

# The Significant Roles of Internet Centre (Information Providers) To Rural Community in Malaysia

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*This paper focuses on community informatics (CI) and how it is best applied to the Rural Internet Centre (RIC) programs to bring about beneficial outcomes to rural communities as a whole. For instance, it is difficult for rural communities to bridge the gap between urban and rural communities as a result of this digital inequality. Therefore the telecentre located in rural areas face challenges to sustainability. Methodologically, online survey and semi-structured interviews were conducted in this research project to establish multi-stakeholders' different views of the effectiveness of CI in RIC program in achieving its aims and outcomes. The results of statistical and narrative analysis of the quantitative and qualitative data are presented and discussed. The findings show that the rural communities are aware of social networking and accept it through the RIC programs. They are willing to learn and improve their knowledge and skills in Information and Communication Technology (ICT) from accessible training courses and workshops. Theoretically, this research has shown that the RIC improved the individual community QoRL with the use of ICT applications and services. Our study reveals effectiveness and acceptability of CI programs in regional and rural Malaysia, and suggests possible further improvements through implementing appropriate public policy programs.*

**Keywords:** Rural Internet Centre, community informatics, social capital, social networks, public policy

## Introduction

Access to information and communication technologies (ICT) has the potential to alleviate poverty, promote economic and social development and improve the quality of life of rural communities. Many developing countries, such as Malaysia have started to build ICT infrastructure in rural areas through the establishment of ICT access points known as telecentres or community e-centres. This is one of the means of increasing access to ICTs in rural areas. The nature and functions of telecentres vary slightly from one country to another (World Bank, 2012), but the common aim is to provide tools and skills to enhance communication and sharing of information among people and promote connectivity.

In this paper, ICT refers to those digital technologies that are now at technology convergence. This paper is primarily concerned with the application of ICT at the local communities in tandem with rural internet centre (RIC) programs. Therefore, in relation to this study, the RIC is one of varieties of public access points that can be regarded as

community technology centres or telecenters. These constitute ‘actual’ community ICT (Gomez et al., 2012).

In this paper, we focus on the perceptions of: (1) managers of Rural Internet Centres (RICs), which provide public access to computers and the internet; (2) RIC users; (3) RIC program committees; (4) Ministry of Information, Communication and Culture (MICC) Director; and (5) Warisan Global (WG) Officer on a Malaysian government program, (currently under MICC) which provides access to ICT via 42 RICs. This is a pioneer telecentre program in Malaysia, which began in 2000 with the establishment of more than 2,000 telecentres. This initiatives within the RIC programs aim at improving economic benefits and building social capital for community in rural Malaysia and enable women and youths, the main end-users to understand the significant of telecentre program.

### **Research Questions:**

This paper intends to answer the question:-

- (1) Does RIC shape social capital (SC)? or
- (2) Does SC shape the RIC? or
- (3) Do SC and RIC shape each other?

In answering these questions, it requires further investigation and evaluation of RIC to purely understand the correlation between RIC and SC.

### **Hypotheses:**

- (1) Hypothesis 1: *RIC will positively shape SC*
- (2) Hypothesis 2: *SC will positively shape RIC*
- (3) Hypothesis 3: *SC and RIC will positively shape each other*

## **Literature Review**

### **Telecentre (Rural Internet Centre)**

Pigg (2003) and Davies et al. (2003) defined telecentre as community technology to promote ICT as a tool, which provide variety of activities, facilities and services for community members. In addition, telecentre is an accessible centre that placed technology and connectivity within the reach of community members. To ensure this, it must be conveniently located within the community, provide affordable computer and internet access at low or no cost (Prado and Janbek, 2013). Telecentres use computers and the Internet to help communities enter the information age and to embrace the knowledge economy (Telecentre.org, 2006). From 2001 to 2010, many telecentre projects have been implemented in Malaysia, including Rural Internet Centres. For the purpose of this paper, an RIC is one of public access points that can also be regarded as a community technology centre or telecentre. These points constitute the “actual” community ICT (Williams, 2005).

## Review on Community Informatics (CI)

Some of the literatures in CI theory, social networks theory and social capital focus discussion on the potential of CI in promoting economic benefit in rural and regional Malaysia communities. The CI is a technology strategy, which links economic and social development efforts at the community level with emerging opportunities in such areas such as Telecentres (Gurstein, 2000). Therefore, the economic benefit is a factor that should be considered besides the social capital. Mason (2001) defined CI as the application of technology to enhance and support social structures. As such, the application can be used to improve the quality of life of the users. CI could also be seen as a strategy to create new patterns of usage that are community based and which concentrate on improving life at the community level. It encompasses not only the technology but also social constructs of what is known as social capital (Attwood, 2013).

Social capital refers to the networks and norms that enable collective action (World Bank, 1999). It is developed through social networks and can take a form of physical capital and human capital, and a 'stock' in which society could 'invest'. Putnam sees social capital from the perspective of trust and participation (Putnam, 2000). Based on economic performance, cross-country comparisons also support the notion that social capital has a positive connection with economic growth (Knack and Keefer, 1997). Previous research on CI indicates that theories for measuring the impacts of CI projects fall into five key areas, namely: 1) social capital, 2) individual empowerment, 3) sense of community, 4) economic development opportunities and 5) strong democracy (O'Neil, 2002).

## Social Capital (SC)

The studies on the interactions between ICT and SC in organisations and community are still in the early stages and have not produced consistent results. This is epitomised in the statement, "At this stage, there is little consensus on the role of ICT in building SC" (Yang et al. 2009). The concept of SC is complex because it involves multi-disciplinary approach for various applications. For example, SC is seen as "resources that linked to networks of more or less institutionalized relationships..." (Bourdieu, 1986). Another author argued that "SC is defined by its function with different entities having two characteristics in common..." (Coleman, 1990). Furthermore, Putnam (1995) defined SC as "features of social organisation such as norms, networks and social trust..." Contemporary scholars have defined SC theory to encompass popularity and trends (Bourdieu, 1986, Coleman 1988, 1990, Putnam 1995a, b, 2002). Regardless of the disciplines/approaches, different concepts of SC has widely agreed by scholars are social networks, trust, and norms of reciprocity (Yang et al. 2009). Portes (1998, 2000) claimed that the meaning of SC varies depending on whether the theories refer to individual or collective SC.

### 1) individual SC (Yang et al., 2009)

Authors like Bourdieu (1986), Coleman (1988; 1990), Lin (2001) and Burt (2001) examined the phenomenon of SC from individuals' perspective. It is regarded as individuals' social network for mutual benefit as a member or user of the network. Here, the focus is on individuals as the unit of analysis, which analysed the benefits to individuals in relationship with others. This is called "individual SC".

**2) collective SC** (Yang et al., 2009)

Some authors, Putnam (1993; 1995; 2000), Woolcock and Naryyan (2000) looked into the extension concept of SC from individual approach to a collective (community) approach. Putnam (2000) argued that the character of SC at a community level resource and social networks have value, which has led to the concept of “Collective SC”.

**The Role of Social Capital (SC)**

Previous studies illustrate that the spread of ICT creates networking infrastructure and this encourages the formation of SC. There is a relationship between Internet use and SC in forming social and personal trust (Pierce and Lovrich Jr. 2003). However, some studies argued that ICT can cause de-individuation. This is the feeling of being isolated from others when interacting with people via a computer (Loch and Conger 1996). For instance, some researchers find that the differences in ICT use may lead to different results. SC can also change the way community live and perceived. Also, the United Nations (2005) has emphasised on the need for government agencies to investigate the role of ICT in building SC because of its benefits. Furthermore, recent studies on economic and social development have examined the dynamic role of ICT and its uncertain consequences for individuals and communities.

SC increases the ability to build and use informational capital because of its trustful relationships that facilitate information flows and make information more meaningful (Fountain 1997). The outcome from interaction and participation in local and external networks is known as social capital. At RIC level, there is a strong sense of collectivism, which promotes sharing of values, norms and visions. The community also built trust, reciprocity and cooperation; formal and informal leadership; and pro-activity among the members (Flor, 2012).

Social network views community as composed of people and the relationships that exist between them. The relationships or ties differ. They are concerned with sharing of resources and/or exchange of support, they were tied to kinship, friendship, acquaintanceship, and sharing of workplace (Granovetter 1986). These social ties may be weak or strong. Thus, the RIC is full of bonding ties between the communities. According to social network theory, weak social ties are “generally thought to bring new information (information that led to a new job) while strong ties brings social support” (Kathleen 2005).

The extent to which social capital (SC) exists in a community is therefore a critical factor in the community’s receptiveness to CI initiatives and its acceptance of the technology. Consequently, this dictate the likelihood of the CI initiative to succeed and be sustained (Mannion 1996). It is clear that SC, CI and RIC overlap and thus interdependent as shown in Figure 1, which is examined below.

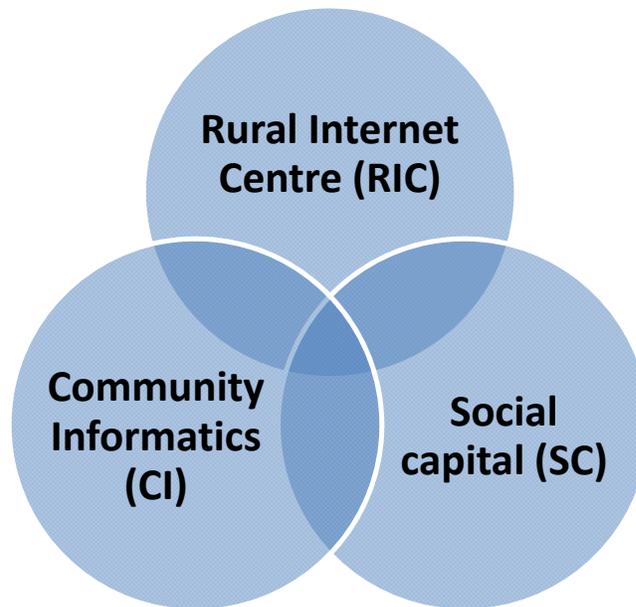


Figure 1: The relationship of CI with RICs and Social Capital  
 Source: developed for this research, 2011

## Methodology

This present research employed both quantitative and qualitative methodology techniques to collect and analyse data about the effects of RICs on perceptions of multi-stakeholders on the role of community information providers in Malaysia. The paper was divided into three main stages. The first stage involved an extensive review of relevant literature. The second stage involved the primary data collection for this present research. The data were collected from an online questionnaire distributed to 42 RIC sites. However, only 210 respondents/RIC users responded to the questionnaire. Finally, the third stage involved data collection through semi-structured interviews with the relevant Director from MICC, the Head of Community Development at WG and RIC managers, ex-users, non-users and management committee members. This is shown in table 1 below, the summary of the research program.

Table 1: Summary of research program

	Research method	Sample	Data	Objective
Stage 1	Literature review	N/A	Secondary	Review of the literature and then development of an appropriate research design.
Stage 2	Study 1 – Explanatory <i>Online survey</i>	210	Quantitative	Assessing perceptions of RIC users.
Stage 3	Study 2 – Exploratory <i>Structured interviews, observations</i>	25	Qualitative	Explore the RIC programs and the effects on QoRL.

For better understanding of the importance of CI to RICs, we have conducted in-depth interviews with senior officer/director, managers/assistant managers/caretakers available in the centre (some centres/RICs are managed by caretakers), and the program committee. We conducted semi-structured interviews (face-to-face) with eleven selected sites. The purpose was to identify and where possible, quantify the changes in social and human capital and the increased in employment and business activity that relate to the presence and usage of RICs. Table 2 illustrates a summary of interview locations and selection of interviewees for the purpose of this paper.

Table 2: Summary of interview locations & selection of interviewees

Multi-stakeholders (interviewees)	Criteria for purposively selected	Location	Total
Director	Steering committee- decision maker & monitor the RIC program.	Ministry of Information, Communication & Culture (MICC) -public sector	1
Senior Officer	Steering committee-organized training & entrepreneurship.	Warisan Global Sdn. Bhd(WG)-private sector	1
Managers	Operational-4 regions purposively selected	RIC – Northern (4), Eastern (4), Central (2) and Southern (1)	11
Community (non-users&ex-users)	End-users	RIC – Northern (2), Eastern (2), Central (1) and Southern (2)	7
Management Committee Members	Volunteers as a trainer and representative to the target group	RIC – Northern (1), Eastern (1), Central (1) and Southern (2)	5
			<b>25</b>

Note: Total of eleven RICs based on region

The interviewees were purposively selected from four different regions. Hence, the criteria for the selection were as follows: (1) Director MICC – is the one who makes decision and monitoring. (2) Senior director WG – conduct training program for trainers and social entrepreneurs. (3) Managers – responsible for the operational of RIC program. The regions were purposely selected based on the managers’ response to the email sent to them respectively. Also, the RIC portal offered useful information about the community. (4) Community (non-users & ex-users) – purposely selected upon visitation to the RIC locations (unplanned). (5) Management committee members – during the visit made at each selected RIC, some of those that visited RIC were interviewed (see Table 3). The next segment of this paper explains and discusses the key findings from the managerial and users’ perspectives.

## Findings from Managerial and Users’ Perspectives

The findings summarised in Table 3 are the results from the interviews data with program Director. In 2008, MICC is urged to focus on Human capacity building at RICs. Hence, MICC business model focus on Social Entrepreneurs Club (SEC). It involves SEC business operations and sustainability. SEC purpose is to create job opportunity, business and build

social networking for the rural community. This results show that SEC is an indicator to increase quality of life (QoL)-(Director, 2010).

MICC Director explains:

*Entrepreneurs' development, we introduced Social Entrepreneurs Club at the RIC. We give them online business, what are the things they need to do, need to have, the managers will teach, guide and assist them the business strategy and marketing their products. Starting the year 2007, MICC wants the RICs to be sustained and operate on their own. The term sustainable is in terms of their operations. That is why in 2008, we bring in entrepreneurs (SEC) to support the RIC to generate income.*

Table 3: Main findings from MICC Director

Multi-stakeholder	Community Informatics	Social Capital	Economic Benefits
Director	SEC as a factor of QoRL	SEC human capacity building social networks Community development	business operations & sustainability job opportunities business networks

Source: developed for this research, 2011

In summary, the findings revealed that RIC is more involved in SC benefits than the economic benefits (EB) as shown in this present research. Hence, the community benefits more from SC than EB in rural Malaysia. This finding is in correlation with the main findings from the WG officer as explains in Table 4 below.

Table 4: Main findings from WG Officer

Multi-stakeholder	Community Informatics	Social Capital	Economic Benefits
Officer	Entrepreneurs' characteristic	capacity building SEC GEW event/program social connectedness as a factor of QoRL	RIC sustainability

Source: developed for this research, 2011

Warisan Global (WG) is a private company and a RIC manager and currently in partnership with MICC since 2008. The main reason of this partnership (Multi Stakeholders Partnership) is to ensure that the government meets its target of upgrading the RIC project. Therefore, Capacity Building has been implemented at RICs with the cooperation from the RIC managers, RIC committees and the communities. To enhance the capacity building, WG introduced SEC with the sole aim of bringing a lot of benefits to the members or users to enhance RIC sustainability. Once SEC benefits members, it will also benefits RIC users and indirectly benefits other community. As seen here, the entrepreneurs' characteristic is one of

the factors of QoL (Officer, 2010). This is evident from the view of an officer of WG who opined as follows:

*SEC contributes to users who are members of the SEC as a platform for entrepreneurs to put up their products, pamphlets, and poster... we give discount for printing, pamphlets, brochures and we can also provide for example; create a Blog for free... SEC also benefits the members because the RIC is a centre, thus there are a lot of people will know about the products through the RIC. [Eastern 3 Manager]*

Another similarity is that the SEC members benefited from having business networking, social relationships and employment opportunities through the connection of Global Entrepreneurship Week and indirectly from SEC. Another officer said:

*... They have lots of great entrepreneurs and got the connection through GEW. Therefore, they can be close and work together, have the networking. All of these become inspiration source for the users/members to be entrepreneurs and encourage the others to become one...this is as a source of employment opportunity... GEW; it is a place for RIC to sustain with the help of the community. Before this, the entrepreneurs move by themselves, but now the community and entrepreneurs move together. [Northern 2 Manager]*

The SEC was seen as a critical initiative which could generate income for the RIC program and thus sustain the RIC financially (self-sustainability). Furthermore, the club can be successful if the RIC can convince the local community of the benefits to be gained by individuals by becoming entrepreneurs and having their own business. On this note, it was said

*Many RICs do not run SEC actively... we had to focus on training (core business-70%) and 30% on entrepreneurships...this is more towards making the RIC sustain and that is why we need SEC. In my opinion, the SEC is good if we know the way and will succeed; we can see that, it is just that the local community here they cannot see the benefits...we do not have any influence people because we do not have committee. The SEC can generate income. [Central 1 Manager]*

The SEC is also meant to provide business opportunities for RIC users and/or SEC members in entrepreneurship. The online survey results regarding business opportunities arising from SEC are shown in Figure 2, which provides an overview of the perceived benefits of SEC membership for RIC users.

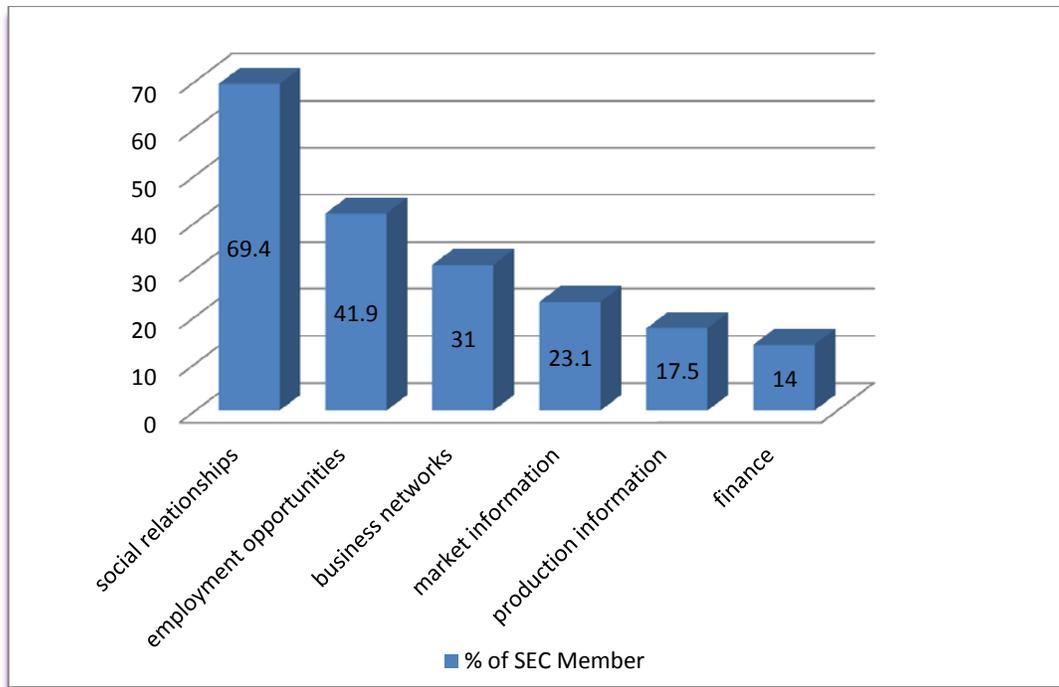


Figure 2: Perceived benefits (SEC) of SEC member

The most identified benefit is social relationships. SEC would bring the members together and for some, help establish networks. However, SEC was considered of less benefit to members in terms of market, production and finance aspects. In comparing the findings of the RIC users' perception of SEC benefits with those of the RIC managers, similarities and contrasts in their perceptions are revealed.

For instance, the RIC users' overall perceptions of perceived benefits were shown in Table 5. These results are interpreted based on the RIC users' comments pertaining to a set of open-ended questions in the online survey where they were asked to rate the statements in terms of what the RIC users hoped to gain or benefit from using the RIC.

Table 5: Summary of RIC users' perceptions on RIC perceived benefits

Themes:	Total responses (n=202)	% (n=202)
<b>ICT knowledge &amp; skill (human capital)</b>	122	60
<b>RIC services &amp; facilities</b>	44	22
<b>Economic benefits (employment, income-business)</b>	24	12
<b>Social capital</b>	20	10
<b>RIC sustainability</b>	7	4
<b>Bridge digital divide</b>	3	1

In the online survey, the RIC users were provided with the opportunity to provide some open-ended comments about a number of aspects of the RIC program. The following provides summary of the key findings in relation to the qualitative data collected in the online

survey. In the open-ended comments provided in the online survey, RIC users gave accounts of how RIC usage promoted their self-confidence and expressed their view about ICT knowledge and skills as a valuable asset in their life. This statement about the importance of ICT knowledge and skills (human capital) had the highest number of responses from the users (60%). A number of users indicated that ICT was a means for them to stay abreast of the changing world and gain economic benefits (12%) and to be an informed and knowledgeable person, enhance their social awareness and networking (10%). These results show how the RIC users perceived the benefits of the RIC on various facets of their lives. However, only one percent of respondents RIC users perceived the RIC as a benefit for bridging the digital divide in rural communities. Thus, it may be that individual RIC users were not really concerned about the digital divide as much as the government was concerned about the implication of the digital divide for rural communities as a whole. It may also be that individual RIC users did not understand what is meant by the digital divide. These findings are also in contrast to the survey findings on the importance and significance of social capital. That is, when directly asked, the respondents were more focussed on the human capital and perhaps are not noticing the social capital effects or do not consider them obviously important.

The main findings from interviewing of 11 RIC managers are summarised in Table 6.

Table 6: Main Findings from 11 RIC Managers

Managers	1	2	3	4	5	6	7	8	9	10	11
Region	Northern 1	Northern 2	Northern 3	Northern 4	Eastern 1	Eastern 2	Eastern 3	Eastern 4	Southern	Central 1	Central 2
CI:											
basic Training	Training package, sessions & categories	ICT Web 2.0 entrepreneur training – compulsory	Training schedule and duration of time/period	Usage and courses	Advance courses based on demand	2 packages of training and 3 Stages	Target group categories and workshop contents	Daily classes, limited PCs, workshop-individual basis, informal and also training based on target	Train the committees and users to be trainers and also open on weekends improve knowledge & skills	Good responds from the youth and contact one of them and they will contact each other	Workshops for all categories-did not focus on specific category
business networks	ICT knowledge	marketing online sharing education business networks = business contacts	do not see-sure-less business relationship	N/A	not between the youth but between entrepreneurs	seldom-business contacts	N/A	business relationships business opportunity-not much	business opportunity & networking Online business Online profit	business opportunity-not much Plan for insurance service-income	business opportunity
job opportunities	job opportunity less got jobs-but still using RIC entrepreneur	RIC inform job vacancies advertise at SEC	seeking jobs youngsters	job opportunity	verbally informed-jobs	Use cert-got job-youth Online business-increase income	before, during & after they got jobs offline-entrepreneurs	training on Jobs.Malaysia youth-jobs unemployed-employed increase QoRL	recommend jobs permanent jobs	jobs online-a lot -SEC can generate income but not active	no financial contribution-apply jobs & got jobs-advertise job-based on own experience

	Join GEW-Business opportunity										
<b>SC:</b>											
social relationships	youth got friends-elderly & women- quite difficult	close relationship	social relationship	social relationship & network	active via offline	social relationship	youth made contact-known or unknown all categories	those from different areas within & outside RIC	offline, then online-more friends	regular users-ex-users still visit & contact managers distribute information	increase contacts-a lots of social relationship
social networks	inform friends	friends online & offline add at Face Book, then meet at RIC	Family member also joins	N/A	internet-social networking	personal contact	N/A	N/A	social networking	guide and advice users build networking & share ideas-created Face book to get opinions	promotion & networking
SEC	N/A	resume kept at SEC	N/A	N/A	Social entrepreneurs	N/A	N/A	N/A	N/A	advice service-is not working-	not active & applicable to users that join the event
Bonding SC	N/A	Web communication (Web2.0)	N/A	N/A	Not between group categories	N/A	N/A	N/A	N/A	internal RIC-new contacts/friends	N/A

Bridging SC	N/A	Great entrepreneurs Connection & networking	N/A	N/A	Not between group categories	N/A	N/A	N/A	N/A	external RIC-new contacts/friends	N/A
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*Relationship between RIC managers & community*

*CI-Community Informatics*

*SC-Social Capital*

*N/A: not applicable*

*Source: developed for this research, 2011*

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From the analysis of the interviews of eleven RIC managers, there was consensus that the biggest impact of the RIC was its direct impact on the basic training, influence on employment opportunities and promotion of social relationships between RIC users. However business and social networks also appeared to be part of the big impact of the RIC. Despite the variations between RICs, most RIC managers have identified positive impacts of the RIC program on CI. These include: ability to learn computers, having business networks and ability to find jobs, as well as on SC, ability to meet people and ability to communicate with family and friends (see Table 6). In contrast, there are some disagreements among the managers of their perceptions on Social Entrepreneurs Club (SEC) at RICs. Some managers contended that SEC does not bring benefits to the SEC members. However, five of the RIC managers interviewed thought that SEC brought benefits to the local rural community and the RIC. As for social entrepreneurs, the benefits were expected in their long-term learning process.

All of the RIC managers strongly agreed that RIC do brings job opportunities to users. They said that most of the users got jobs through RIC and most of them are youngsters. This is through jobs online and the managers were informed verbally by the beneficiaries. Besides, if there is a job vacancy, it will be advertised at RIC or SEC and the resume will be kept at RIC. The manager is also the ones that do the recommendation (referee) and most of (about 90%-data from interview with managers) the youngsters use the certificate from the training at RIC to apply for jobs and got permanent jobs. The program committees of RICs encompass *Pos Malaysia Berhad's* personnel and volunteers from amongst the members of the community. While each community is unique, some of the RICs committees are among district officers, local champions, head of villages, representatives from target groups, which comprises of teachers, other civil servants, farmers, women or youth leaders that will represent the educational or agricultural or some other major sector in the community (Committee 1, 2010).

Table 7: Main findings from five Program Committees (PC)

PC	1	2	3	4	5
CI: Benefits	√	√	√	√	√
EB: Business networks	√		√		√
SC: SEC-social networks-relationships between the MC & community		√	√		√

Source: developed for this research, 2011

Note:

PC 1: **CI:** Benefits - RIC needs, inspired rural community, Support RIC, Lots of benefits

PC 2: **CI:** Benefits - Community priority, Opportunity to learn, Lots of services

PC 3: **CI:** Benefits - RIC unique, Strategic location, Many facilities, Target categories, Rural development

PC 4: **CI:** Benefits - Assist managers, Increase number of users, Disseminate information

PC 5: **CI:** Benefits – Confident, Share information, Communication, Improve public relation skill

PC 1: **EB:** Business networks - Improve in knowledge & skills, Generate income-services +fund +sponsor

PC 3: **EB:** Business networks - Business networking, Injecting business, Marketing & promotion online

PC 5: **EB:** Business networks - Business relationship, Different types of entrepreneurs, similar business nature-complement each other

*PC 2: SC: Feedback not good, not committed, less cooperation, Entrepreneurs-not socialise, Elderly contribute ideas*

*PC 3: SC: ICT entrepreneurship, Community development, Benefits to community, Social entrepreneurs, Long-term learning process, Idea & networking, Social relationship, Open entrepreneurs' mind*

*PC 5: SC: RIC & SEC parallel and consistent, To socialise-build social relationship*

It was found that not all RICs have active committees. From eleven RIC sites visited, only five committees were willing to be interviewed. Some RICs do not have committee. Some elect the committee through annual meeting, but in reality they did not function as a committee. It has become apparent that there are no committees in the Central region. It is important that the local community accepts internet and ICT, and the RIC outcomes should benefit community and reach the people. The activities/programs available at the RIC are derived from the online resources. This is the information and knowledge culture gain via ICT. The elderly do not focus on technology, but on 'Media'. ICT has become a necessity in their daily lives, and indirectly the need for RIC (Committee 4, 2010).

In addition, RIC and SEC help a lot to make people confident and start a business. This is through sharing information and communication notwithstanding the differences in communication methods. It further improves public relation skills. The RIC and SEC are parallel and need to be consistent. SEC is to be socialised, build and develop social and business relationships. These entrepreneurs need to be socialised to ensure long-term benefits and a continuous contact. For example, different entrepreneurs of the same business area can complement each other through continuous contact. Thus, RIC is promoting internal affiliation while the SEC is considering being external (Committee 4, 2010).

## Discussions

The RIC users perceived the SEC and Global Entrepreneur Week differently based on specific purposes. The purposes met some of the target groups' benefits. However, some elderly, women, entrepreneurs and middle-aged users did not see how the SEC benefits them. Their main purposes of becoming SEC members and participating in the SEC and in GEW events were mainly the same, which was to gain social relationships and made business benefits. This club and event participation matched the target groups' needs. However, not all users of RICs were benefiting from them. This evidence was captured from one of the interviews with an RIC manager. Most of the RIC managers seemed uneasy towards the Social Entrepreneurs Club. This has resulted in ineffective SEC activities in some RIC locations and further hindered RIC sustainability.

From the findings, the obvious benefits or outcomes of the RIC program were economic improvements in terms of standard of living, improved quality of rural life and building of social capital within rural communities. Therefore, the finding of this study implies that even though there were obvious economic benefits from the RIC program, the social outcomes seemed to feature most strongly. According to the RIC managers' broader evaluation of the RIC program, there were limited economic benefits to date. The RIC generation of significant economic benefits was a long-term goal beyond the time horizon. Indeed, this was not a main objective of the RIC program. The main objective was to bridge the digital divide.

For instance, the Global Entrepreneurs Week event brought many entrepreneurs to the SEC and RICs. The entrepreneurs generated ideas and networks and also moved together with the local community. With the implementation of the SEC, and the perspective of the role that social capital plays in community information initiatives and community development, participation or involvement in community activities extends social networks and leads to greater social capital. Related to this research, the RIC was an example of bonding ties, within the RIC, or bridging ties that formed a bridge between communities. According to social network theory, “weak social ties are generally thought to bring new information (information that led to a new job) while strong ties brings social support” (Williams, 2005). This study agrees with this statement that the RIC built SC and also created employment opportunities for rural communities. In addition, the RIC is a social support to the RIC users.

## **Recommendation**

Recommendations for the Malaysian government and local governments for promoting and harnessing RICs are that government should: (1) extend the community informatics approach or policy, (2) invest heavily in technological infrastructures that underpin RICs, (3) enhance social entrepreneurs and social capital in RICs, and (4) develop collaboration and cooperation in RICs.

1) Extend the community informatics approach or policy for programs like the RIC – the CI approach is crucial for rural communities, it does not focus on the economic capital alone, but also on social capital. This eventually gives the opportunity to the community to improve and change their quality of rural life. Therefore, extending the CI approach is necessary for the RICs as continuous improvement and sustainability is a concern.

2) Invest heavily in technological infrastructures for programs like the RIC – the Malaysian government has invested in ICT infrastructures; however the investment is not heavily invested in the rural areas of Malaysia. There are some rural areas which are benefiting from the ICT infrastructures, while there are still rural communities in other areas that are not receiving the ICT benefits. This is somewhat unequal segregation between the rural areas. Also, compared with urban areas, the rural areas are lagging behind in access to ICT infrastructure and particularly high speed fixed wire and wireless Internet.

3) Enhance social entrepreneurs and social capital in programs like the RIC – the RIC Social Entrepreneurs Club initiative is an attempt to encourage the local community to get involved in entrepreneurship and socialised within the environment. The focus of the initiative was to encourage people to start and expand their business and also at the same time, build social networking and relationships. At the RIC and SEC, this can be seen as social capital. The people were connected and made contacts through the RIC and indirectly, the SEC. The RIC and SEC should enhance social entrepreneurs and social capital, thus, the local community will participate more and gain more from RIC benefits.

4) Develop collaboration and cooperation in programs like the RIC – the RIC has multiple stakeholders involved within the program. This collaboration and cooperation between the key stakeholders in the RICs is necessary to run the project successfully. Therefore, the

involvement from the grassroots groups of people is crucial as the community members and leaders will know what they want from RIC. Hence, an active management committee at each RIC is a must to sustain the RIC for the next few years. On the other hand, the private companies in the ICT sector and non-government organisation are also the key stakeholders with whom the RICs should develop collaboration and cooperation. For example, most telecentres in India are run by NGOs, not directly by government. Thus, the research outcomes and recommendations are aligned with the NKRA's program under the Tenth Malaysian Plan (Tenth MP, 2010).

## Conclusion

Community Informatics (CI) is a research area that has very clear policy implications, starting from the issue of digital divide to a constantly adoption and use of RICs in rural Malaysia. CI focuses primarily on the socio-economic impacts of RIC initiatives, rather than technical impacts. As such, the RIC is one of the telecentres/CEC implemented by the Malaysian government to emphasise and investigate further on the importance of CI and SC initiatives. This is also one of the processes that provide a foundation upon which to build appropriate theoretical models and frameworks for objective evaluations of CI. Since RIC has been established for more than five years, its continuation is a recent issue. RIC should be well organised and coordination by Economic Planning Unit (EPU). It is a best model implemented by the government for rural community with the policy stand point to ensure community development. MICC is focussing on transformation model from which RIC will generate income and be sustained. Hence, it will become evolution of community business centre. However, RIC is a government project and the goals and objectives are towards social oriented, not profit oriented. Thus, it could be concluded that there is a relationship between CI, SC and RIC within the context of community ICT. However, the issue of how strong and weak are the ties of these relationships are still the subject of concern of the study area. Nevertheless, this paper has been able to show the overall positive contribution of CI program in regional and rural Malaysia.

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