

Community Bridging through ICTs: Seeking to Overcome Digital and Community Divides

Arlene Bailey

The University of the West Indies, Mona, Jamaica
Corresponding Author.

arlene.bailey@uwimona.edu.jm

Ojelanki Ngwenyama

Ryerson University, Canada; University of Cape Town, South Africa.

ojelanki@ryerson.ca; o.ngwenyama@uct.ac.za

Information and communication technologies are being utilized to support social and economic development in marginalized communities in developing countries. In this paper, we explore an evolving role for telecentres - that of bridging community divides. Our research is based on empirical observations through a field study, and a content analysis of local newspaper articles. We investigate ways in which these community mediation strategies through telecentres may support social inclusion and development of social capital. The continuing focus of telecentres in the area of community bridging suggests that the factors explored in this study will be of interest to researchers and practitioners in telecentre implementations.

Introduction

Amid ongoing efforts to expand socio-economic opportunities in developing countries, attention continues to be placed on the role of ICTs in enhancing social and economic development (Heeks, 2014; Musiyandaka, Ranga & Kiwa, 2013; Walsham & Sahay, 2006). At the community level, telecentres have been established as part of development initiatives to facilitate access to and use of ICTs to improve livelihoods. Although denoted by many names such as community multimedia centres, community technology centres or cybercentres, a common definition of a telecentre is “a physical space that provides public access to ICTs for educational, personal, social and economic development” (Gomez, Hunt & Lamoureaux, 1999: 17). While each

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telecentre may focus on particular activities based on their community context, they may share a common focus on issues such as community development, social inclusion, and assisting with employment opportunities for community members.

More specifically, there is evidence about the role of ICTs in community integration, crime prevention and peace-building (Paul & Rath, 2014; Erete, 2013; Pal, Freistadt, Frix & Neff, 2009; Warschauer, 2003). While this role may not have been an explicitly articulated goal in some telecentre implementations, this is an outcome which has been observed. This has led to telecentres being implemented with this specific mandate, as developing societies seek to decrease levels of crime and violence. Research has articulated the need for policies to integrate the role of telecentres in violence prevention initiatives (Lima & Furtado, 2008). With a continuing focus on enhancing social and economic development, many telecentres in developing contexts are now being positioned to facilitate bridging activities across communities or among community members. As a result, given the importance of violence prevention in enhancing a community's quality of life, it is useful to examine the benefits and challenges of the current approaches, and potential enhancements. We investigate the role of telecentres in violence prevention strategies and ways in which these telecentre implementations can be designed to improve community outcomes.

Given the debate on the level of contribution of ICTs to development (Silva & Westrup, 2009; Diaz Andrade & Urquhart, 2007; Heeks, 2002; Avgerou & Walsham, 2000) Zheng (2009) suggests that there should be clearer articulation of how and to which aspects of development ICTs contribute. Useful insights can be gained through studies of ICTs for development initiatives which consider the social processes in the implementation environment (Kleine, 2013; Rajao & Hayes, 2009; Avgerou & Walsham, 2000). In the context of telecentre initiatives, it is noted that studies which explore outcomes, lessons learned and their relationship with telecentre sustainability and social change can be useful in guiding further development (Avgerou, 2008).

The deployment of telecentres, which seek to contribute to social and economic development, particularly in rural, low-income or marginalized communities, is a key component of ICT for development initiatives. Noir and Walsham (2007) contend that assessments of ICT for development initiatives should be able to measure achievements which result other than planned outcomes. Further, Kleine and Unwin (2009) argue that it is important to take into account experiences from the implementation of ICT for development initiatives. Gomez and Camacho (2009) highlight the need for further in-depth studies on the usage of telecentres and other public access initiatives. The issue of social exclusion arising from some of the current approaches to the deployment of ICTs for development has also been discussed in the literature. Placing development and inclusion as the focus, rather than access to technologies, has been highlighted as an approach to overcoming one of the divides – the socio-techno divide (Roode, Speight, Pollock & Webber, 2004). The importance of digital inclusion as a focus of these initiatives has been highlighted (Nemer, 2015). Based on the objectives of telecentre implementations, they are well-positioned to assist with bridging the digital, community and social divides, in an effort to support digital and social inclusion. Some researchers have suggested research focus on the dialogue and storytelling that may occur in communities around the community technology centres, and the sense of belonging and collective efficacy that can result (Hayden & Ball-

Rokeach, 2007). While there are studies on the importance of self-efficacy in the adoption of information technologies (Qureshi, Kamal & Good, 2008; Hsu & Chiu, 2004), very little research has focused on understanding how self-efficacy and other concepts in social cognitive theory (SCT) might help explain how telecentres mediate or are implicated in community bridging and integration.

In this paper, we use concepts from social cognitive theory (Bandura, 1988, 1991, 2002) to develop and understanding of the emerging role of telecentres in social interventions involving bridging community divides and violence prevention. We use a qualitative approach to investigate the perspectives of telecentre stakeholders and community members to determine the factors influencing this role and the perception of the value of this role in the community. The rest of the paper is organized as follows: in the next section, we discuss related literature on telecentres and social interventions towards socio-economic development. The research context and method are then discussed and the findings are presented in the following section. An analysis of the findings is followed by a discussion of the implications for future research in the concluding section.

Related Literature

As societies seek to mitigate crime levels, various crime prevention measures have been implemented. Several of the current approaches focus on addressing the socio-economic causes of crime and violence (Pain, 2000). Research has found that the formation of social bonds and social capital through community participation are of particular importance in crime prevention strategies (Saegert & Winkel, 2004). Further, the design of crime prevention strategies and related social spaces should take into account the need for social inclusion and its influence on community participation (Timms & Ferlander, 2010). ICTs and telecentres have been seen as potential facilitators of community building and well-being (Ibrahim & Ainin, 2012).

The ongoing impact of unemployment on crime levels in inner-city communities has been highlighted by Levy (1996). Youth, particularly males in marginalized communities, are exposed or involved in community conflict and violence from an early age (Chevannes, 1999; Gayle, 2002). Due to inadequate employment opportunities, young people are at risk of becoming involved in gangs, which can lead to increased inter-community conflict (Anderson, 2007). Further, illiterate youth are more likely to exhibit delinquent behavior such as participating in gangs, carrying a weapon or fighting (Fox & Gordon-Strachan, 2007). Harriott (2001) reports that most residents of inner-city communities are aware of the benefits of education and a good work ethic, and given the opportunity are willing to participate. The role which interactions on the street corner plays in the formation of the identity of males in marginalized communities has been highlighted by Chevannes (2003). As the social and economic costs of violence continue to be reflected in the society, there have been calls for a greater focus on inter-community relations as a means to resolve community conflicts (Bailey, Branche & Henry-Lee, 2003).

Kuriyan, Toyama and Ray (2006) argue for increased empirical research to investigate the relationship between services provided by rural community access points and social development. Accordingly, there have been increasing calls for further research on the

integration of telecentre services with the social realities of communities (Harris, Kumar & Balaji, 2003; Kuriyan et al., 2006; Roman, 2003; Roman & Colle, 2002). Warschauer (2003) calls for greater attention to be placed on investigating “social structures, social problems, social organisation, and social relations” (p. 211). Kumar and Best (2006) also note that there are a limited number of studies investigating the social impacts of telecentres in communities. In particular, communities facing challenges of issues related to violence, need to have supporting factors of community organization and communication to be able to facilitate change (Gomez & Barón-Porras, 2010).

Theoretical Perspective

While some empirical studies have found that telecentres have played a role in community engagement (Gould & Gomez, 2010), how this happens is not well understood. Three foundational concepts: social learning, self-efficacy and self-regulation, from social cognitive theory (SCT), provide a useful lens for developing an understanding of the role that telecentres play in community engagement (Roman, 2003). SCT posits that individual behavior is based on and guided by learning from observing others within the social environment. Bandura (1988) refers to this as social learning and notes that it occurs and is reinforced through mediated interaction with key role models. Or put a different way, individuals in a social setting model their behaviors by observing and reproducing role types legitimized in the social environment. A key insight of SCT is that the aspirations and beliefs upon which an individual acts are transmitted to him/her by the social environment and ‘role models’ that legitimize certain behaviors (Bandura, 1991b, 2002; Andersen and Chen, 2002). Social learning involves the processing of social experiences (observing the performance of referent others, interpreting meaning and consequences) and developing internal principles and standards for future actions. Furthermore, SCT posits that social learning is the generative basis of both individual and collective action and self-efficacy (Bandura, 2000). Self-efficacy encompasses not only competences for successful performance, but what the individual or collective believes it can do in different in different circumstances.

According to Bandura (1991a) and Stajkovic and Luthans (1998), individuals develop not only self-efficacy and self-regulation, but their beliefs and relational self-identity through social learning. Social learning is viewed as the vehicle through which individuals come to self-identify with a community, conform to its norms and collaborate on its development and growth (Shea & Bidjerano, 2010; Wenger, 2000; Schusler, 2003). Just as self-efficacy is viewed as the basic individual action, collective self-efficacy is seen as the basis for community engagement and actions that lead to development and growth in virtual and face-to-face communities (Hsu, et. al., 2007; Shea & Bidjerano, 2010). From the perspective of SCT, both individual and collective action can be viewed as self-reflexive processes in which the individual or collective use social knowledge to assess the social situation, weigh the consequences of potential actions in the light of goals/expectations and community sanctions (Bandura, 2001; 1989). Elsewhere, Saegert and Winkel (2004) argue that collective self-efficacy supports ‘social cohesion among neighbors’ and enable collaboration on shared goals ‘such as preventing crime and juvenile delinquency’.

Further, Sampson, Raudenbusch & Earls (1997) noted that less violent crime was found in communities which had greater collective efficacy.

Research Context and Method

As community access initiatives continue to be developed in the Caribbean region to facilitate the empowerment of disadvantaged communities, bridge the digital gap and enhance human development, further research is useful in this area (Kleine, 2013; UNECLAC, 2006).

In the Caribbean and Jamaican context, telecentres continue to be integrated in the design of initiatives aimed at contributing to social and economic development (Bailey & Ngwenyama, 2010; Davis, 2005; Durrant, 2006). Telecentres in Jamaica have been established through a number of initiatives and partnerships among international agencies such as the United Nations Development Programme (UNDP), the United Nations Educational, Scientific and Cultural Organization (UNESCO), Inter-American Development Bank (IDB), in collaboration with the Government of Jamaica (GOJ), non-profit non-governmental organizations (NGOs), community-based organizations (CBOs) and private sector organizations.

A non-governmental organization which has specifically established telecentres as part of community mediation and violence prevention initiatives is the Violence Prevention Alliance (VPA). In conjunction with the Ministry of Health's Healthy Lifestyles Programme, in order to mitigate the impact of increased exposure to violence, and to try to reduce the levels of violence and community conflict, the Violence Prevention Alliance has piloted literacy, computer literacy and homework programmes at centres in the community (Samms-Vaughan, 2008). Other organizations, through corporate social responsibility or university-community engagement initiatives, have also been involved in ICT initiatives with community mediation components. These partnerships provide scope for research with the communities (Gurstein, 2011).

This research paper builds on a component of a multi-method, multi-perspective study conducted by the authors (2010). Seven telecentres were selected for this study based on a typology of key characteristics of telecentres articulated by Colle (2000). Sites were purposively chosen to represent different operational characteristics, funding and host institutions, thematic focus and geographic area. Table 1 outlines the telecentres which are part of this study and provides information on the data collection methods employed at each telecentre.

Table 1: Description of Telecentres in Study

Name of Telecentre	Parish	Area	Interviews		Survey of Users
			Staff	Users	
Association of Clubs	Westmoreland	Rural	3	-	-

Bluefields People's Cooperative Association	Westmoreland	Rural	4	4	24
Caribbean Coastal Area Mgmt. Foundation	Clarendon	Semi-urban	2	4	14
Container Project	Clarendon	Semi-rural	1	-	-
Eastern Peace Centre	Kingston	Urban	2	3	23
Liguanea Cybercentre	St. Andrew	Urban	2	2	27
The Source – August Town	St. Andrew	Urban	3	2	-

Direct observation and in-depth semi-structured interviews with telecentre staff and users were conducted at the telecentres. A survey of users was also conducted. Some of these stakeholders were also active members of their community-based organizations. Visits to the telecentres were conducted on varying days and times during the week, including weekends. Given the absence of a database of users for each of the telecentres, users who visited the telecentre during the research period were invited to participate. All staff at each telecentre were invited to participate in the study. The interview guide included questions on the history of the telecentre, services and programmes offered by the telecentres, the level of usage of these services and programmes, demographics of the users, experiences and linkages with the community and other telecentre stakeholder organizations. The interviews and qualitative survey responses were analyzed using thematic content analysis, looking at the emergent theme of violence and crime prevention, community conflict resolution and peace-making.

An analysis of newspaper articles can provide insight into the perception of an initiative that is being presented through the media in the public domain (Qureshi & Trumbly-Lamsam, 2008). Content analysis of such texts can enable the exploration of meanings and relationships of the phenomena under investigation (Krippendorff, 1980). Further, newspaper content provides a useful source for the investigation, particularly through a sociological lens, of aspects such as human behaviour, community life and community social organization (Janes, 1958). Newspaper coverage of community activities also facilitates community involvement and provides a source of data to examine related aspects such as collective efficacy and social capital (Jeffres, 2012; Jeffres, Lee, Neuendorf & Atkin, 2007).

An eight-year period of review (2006 – 2013) was selected and articles (news items, features and editorials) on telecentres from the two major national newspapers were identified and then analyzed.

Research Findings

Empirical Observations

The themes of safe space, bonding and mediation, and skills training were three categories that emerged from an analysis of the data collected at the telecentres. The empirical observations are presented using these themes.

Safe Space

The establishment of community telecentres was viewed by community members as beneficial to community development through the provision of a safe space, particularly for young people. Parents noted that *“It’s a supervised environment for the students”* and a telecentre stakeholder highlighted that *“parents know that the CAP [community access point] site is safe”*.

The value and significance of being able to use community telecentres was observed in the case of some violence-prone communities. It was agreed with the “area leaders/dons” that children must be allowed to go to the telecentre regardless of any conflict or gang war being experienced in the area. One of the telecentre stakeholders indicated that *“We have a centre that runs a homework programme for our community and the neighbouring community. During a war, the youth from the other community can’t access the centre, so we decided even if there is a war going on, students must get to go to the homework centre”*.

Bonding and Mediation

The role of the telecentre in community bridging and violence prevention was reflected through the observation of the development of social ties among students, from rival communities or schools, who use the telecentres. One of the telecentre staff members observed that *“Before they came here, they never used to talk to each other even though they live close to each other. They go to different schools and sometimes they fight because the schools are rivals”*. It was further noted that *“Some of them go to the same school but there is fighting in their communities, so they don’t get along. Then they come to the centre and meet up and even when they are not going to use the computer, they stop by to see how their new friends are doing”*.

The process of community integration was outlined by a community organizer from one of the telecentres who highlighted the importance of the role of the telecentre - *“During the summer camps, even though they all live [within] walking distance, separate buses pick up the children from different roads, then they all come to the telecentre and it breaks the tribal barriers. It helps with community integration.”*

Community activities extended to protection of the telecentre facilities themselves, and included drawing on some of the social capital that had been formed. For example, social networks were used to assist in identifying perpetrators of theft as seen in the case where some telecentre operators in a rural community indicated – *“As soon as the laptop was stolen, we blocked all the exits from the community and drove round and round all night and talk to people until we got some information”*. A similar incident occurred in an urban community where *“the community*

caught the culprit within 48 hours and handed him to the police and the computers were recovered".

Skills Training

Telecentre stakeholders, in recognizing the potential of social interventions through telecentres, have embarked on providing skills training for "unattached corner youth", as part of violence prevention programmes. This was highlighted by one of the community organizers - "*Most of the gun-related crimes were being attributed to this group – those 'unattached youth' who were unskilled, so to address the problem and enhance community life and their quality of life, we had to develop their skills*".

The telecentre concept has also been extended to prison facilities, in the form of a community multimedia centre and radio station. This provides further resources in rehabilitating inmates and preventing a return to criminal activities after their release. An organizer of this initiative explained "*Given that the government and private sector won't hire ex-cons, if they learn a skill where they can work on their own, things will be easier when they come out*".

Text Analysis

The content analysis of newspaper articles revealed key themes in relation to the use of telecentres for community interaction and violence prevention initiatives. The theme of bonding and mediation emerged, in the contexts of interactions in the wider community, and community policing activities.

Bonding and Interaction - Community Policing

Initially, telecentre activities focused primarily on computer literacy. An early reference to the potential for community bridging was described by one of the community telecentre coordinators in a local newspaper. The relationship being formed between community members and police due to the presence of the telecentre was observed – "*It is providing a medium for interaction between residents - especially the younger people - and the police, and it's a place where the community members and the police have been getting to know each other better*" (Cyberspace to communities, 2006).

At the launch of a community telecentre, the Member of Parliament emphasized that the ability to strengthen peace in the area was one of the main roles for the facility. It was further noted that other reasons included "*its ability to bolster a positive relationship between residents and the police, and its ability to improve literacy in the area.*" (Robinson, 2010).

Following the launch of this telecentre at their police station, a member of the police force noted that "*This centre will certainly complement our community policing strategies, as we seek to target at-risk young males, so we can help to channel their energies into more productive areas*" (Phoenix as cited in New hope for dropouts, 2010).

Bonding and Mediation - Communities

In a recent telecentre implementation, the community integration aspect of bonding and sharing, was highlighted as one of the key purposes for the telecentre: *“There has always been a little tension between the Torrington Park and Jones Town areas. Torrington Park wanted their own computer centre and all that but you can’t go around and give everybody their own thing, there must be a common meeting place”*. (Robinson, 2010).

The potential impact was further articulated in a newspaper editorial which argued that the centre could *“foster community peace by being a meeting ground for those with differences.”* (Hope, 2010). The editorial also articulated some of the concerns expressed by members of the society *“The truth though is that the hardcore criminals, carrying guns and other weapons of terror; who are at the heart of gang violence in communities such as Jones Town and Torrington Park, are not likely to go to the police station to use computer facilities.”* (Hope, 2010).

Community members have also observed the changes in interactions among the youth from rival areas in other telecentre implementations. As one community member explained *“...what I realize, and other people will tell you, is that this is the one place the youths can come and behave as one. This place doing a lot for the community. It bringing the community together, especially nowadays”* (Reid, 2008).

Following a review of a community development and crime prevention model which included a telecentre, a community member responded *“It hasn’t failed. I use the cybercentre too, and if the kids had the opportunity to come for free, I know they would come out everyday.... I’ve been seeing children socializing more regardless of which lane they come from.”* (Ramsay as cited in Grants Pen model, 2008).

Initially, the VPA programmes specifically focused on young males - *“This is intended to improve the mental outlook of young inner city men, although other community members have been allowed to join.”* (Ward in Sheil, 2007). The overall goal continues to focus on peace building in communities *“It’s about using technology to help to bring harmony to these communities”* (Ward as cited in New hope for dropouts, 2010).

The bonding that has occurred surrounding the telecentres continues to facilitate collaboration despite challenges that communities have faced. One of the community learning centres was destroyed by fire during civil unrest, and community members have expressed the need for its reconstruction and their commitment to the project - *“I feel very bad because usually you could go over there and do your schoolwork and get help with homework on the computer. Anything that we don’t understand we could just go over there and ask for help. But now we are struggling. If it had not been burnt down we would still have those things. But to see that the station gone and the computer them gone, it just floored me in a way. I want them to fix it up and build it much better than that.”* (Robinson, 2011). A community coordinator highlighted the benefits of the centre and the current need - *“The learning centre was there to assist children with their homework and people who are slow learners. It also assisted students doing their SBAs (School Based Assessment) so people are still devastated because of it. So this is why we want to get it back up”*. Project coordinators working in the community highlighted the bonding

and the further unity that could emerge from willingness to work together in rebuilding the centre following the unrest – *“You see if that learning centre comes out from the dust, it would be the strongest centre we have running. Because it was destroyed; it is showing you that the community, their spirit, is so committed to the fact that they will be willing to rise out of the ashes. They are willing to come together as one.”* (Robinson, 2011).

As community members share experiences within their communities, and hear of initiatives in other communities, there may be some resulting actions and movement toward collective efficacy. Plans to rebuild a community resource centre are highlighted in a recent article – *“concerned citizens from York Town and other stakeholders from Clarendon took a bold step to recapture the troubled York Town Clarendon community from the deadly embraces of rampant criminal gangs. ... Work crew at the resource centre described the project as an invaluable peace-building initiative, and insisted that once completed, the centre will be of tremendous benefit to the crime-ravished southern Clarendon community.”* *“When it is all finished, this will be a centre to develop the human resources in York Town from our homework department and Internet café. This centre will enable persons here to check emails, send and receive fax, do school-based assessments and other information technology task”* (Fisher, 2013).

Skills Training

The founder of a pioneering initiative, the Container Project, notes that *“The primary target group is what I refer to now as the hardest to reach. This is what we call the bad boys. ... And that's probably because that's what I was characterised as”* (Jarman as cited in Harris, 2008).

In the western part of the island, another telecentre facility has been described as *“a means of social reformation for youths. The atmosphere here basically gives a sense of belonging to almost every individual... It is a safe area where young people can hang out...”* (Ricketts as cited in Gardner, 2009).

Most of the community-based programmes focus on crime and violence prevention, hoping to deter involvement in criminal activities at the outset. Modelled from telecentre initiatives, a programme to assist prisoners has been established in some prisons, in an effort to rehabilitate and encourage youth to develop skills and prevent a return to criminal activities once they are released. There is great demand for the opportunity to enroll in the programme. One of the prisoners notes that many of the inmates are *“clamouring to be in the programme, because of the change that they have seen in the others.”* (Prisoner finds joy, 2009).

The community-based programmes have also been part of informal criminal rehabilitation programmes as noted by one of the trainers – *“A couple of them are ‘shottas’, a couple of them live on the streets. But now some of them have gone through the programme ... and some have received jobs.”* (Wilson, 2009). As one participant in the programme explained, he does not hang out on the street corner anymore - *“Right yah now when them si me, them a ask me if mi did gone away, because them notice that I am not too in the area anymore, even though I live here.”* (Wilson, 2009). As another reformed gang member who participated in a telecentre initiative advised *“Don’t be afraid to do the right thing. The big factor for many of these men is*

fear. Fear of what people will say, fear to change their lives, or fear to learn to read.” (Thompson, 2008).

The newspaper article analysis highlighted the expanding skills training focus on areas related to the arts, which also provided opportunities for community members to express themselves through photography, animated graphics and film. The project manager for the Rural Regeneration Project of the Jamaica National Foundation noted that *“They (the residents) have been in the news lately, and we are trying to get those communities deemed challenged communities, in particular the youths to be agents of change”* (Turner, as cited in Titus, 2011). The article describes the training for teenagers from the “troubled community” both in the techniques of photography, and in the use of it for advocacy where they were *“tasked with using photography to examine social issues within their communities by highlighting the positives, identifying problems and seeking to effect affirmative change”* (Titus, 2011). The opportunity for self and community expression was highlighted – *“This is a wonderful opportunity and we intend to maintain the club because this gives us the opportunity to express our views”* (Titus, 2011).

Universities have also become engaged in community collaborations in the area of community informatics initiatives. In a recent project, community members in a neighbouring community to a university have been trained in film making. *“Historic but violence-tainted August Town will host its own film festival. ‘We decided to try to let them tape their stories, because they were very concerned about how they were perceived’.”* (Kelly, 2012).

Another project is being planned involving animation. *“The project will see 15 youngsters, drawn from inner-city communities, being exposed to training and job experience in the field of animation. Targets of the new project are at-risk youths who fall within the 17 to 35 age group from Kingston and St Catherine.”* (Training in Animation, 2013).

As new opportunities are recognized, community groups continue to implement projects to try to benefit community members and the community as a whole. With the development of apps becoming popular around the world, an initiative was launched by a community association. The Spanish Town Citizens Against Gun Violence (STCAGV) embarked on a group project *“geared at providing opportunities for young people in and around the volatile Spanish Town area. This will bring in income for the students, and the country will earn some revenue while we are developing the community at the same time. The Government has contributed towards the purchasing of computers and the refurbishing of the STCAGV computer room.”* (Francis, 2013).

Discussion

The findings can be analyzed through the lens of social cognitive theory, where community members may learn by observing others, and further develop based on the environment and representations in the media. We discuss the theoretical components of modeling, outcome expectancies, self-efficacy and identification in the context of influences of the environment, behavior, media and personal factors.

The interaction with community members, who may be known and trusted, provides a model for unattached youth to emulate. Similarly, observation of others who were on the street corner, and who have now followed a different path and been successful provides a positive learning experience. This was case with the founder of the Container Project, who returned to his community to find it in the midst of an ongoing conflict between rival gangs. There was an imaginary line dividing the main road into warring factions (Levy, Brown, Jarman & Ward, 2009). As a returning resident, he was not affiliated with any side, and proceeded to set up a community multimedia centre. Youth began to come across to the facility and volunteered to help with its development. *“Over time, the divisions were erased from the minds of the community. People started talking to each other again”* (Levy et al., 2009, p. 140). This is an example of the interaction between behaviour and the environment, and the response to social influences. The co-creation and collective use of space contributes to the building of community (da Rimini, 2011; Trotz, 2011).

The social interventions as portrayed by the media, also play a role in the community bridging and violence prevention. Community members who may see the positive aspects of the telecentre intervention highlighted in the media, may be more willing to participate and support the intervention. Further, the iStreet Lab concept draws on the need to build local positive images for the youth. The ability of the mobile bin to broadcast live from the street corner provides greater reach and opportunities for ICTs to be used to build self-esteem. This then reflects the potential of *“empowering people and communities to determine their own futures through developing self-efficacy and collective efficacy”* (Bandura, 1998 as cited in Rogers & Shukla, 2001: 1).

An analysis of the empirical observations and newspaper articles reveals some of the factors which are emerging to influence this particular type of social intervention through the telecentre.

The location of a telecentre was an important aspect of its potential use for community bridging initiatives. In addition to aspects of location such as level of accessibility, ease of use, and environment, the perceived safety and neutrality of the telecentre location became a critical component. The concept of a safe space was an important outcome expectancy, creating an environment which engendered peace-building behavior. Safety includes physical and social safety, where individuals feel socially accepted (Gomez & Gould, 2010). While some spaces may not have originally been seen as being located in neutral territory, they eventually represented a safe space to the youth, based on the internal environment and observed interactions. There was also a change over time, as initially in some cases, the telecentre was seen as the only place where the youth could remove the border line. As the interactions continued, this filtered out to the community, facilitating the community bridging process. These sometimes had to overcome challenges to their continued operations, by negotiating continued accessibility for the youth despite inter-community conflicts. Other telecentres, housed in police stations, are safe spaces which provide an increased sense of security and make facilities available to community members who were at-risk or vulnerable. This type of implementation would not necessarily attract those who already may have been involved in criminal activities.

Location is also a consideration in the decisions with regard to allocation of resources. Telecentre stakeholders have to decide on how best to fund telecentre implementations. Decisions may typically involve deliberations on whether a telecentre is needed in each rival community, and if adequate funds are not available to establish one in each community, implementation may be delayed, in order not to offend any of the communities. The research findings point to the growing potential for these resources to be shared by communities, and play a critical role in community integration and violence prevention. Further, resource considerations include assessment of usage fees for members of the community. As articulated by one of the communities, there was evidence of the youth building social ties, however these interactions at the telecentre were sometimes limited by the lack of availability of funds among community members.

While the initial motivation to use telecentre facilities despite any underlying conflict may be the need to use the computers for educational, business or entertainment purposes, it is noted that the formation of social ties is a result of the interactions, thereby leading to community building. Unattached youth may be vulnerable to recruitment by gangs and other criminal elements due to a sense of alienation. If they observe that criminal behaviour can lead to the attainment of economic benefits, and see this as the quickest and most viable route, this environment influences their behaviour. The presence of the telecentre intervention can provide community members with the opportunity to build bonds, increase social inclusion and self-actualize, realizing many of their dreams and goals.

The formation of social ties also increases social capital. These resources and networks provide a foundation for community development and the mediation process. As noted by some of the participants in the telecentre initiatives, the formation of new social ties with other community members may result, as participants break with former gang members who decide not to participate in the programme.

In assessing the role of telecentre interventions in community mediation and violence prevention initiatives, it is important to examine intended and unintended outcomes. Furthermore, the groups that are targeted may determine the location of the telecentre and the types of programmes offered. For example, it may be necessary to create an environment that does not intimidate persons who have been involved in minor offenses, in addition to providing a safe space for vulnerable, unattached or street corner youth. Those who were on the 'right side of the law' were encouraging community members not to be afraid of visiting the police station, but to see it as a place which had their interests in mind. Their view of this space may have been influenced by earlier observations, and this view would have to be changed through changes in the environment and perspective.

It is important for community mentors to be active in the community and at the telecentre (Diaz Andrade & Urquhart, 2009; Gould & Gomez, 2010; Sein & Furuholt, 2009). Mentors who could relate to the challenges facing the youth were able to suggest positive ideas which could deter them from involvement in criminal activities. Community champions were generally neutral, respected in the community and able to interact with all stakeholders. Given the evolving role of the telecentres in community bridging and violence prevention, and the behaviour modifications

of community members which may result from social influences in the environment, it will be necessary for telecentre stakeholders to adapt their core competencies (Bailey & Ngwenyama, 2010).

As reported by telecentre users, many of these initiatives provided a 'sense of belonging', and a different environment in which to learn new behaviours and overcome any feelings of alienation. In some cases, youth were able to find jobs following their participation in training activities. Some were employed by the telecentre and others volunteered at the telecentres which had assisted in enhancing their life skills. For some, the process of applying for documents such as birth certificates and taxpayer registration numbers represented becoming part of society.

Conclusion

Community-based initiatives may provide model environments for behaviours leading to community integration outcomes. The community initiatives seek to enhance socio-economic conditions to provide individuals with better choices. Community bridging mechanisms can be associated with the formation of social ties and mentoring, which can lead to self-actualization. Telecentres offer a location and media for building social ties and learning skills that can lead to economic opportunity. As social ties and bonding increases within a community, this can enhance collective efficacy. Strong community bonds and economic opportunity could be reflected by a reduction in violence in communities.

We have explored some of the strategies that are being used to facilitate telecentre interventions in supporting community bridging and violence prevention activities, thereby bridging digital and community divides. Some programmes have been able to expand the safe haven created in the telecentre environs to the wider community. Other initiatives have been able to assist the youth, and reduce participation in violent activities through community interventions, but are still working within communities that have internal conflicts.

As telecentres continue to work towards fulfilling their development mandate, continued research will be needed to explore the impact of these initiatives as outcomes emerge. The expanded focus of university-community initiatives, and corporate social responsibility partnerships in this area are of interest.

This paper contributes to the discourse on ICTs for development and the expanded roles of telecentres in social interventions. The expanded role in this developing country context of providing a site for mediation and counseling on violence reduction is key and will be useful for further investigation by researchers and practitioners.

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