Collaborative Model of Institution of Higher Learning - Rural e-Community Development

Huda Ibrahim, Zulkhairi Md Dahalin, Azman Yasin, Mohd Khairudin Kasiran, Nafishah Othman, Nor Iadah Yusop, Zahurin Mat Aji, Md Zahir Mat Cha, Mohd Amir Abu Seman
Universiti Utara Malaysia
huda753@uum.edu.my
zul@uum.edu.my
yazman@uum.edu.my
mkasiran@uum.edu.my
nafishah@uum.edu.my
noriadah@uum.edu.my
zahurin@uum.edu.my
zahir@uum.edu.my
mohdamir@uum.edu.my

Abstract

This article presents a finding on the roles of Institution of Higher Learning in collaborating with rural community in meeting the information needs of rural community and bridging the digital divide. With the latest ICT and Internet technology, there are vast opportunities for rural communities to access to all kinds of information. Telecentre is one of the e-Community projects funded by the government and private sectors provided to support the information access. However, there are some challenges faced by the rural communities. The current statistics imply only a small proportion of villages in the country enjoyed ICT facilities through telecentre. In addition, communities could also be in a situation of having difficulties to choose the right information due to over-abundance of information readily available. Efforts must be given to the rural communities in supporting them with the right information needs. Institutions of higher learning have a role to play in addressing this challenge. A study was conducted in a selected rural village that represents a typical rural community in the northern region of Malaysia. A model of IHL Collaboration in e-Community development was created with a focus on the roles of IHLs with the community information needs through the implementation of a community telecentre. This model highlights the intellectual engagement in terms of advisory services, local content development, and socio-economic value creation that would enable a sustainable development of the community towards becoming an information-rich society.

Keywords: Bridging the Digital Divide, BDD, Rural Community, IHL, value creation

1. Introduction

Telecentre (TC) is one of the e-Community projects implemented all over the country with the main objective to bridge digital divide among the rural communities. Currently more than 2500 telecentres exist in Malaysia initiated by different parties in varieties of models, including government agencies (such as Rural Internet Centre (PID) and Rural Info Kiosk (MID), non-government agencies, institutions of higher learning (IHL), schools, communities as well as individual. Throughout the years of TC implementation in Malaysia, the major issue that becomes the centre of discussion is TC sustainability [1]. The previous studies have reported other issues in relation to TC sustainability, including improper physical environment at TC, inadequate maintenance and repair of the computers provided at TC, little publicity of the use and function of TC to community, insufficient IT training [2], financial resources to pay for TC managers [3], and insufficient ICT resources [4]. These issues limit TC from being fully used by communities, and thus impede the government's effort in bridging digital divide. In addition, even if all the facilities are made available to rural communities through TC, there is an issue of the right information needs and suitable local contents that might challenge the nation's agenda in producing an information-rich society and eyeing for socio-economic value creation [5]. Efforts must be given to the rural communities in supporting

them with the right information needs and right content development. Institutions of higher learning, with voluminous experts and facilities and infrastructure, are a potential supporter and collaborator to play roles in addressing this challenge. In exploring potential roles of IHL to support TC sustainability and communities' development, a study was conducted in a selected rural village that represents a typical rural community in the northern region of Malaysia. The objectives of the study are to assess the roles of IHL in an implementation of TC in rural area and to propose a model of IHL collaboration in an implementation of a TC. The idea is to create an opportunity for the community to be able to tap and enjoy the facilities and resources of the IHL that would transform the community into a society that is rich with information and knowledge. This idea of rural transformation is in line with the National Strategic Framework for Bridging the Digital Divide (NSF-BDD) formulated by the government by providing access to ICT in underserved communities to enable ICT adoption, which eventually the adoption will evolve into activities that can add value that will benefit the community economically and socially [6].

2. Roles of IHL

The main function of IHLs is to provide higher education at either undergraduate or postgraduate level. Besides, IHL is also a research centre with the creation and sharing of new ideas and solution to a real world problem. New knowledge will be continuously transferred through teaching and learning process. Beyond this traditional function, IHL is also expected to give services to communities. A collaboration of IHL in supporting TC implementation and sustainability is an opportunity to reach out to rural communities with the latest development of knowledge and skills. [7] shares three mechanisms of how IHLs can actively involve with communities in implementing and sustaining TC. The first is by sharing knowledge and learning resources to the communities. This includes translating, adapting, localizing and re-packaging information from external sources to fit the agronomic and cultural characteristics of those local communities. Second is by carrying out ICT related research and development (R&D) projects in bridging digital divide, and the third is by providing students as TC volunteers in helping the locals while gaining practical working experience such as applying ICT in their daily living. Students' projects or industrial trainings can be attached to varieties of ICT related projects for rural ICT development. Table 1 shows three possible models of IHL and Telecentre collaborations [8-9].

Table 1: Models of Collaboration

Type	Function
University-based Telecentre	Telecentre is physically housed in a university facility, and where ICT resources can be shared under suitable arrangements with people outside the university. This model has been successful in association with lower level schools of World Bank projects.
A university-administered community-based Telecentre	The telecentre becomes an outreach or extension center apart from the institution's main campus. This model was used as an incubation strategy in South India but has not otherwise been widely exploited.
A university-supported arrangement	The university provides continuous services and assists a telecentre that is owned and operated by a community entity such a local governmental body, or a non-governmental body like a cooperative and university supported commercial cybercafés.

3. Methodology

The objectives of the research are: (i) to identify the community requirements in an implementation of a telecentre in rural area; (ii) to assess the roles of IHL in an implementation of a telecentre in rural area; and finally (iii) to propose a model of IHL collaboration in an implementation of a telecentre. The research applied a case study approach, in which it involved the case of one community and a telecentre at the northern part of Malaysia. A survey and interviews were applied. The questionnaires include profile of the community, current knowledge and skills in ICT among the community, community's needs for a telecentre, and the requirements to set up a telecentre. Series of brainstorming sessions were also conducted to investigate the strength of the IHL and its potential contribution to the telecentre development. The

results became a foundation in proposing a model of IHL Collaboration in Telecentre Implementation.

4. Findings

The population of the community in the case is 1975. Convenient sampling was adopted. A total of 203 finally answered representing 10.3% of the total population. The distribution between male and female respondents is almost the same, 49.3% and 50.7% respectively. Most of the respondents aged between 6 to 20 years old (57.6%), 42 (20.7%) of them aged between 21-50 years old, and the rests are senior citizens (13.8%). About 50% of the respondents are students (school and IHL level), 22% are self-employed, and 12% are public and private sector employees.

The survey asked types of information needed to improve the quality of the community's life. About 68.0% of the respondents consider that information about education or new skill is the most important. Second preference is information about healthcare (60.1%), religious is the third (55.2%), and followed with information sources (51.7%), and current news (46.8%). In addition, they were also interested in accessing information regarding job vacancies (32.0%). Figure 1 presents six information needs of the community according to its importance.

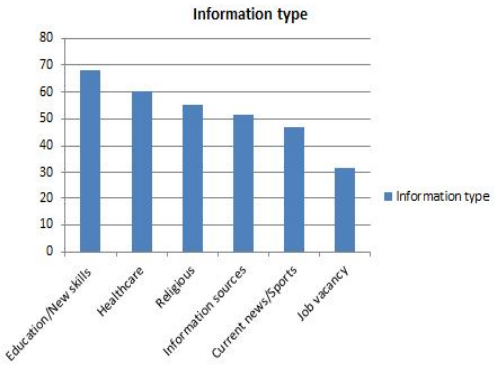

Figure 1. Information Needs of Kg. Oran Communities

Based on the information needs, the respondents are required to indicate three types of information that are most important to them. As shown in Figure 2, respondents unanimously agree that the most important information is education or new skill (52.7%). The second priority agreed by the respondents is healthcare and information sources (11.8%), while the third priority is Job vacancy (9.4%). As for the first priority, the rank of the important goes with education/new skills, and followed by healthcare (29.6%), religious (20.7%) and current news/sports (20.7%).

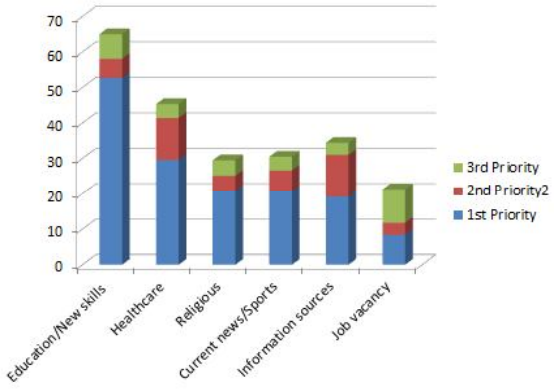

Figure 2. Priority of Information Needs

5. Collaboration Opportunity

The types of information needs evidenced in the study create an opportunity for IHL collaboration in sustaining TC that eventually become a basis to propose a collaborative model. During the discussions and open-ended interviews with respondents regarding their expectation from the university, three recurring themes emerged from the discussions, which are (i) requirements for ICT training to enable the community to develop and maintain creative local content, (ii) advisory services on matters in which the university is knowledgeable, and (iii) benefits gained from the advice given by experts in the university based on their respective subject matter. Following this, a series of brainstorming sessions were performed at the university to identify the corresponding match that fit the information needs and community expectation with the strength and capability of the university. The result is a proposed model of the university and community collaboration for the development of the e-Community through existence of the telecentre (Figure 3).

The model highlights three major elements in establishing the collaboration; (i) Community, (ii) Information Category, and (iii) IHL. Community is the target group who use TC and their concerns on the needs for the information types are very important in formulating the roles to be played by IHL. The capability of IHL in the collaboration comes from three major resources; experts, facilities, and students. From the discussions with communities and brainstorming sessions, three primary roles are set up to be played by IHL in supporting the implementation of a telecentre in rural

area. The roles are i) Info-mediation, ii) Content Development, and iii) Value Creation.

The role of Info-mediation positions IHL as a hub of knowledge experts where different entities in IHL can take part in disseminating knowledge to the community. In the context of content development, experts in IHL have opportunities to share their knowledge in designing a more useful and relevant content to meet the needs of different groups including school children, women, and senior citizens. The implementation of telecentre is not only to bridge the digital divide but also to help creating or bringing more values to the community. IHL can play a role to ensure the social and economic value of ICT is realized by the underserved people. Several entrepreneurship programme organized by IHL can help attracting local youth, women, local small medium entrepreneurs to come to telecentre and involve in varieties of entrepreneurial workshops, which can be delivered either in face-to-face or online mode. The roles of IHL are facilitated by the involvement of its resources including the experts, facilities and students (Figure 3).

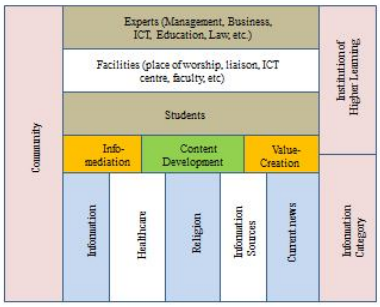

Figure 3. Collaborative Model of IHL – Rural e-Community Development

6. Conclusion

The diffusion of TC to rural areas has been well accepted by the communities. In most places, TC has been successfully adopted and operated though challenged by many limitations. If TC is closed down, the opportunity for rural community to access and use ICT is also limited. Apart from that, there is an issue of the right information needed and how that information are designed, delivered, and made available to communities. Institution of Higher Learning has a high potential in collaborating with communities to sustain TC. A case study was conducted to explore how IHL could collaborate and play a role in sustaining TC, including in providing and sharing information, expertise, facilities to communities. From this study, a collaborative model was proposed with three main elements; community, IHL and information category. Three roles of IHL are set out; info-mediation, content development, and value creation. These roles ultimately propose IHL contribution in supporting the nation's agenda in bridging digital divide by recognizing the involvement of IHL experts, facilities, and students in sustaining TC through various programme and activities.

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