Although the telecentres had challenges such as slow internet connection and limited space, people still chose to use them.

Sense of choice: The respondents understood the possible opportunities that technologies in the telecentre could bring them. The library assistant noted that individuals had opportunities to ‘*research information, [and] look for jobs*’. However, the majority needed time and effort to make use of the opportunities. When asked on the possible entrepreneurial opportunities that a telecentre provided, Resp6 said ‘*I can only get the information but at the end, it is up to me*’. This illustrated that he was aware that the possibilities and resources were there and it was up to him to use them to achieve his desired outcomes.

Use of choice: Respondents made a choice to utilise the telecentres for a variety of reasons. Some of those reasons were in line with achieving their personal goals. Respondents were aware of the benefits telecentres provided and used them where they could.

Some respondents used the telecentre resources to apply for tertiary education and employment. They saved money when they applied online. Students downloaded school materials at the centre. Aspiring entrepreneurs used the telecentres to access information, communicate with stakeholders and promote their businesses through social media. Respondents realised that although all resources were available at the centre, it was essential for them to make the appropriate choices within a given time constraint to achieve their desired goals.

Achievement of choice: Respondents were satisfied with the telecentre and the impact it had on their lives. Through appropriate choices, some respondents used the telecentres to achieve their goals, such as finding employment. However, after making choices, individuals may or may not achieve all desired outcomes they wish for. For example, some respondents applied for tertiary education, but their applications were not successful.

6.6 Development Outcomes

We focused on the economic empowerment and development outcome. The findings described in this section are only those related to economic empowerment.

Primary outcomes: Primary outcomes occurred when the respondents made choices; in this case, about using telecentres to assist them in achieving their goals. Some respondents chose to use a free telecentre, while others chose the fee-charging café. The major attraction for the café over the Smart Cape centre was unlimited time slots. These choices, to a larger extent, depended on the respondents’ economic status.

Secondary outcomes: Secondary outcomes of individuals depended on the life they would value to have. By choosing to use a telecentre, individuals may value having easier communication with loved ones. Secondary goals attained by respondents included increased income, access to new knowledge, easier communication, gaining skills, more personal time and successful applications for opportunities. Respondents increased their disposable incomes through saving, job acquisitions and entrepreneurial activities.

Telecentre charges were relatively low or non-existent. The centre provided the users with opportunities to save since they did not have to purchase data. This is particularly important since the costs of data in South Africa are considered high and since people living in disadvantaged communities do not have a number of opportunities for free Wi-Fi through shopping centres.

Users saved time accessing telecentre services instead of travelling long distances to access alternatives. The users saved on costs since they did not have to go far to get things done. This is particularly important for the townships since most services are located far. Some respondents submitted job applications online instead of physically going to potential employers. Resp5 submitted his songs using the resources at the telecentre. ‘*I save a lot by using it financially. Imagine if I had to go all the way to Sea Point South African Broadcasting Corporation to submit a song. It’s time-consuming and time is money*’ [Resp5]. The distance between Sea Point and Khaleytsha is about 45km and it takes over two hours and a return fare cost of ZAR50. Resp3 used the facilities to collaborate with her lecturer who was based in another province. Other respondents used the telecentre to communicate via emails and other social media platforms.

The library manager indicated that users were able to get employment using the telecentre resources. Resp1 noted that: *'Yes, that's how I got my current job. I used to come here at PIC, almost every day to submit my CVs online and check on emails and things like that'*.

Another benefit from using the telecentres was knowledge. The library assistant said that: *'There is a lot of information that they can find online, . . . so they can research, even find tutorials and notes. They can also meet business-minded individuals . . . online'*. Respondents also acknowledged that the telecentres made *'information much more accessible'* to people and that the telecentre made it easier than having to travel long distances.

The majority of respondents mentioned that they gained skills through the use of the facilities at the telecentre. Most skills pertained to computer literacy and some were gained through practice and interactions with people in the telecentres. The library assistant explained that computers assisted people in gaining knowledge on how to operate different computer tools. Some also improved non-technical skills such as reading skills and they developed a new perspective on things.

Initially, some people did not know how to use the facilities; however, through the assistance of staff at the centre, they gained some computer skills. *'I gained quite a few skills here and there, especially Microsoft Programs'* [Resp2]. This resulted in Resp2 being able to complete her CV using Microsoft Word. Although the majority of respondents acquired computer skills via the telecentres, some respondents had prior knowledge on how to use the computer before starting using the telecentre facilities.

Children used the facilities to entertain themselves by playing game on the computers. *'Children watch videos, play games. Some of the videos are educational based videos'* [Man7]. *'When I am bored in the hood I just come here and crack that thing on Facebook'* [Resp1].

Resp5 mentioned that the telecentre gave him a greater reach to the population with minimal costs. He was able to promote his music via social media and was able to upload his songs on social media.

7 Discussion and Conclusion

The study investigated how telecentres affected the economic empowerment of the youth living in disadvantaged communities in South Africa. It also investigated factors which might limit the empowerment opportunities. The study found that the youth in disadvantaged areas in South Africa can achieve economic empowerment from using telecentres. The study noted that telecentres may help save costs, as well as facilitate generation of income, albeit in small amounts. Users who had access to laptops and mobile devices still found the telecentres to be useful.

The youth saved on data costs by utilising the facility resources to access data-intensive applications?? such as YouTube. They also reduced travel expenses by using the telecentres to send documents and make applications.

The youth who used the telecentre achieved economic empowerment by gaining improved income, improved employment opportunities, increased entrepreneurs skills and improved access to markets. The computer skills people attained through the telecentres made them more employable. Entrepreneurs used internet resources to promote their products on social media. The internet resource helped them to generate income. Online tutorials also assisted them in acquiring new knowledge. This finding is in agreement with literatures on how telecentres provide economic empowerment [5].

The findings of this study identified the factors that influenced economic empowerment for users of telecentres such as: individual agency portfolios, the choices users made and the telecentre structures. Individuals who lived close to the telecentre, with the right material resources, educational resources, information and geographical resources, were more likely to be empowered. With the appropriate portfolios in place, along with

structure, users needed to make appropriate choices such as using their time at the centres to apply for jobs and learn new skills, instead of doing something less productive.

The youth, trying to access and benefit from the technology, faced a number of challenges. These challenges limited them from optimally achieving economic empowerment. The challenges were at personal telecentre level?? as well as environmental level. At personal level, some users and potential users had poor ICT skills and therefore failed to use the facilities optimally. The high crime rate in the townships prohibited people from bringing their own laptops and phones to access the free Wi-Fi in the area and they ended up burdening the computer facilities in the centres.

The telecentres (especially the Smart Cape) had limited ICT technical assistance, insufficient ICT facilities at the centres, and experienced failure in ICT. The time limitation on the Smart Cape facilities was a great constraint. Users would want to seek assistance but, due to the limited staff, their time slot would be depleted before they had completed the task they wanted to do on the application. The challenge of the time limits at the Smart Cape points and the sister project, 'Cape Access' were noted in earlier studies [29]. The problem is much more relevant and urgent presently with an increase of online content for learning and empowerment. The opening times limited how the people used and benefited from the centres.

To better assist the youth to be economically empowered through the use of the telecentres, these challenges need to be addressed. There is a need for computer training programs to assist youth in speeding up their computer literacy. The youth in disadvantaged communities may not be able to afford to pay for ICT training. Free training, such as that offered by Cape Access [19], [29], would be valuable. The telecentres need to consider increasing the number of computers and staff, as well as sufficient space to better accommodate the high demand for ICT.

References

1. Sulla V, Zikhali P. *Overcoming Poverty and Inequality in South Africa : An Assessment of Drivers, Constraints and Opportunities*. Washington D.C; 2018.
2. Sein MK, Harindranath G. Conceptualizing the ICT artifact: Toward understanding the role of ICT in national development. *Inf Soc*. 2004;20(1):15–24.
3. Avgerou C. The link between ICT and economic growth in the discourse of development. In: Korpela M, Montealegre R, Poulymenakou A, editors. *Organizational Information Systems in the Context of Globalization*. Boston, MA: Springer; 2003.
4. Harris R. Telecentres in Rural Asia: Towards a Success Model. In: *International conference on Information Technology, Communications and Development*. 2001. p. 71–111.
5. Kapondera S., Hart G. The use of multipurpose community telecentres and their services in Malawi: the case of Lupaso Community Telecentre. *South African J Libr Inf Sci*. 2016;82(1):13–25.
6. Tanner M, Osman M. The influence of Telecentres on the psychological empowerment of underserved community members. In: *10th European Conference on Information Systems Management: ECISM 2016*. Portugal: Academic Conference and Publishing International Limited; 2016.
7. Brown J, Hoque S. Community based information services: A comparative study between Bangladesh and Philippine telecentres. In: *First International Conference on ICT for Transformation*. University of Buraimi; 2016. p. 52–7.
8. Mlatsheni C, Leibbrandt M. Unemployment in South Africa. In: *The Oxford Companion to the Economics of South Africa*. 1st ed. New York: Oxford University Press; 2014.
9. Ibrahim Z, Ainin S. The Influence of Malaysian Telecenters on Community Building. *Electron J eGovernment*. 2009;7(1):77–86.
10. Russell S., Muraco A, Subramaniam A, Laub C. Youth Empowerment and High School Gay-Straight Alliances. *J Youth Adolesc*. 2009;38(7):891–903.
11. Chinman M., Linney J. Toward a Model of Adolescent Empowerment: Theoretical and Empirical Evidence. *J Prim Prev*. 1998;18(4):393–413.
12. GSMA. *The Mobile Economy Sub-Saharan Africa 2017*. 2017.
13. Powdthavee N. Unhappiness and Crime : Evidence from South Africa. *Economica*. 2005;72(287):531–47.

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14. Rospabe S, Selod H. Does city structure cause unemployment? The case of Cape Town. In: *Poverty and Policy in Post-apartheid South Africa*. 1st ed. Human Science Research Council Press; 2006.
15. Sekatane M., Sekhampu T. Correlates of poverty amongst households receiving government grants in a South African township. *Int J Soc Sci Hum Stud*. 2014;6(1):11–21.
16. Aji Z., Yusof S., Osman WR., Yusop N. A Conceptual Model for Psychological Empowerment of Telecentre Users. *Comput Inf Sci*. 2010;3(3):71–9.
17. Lenhart A, Purcell K, Smith A, Zickuhr K. Social Media & Mobile Internet Use among Teens and Young Adults. Millennials. *Pew Internet Am Life Proj*. 2010;01:1–16.
18. Lemanski C. A new apartheid? The spatial implications of fear of crime in Cape Town, South Africa. *Environ Urban*. 2004;16(2):101–12.
19. Chigona W, Lekwane O, Westcott K, Chigona A. Uses, benefits and challenges of public access points in the face of growth of mobile technology. *Electron J Inf Syst Dev Ctries*. 2011;49(1):1–14.
20. Mukerji M. Telecentres in rural India: Emergence and a typology. *Electron J Inf Syst Dev Ctries*. 2008;35(1):1–13.
21. Cheuk S, Atang A, Lo M. Community attitudes towards the telecentre in Bario, Borneo Malaysia: 14 years on. *Int J Innov Manag Technol*. 2012;3(6):682–7.
22. Attwood H, Diga K, Braathen E, May J. Telecentre functionality in South Africa: re-enabling the community ICT access environment. *J Community Informatics*. 2013;9(4).
23. Stats SA. Quarterly Labour Force Survey. Pretoria; 2018. (Quarter 4: 2017).
24. Wilson N, Dasho S, Martin A., Wallerstein A., Wang C., Minkler M. Engaging young adolescents in social action through photovoice - The Youth Empowerment Strategies (YES!) Project. *J Early Adolesc*. 2007;27(2):241–61.
25. Wilkinson A, Pettifor A, Rosenberg M, Halpern C., Thirumurthy H, Collinson M. The employment environment for youth in rural South Africa: A mixed-methods study. *Dev South Afr*. 2017;34(1):17–32.
26. Kleine D. ICT4WHAT?—Using the choice framework to operationalise the capability approach to development. *J Int Dev*. 2010;22(5):674–92.
27. Samah B., Badsar M. Factors Influencing Rural Community Empowerment to Achieve Telecentres' Ownership. *Soc Sci*. 2013;8(5):461–5.
28. Bailur S, Gigler B. Introduction: The Potential for Empowerment through ICTs. In: *Closing the Feedback Loop: Can Technology Bridge the Accountability Gap?* New York: World Bank; 2014. p. 1–16.
29. Alao A, Lwoga T., Chigona W. Telecentres Use in Rural Communities and Women Empowerment: Case of Western Cape. In: *Information and Communication Technologies for Development*. Springer, Cham; 2017.
30. Akram S, Shaheen I, Kiymani S. Socio-economic empowerment of women through micro enterprises: A case study of AJK. *Eur Sci J*. 2015;11(22).
31. Sulaiman N., Muhamad R. Empowering the society through companies CSR agenda. In: *SHS Web of Conferences*. EDP Sciences; 2017.
32. Yusop N., Mohd Affendi S., Mat Aji Z, Ibrahim HH, Kasiran M., Dahalin Z, et al. The Influence of Community Characteristics towards Telecentres Success. *Comput Inf Sci*. 2010;3(2):116–20.
33. Kleine D. *Technologies of choice?: ICTs, development, and the capabilities approach*. London: The MIT Press; 2013.
34. Ojo A, Janowski T, Awatwi J. Enabling development through governance and mobile technology. *Gov Inf Q*. 2013;30(1):S32–45.
35. Saunders, M, Lewis P, Thornhill A. *Research Methods for Business Students*. 5th ed. Pearson Education; 2009.
36. Chigona W, Licker P. Using Diffusion of Innovations Framework to Explain the Communal Computing Facilities Adoption among the Urban Poor. *Inf Technol Int Dev*. 2008;4(3):57–73.