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RECENT ADVANCES ON E-ACTIVITIES, INFORMATION SECURITY AND PRIVACY

* Proceedings of the 8th WSEAS International Conference on E-ACTIVITIES (E-ACTIVITIES '09)
* Proceedings of the 8th WSEAS International Conference on INFORMATION SECURITY and PRIVACY (ISP '09)

Puerto De La Cruz, Tenerife, Canary Islands, Spain,
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Abstract: - Efforts to overcome the digital divide in rural areas have been carried out by a few federal government ministries, supported by state government agencies in Malaysia. One of the earliest agencies that took the initiative is KETENGAH (Terengganu Central Development Council or Lembaga Kemajuan Terengganu Tengah). After more than 10 years, KETENGAH now owns 30 E-Community Centers that exploit ICT to mobilize the local community in rural areas. The E-Community Center is seen as a catalyst factor that reduces the digital divide and at the same time alleviates the status of the people in the rural areas in terms of their education, economy and social. The achievement of these centers relies not only on the infrastructure and hardware but also competency of human resources, i.e. the prime movers and the centers’ strategic plan. This paper discusses research findings on KETENGAH’s E-Community Centers’ strategic plans on digital divide reduction program, educational program plan, and impacts of this program on local community as well as their 10-year accomplishments.

Key-Words: digital divide, telecenter, ICT, KETENGAH E-Community Center

1 Introduction
Throughout Seventh Malaysia Plan (RMK7), Eight Malaysia Plan (RMK8) and Ninth Malaysia Plan (RMK9), Malaysian government has been striving to reduce the digital divide among the people especially in the rural areas to meet country’s requirement to empower the citizens to participate in digital economic development. It started with the introduction and implementation of national ICT policy, followed by provision of good infrastructure, and now, it is focusing on strengthening the ICT plan in the target group community. One of the approaches to expedite this is to optimize the presence of the E-Community Centers, also known as Internet Desa, Medan Info Desa, Kedai.kom, Bestari.Com and Telecenters.

To implement such program, a few agencies like KTAK (Ministry of Energy, Water & Communication) KETENGAH (Terengganu Central Development Council), FELDA (Federal Land Development Authority), Ministry of Rural & Regional Development, Malaysia Communication and Multimedia Commission, are appointed to realize the national ICT agenda. At every E-Community Center in the rural areas, there will be some space allocated to place several computer systems that are connected to the Internet. A series of computer courses have been conducted to increase the level of ICT literacy among the local people in the rural areas. Basic application programs such MS Office tools and Internet courses are the most popular ones. According to Norizan there are 1945 Telecenters throughout the country. In KETENGAH alone, there are 30 E-Community Centers, of which 28 are operationally active [1]. Still, we are not satisfied enough with the present accomplishment because there is a need to upgrade the computer systems, repair the broken ones, replace the old ones, and increase the Internet bandwidth capacity. In Ninth Malaysia Plan, the government hopes that the National Bandwidth Plan (NBP) to move fast to ensure, with this rapid development in ICT, 13 percent of 26 million populations would have subscribed to bandwidth services by 2010, compared to 2.8 at this moment. The next question is has this digital divide issue been overcome at a time when this bandwidth service is being introduced to the people or will the digital divide be broadened?

Although the E-Community centers aims initially to reduce the digital divide between the people in the rural areas with those from urban areas, as well as to alleviate the status of living and the socio-economic of rural people, what is the next direction then? What would be the content of the program to be conducted,
besides ICT training, at the E-Community Center? Or is it adequate with teaching-learning about computers? Is it sufficient to offer e-transactions for utility bills or prepaid credit, stamps, and printing services to pull the crowd to come the Centers? What about the impacts of the presence of the Centers, and of the training programs conducted at the Centers on local students’ performance in schools?

How is the impact of E-Community Centers and trainings conducted at the E-Community centers on the local students like in the advancement of their subject mastery? Has there been any self-directed learning program content which offers interactive learning software for students to upgrade level of mastery in subjects such as mathematics, sciences, and language? If this endeavor is to be carried out are E-Community centers and ICT officers/ coordinators/managers at the E-Community Centers prepared? What are the implications on the job specification of the particular officers and the implications onto the E-Community Centers operation hours? These are among of the queries that still need studies and require answers.

2 Methodology
A survey using a set of questionnaires was conducted in February 2009 to examine the form of content and programs which have been conducted at the KETENGAH’s E-Community Centers and the impacts of such program in the community. Data were collected through the questionnaires which consist of 4 parts (1) the background of E-Community Centers, (2) the background of E-Community centers’ ICT officers (3) program content offered by the E-Community Centers, and (4) the impacts of educational program conducted at the E-Community Centers. All questions are open-ended. ICT officers who are respondents in this study provided responses based on their own knowledge, perceptions, and experiences. Questions on the skill level of the ICT officers are based on of Likert Scale format. Data were analyzed descriptively.

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3 Discussion of Findings
The data is tabulated manually and findings based on the questionnaire survey is divided into four parts.

3.1 Profile of E-Community Centers
24 out of 30 E-Community Centers were selected to participate in this study. A few E-Community Centers that was established as early as 1992 that are Felda Neram Satu E-Community Center and the latest one was in the year 2008 those are MID Kg. Betong and Ceneh Baru Kemaman. The majority of the other E-Community Centers in KETENGAH have been developed around early 2000.

Nearly all E-Community Centers are opened 6 days in a week, from Sunday to Thursday, and there are a few E-Community Centers which is operating on Friday if there is a need. In terms of the number of PC, all E-Community Centers have a minimum of 10 PCs and a maximum of 30 PCs. Still, there are complaints from local community members that the number of PCs is inadequate. Some said that two to five PCs are malfunctioned and outdated especially those at the older E-Community Centers. Though all E-Community Centers have a usable PC, there are 6 E-Community Centers (Kg. Betong, Felda Kerteh Enam, Kuala Jengal Kg. Basong, Kg. Ibok and Felda Neram Satu E-Community Centers) claimed that they did not have broadband Internet access but only a dial-up access. The dial-up access is not reliable these days. This problem contributes to the digital divide phenomena that become an important issue in the rural area.

3.2 Profile of the E-Community Centers’ Officers
From 24 officers of the E-Community Centers who were involved as respondents, 21 are females. In terms of academic qualification 7 of them possessed bachelor degree, while the rest possessed Diploma in the field related to ICT. From the perspective of skill level in using MS Office, all ICT officers are at level 3 and level 4, which indicate that they are at above average on MS Office (PowerPoint, Word, Excel), except Access (level 2 or below) program in MS Office. At the moment, their skill level is adequate to cater for the training and educational programs offered at their E-Community Centers. Looking from the perspective of the knowledge and ICT skill, 7 out of 24 respondents have gone through various advance level courses apart from Microsoft Office courses (Powerpoint, Word, Excel, Access) and Basic Coaching.

These advance courses include developing websites, composing corporate videos, networking, and fixing and maintaining computers. It is the same situation with 16 of 24 respondents who stated that they have the knowledge and skill of programming such as C++, Java, PHP, MySQL, and PERL in addition to from Dream Weaver, Adobe Photoshop Illustrator, Flash, Switch, Imagine, Canopus Proceder, Canopus Imagine, MS Visio, Driver Genius Pro, and Open office software. These knowledge and advance skills are very valuable to KETENGAH but have not been
optimally utilized in the E-Community Centers apart from the MS Office and basic Internet courses being offered at E-Community Centers.

Since E-Community Centers can be a catalyst to increase ICT usage, and simultaneously, reduce the digital divide among the rural community members, E-Community Centers can also be a tuition center for subjects such as English, specifically in the rural areas where the English language proficiency level among the students are very weak. To take the challenge posed by the globalization process, Malaysians need to have a high competitive value including the ability to communicate in English competently. However, this depends on the level of ICT officer’s English language proficiency. From the data gathered as shown in Table 1, it is found that the language ability of the E-Community Centers’ officers is at the intermediate level especially in reading and writing but many are weak in speaking. However, this does not hinder them from conducting English language short-courses at the E-Community Centers because they could make use of self-directed programs that can be produced together with the help from local English language teachers. This is where the involvement of the English language teachers is vital as they can exploit the E-Community Centers’ facilities to upgrade the English language ability level among the young generation in their community.

Table 1: Perception of the English Language Proficiency level of E-Community Centers’ Officers in KETENGAH

<table>
<thead>
<tr>
<th>Skills</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speaking</td>
<td>21</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>8</td>
<td>15</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Writing</td>
<td>17</td>
<td>24</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.3 E-Community Centers Educational Program in KETENGAH

Referring to the data gathered in the survey, all E-Community Centers offer basic computer course and MS Office course. Those centers with the Internet connection also offer basic Internet courses. The offered courses can be considered as compulsory to ensure all community members know how to make use of it in daily routines. Students in schools nowadays are already exposed to the importance of ICT in life, and among teachers there are those who prepare the school tasks using MS Office. The E-Community Centers have also organized Customers’ Day and ICT Day which have become the annual programs of E-Community Centers. This program aims to raise an awareness of the importance of ICT in today’s life, promoting E-Community Centers and program at the E-Community Centers, and making the E-Community Centers be part of the local community’s daily routine. With such programs, there are an increasing number of customers, and subsequently, the demand and needs to upgrade the service quality and the image of the E-Community Centers should get immediate attention from KETENGAH.

3.3.1 The effects of the program content at the E-Community Centers

From the responses gathered, three observations can be made:

- Awareness of the existence of E-Community centers is increasing
- Number of customers is increasing from time to time including youngsters and adults
- Number of students or teenagers visiting the E-Community centers is increasing, and this indirectly will assist the effort to reduce loitering cases among the youths at other places if interesting programs are prepared at this E-Community centers.

However, there are E-Community Centers’ officers who hoped to see the teenagers, who visited the E-Community Centers are not merely playing games but should learn something that can benefit their study. Apart from doing their school work using MS Office, educational programs such as tuition or self-directed learning should be offered so that the E-Community Centers could be more joyful and become the teenagers and youngsters’ spot to spend their leisure time.

4 Suggestions and Implications

The existence of the E-Community Centers is a blessing to the rural area people in KETENGAH, Terengganu, Malaysia. Apart from being a catalyst to the ICT development in KETENGAH, it plays the role to reduce the digital divide among the community members. When the number of customers starts to increase, the demand for the program also increases, and concurrently, the need to upgrade the facilities is no more a remote issue.

When analyzing their responses on perceived strengths and weaknesses at the E-Community Centers,
ICT officers indicated that the strengths include the number of PC and Internet access apart from additional other services offered at the centers such as printing, Xeroxing, paying water and electricity bills online, renewing insurance online, and PC trouble shooting and maintaining. These services are appreciated by the local community members, and have lead to closer relationship among the members of community. The social impacts that promote good life style among the community members can be seen when the computer literacy level and English language proficiency among community members have increased and when reported social problems are becoming lesser. On the other hand, ICT officers expressed that among the weaknesses at the E-Community Centers are malfunctioned PCs and printers that should have been repaired and replaced. Also, the Internet connection at a few E-Community Centers is not reliable. They need a better Internet connection. When these setbacks are not addressed immediately, it will lead to domino effects whereby the number of visitors/clients at the center will be decreasing, and consequently, the centers would become a white elephant in the rural areas.

5 Conclusion
If KETENGAH planned to add a high value service in the E-Community Centers, there should be a well-planned English language learning program which will upgrade the level of English language proficiency among the youth, and thus, empowering them with competitive values. Three benefits will emerge at once: computer literacy level improvement, English Language proficiency level improvement, and youngsters’ market value improvement. To ensure such successful educational programs at the E-Community Centers, the job specification list for the ICT officers at E-Community Centers need to be revised; additional incentives for ICT officers need to be considered; funds for the involvement of English language teachers from local schools at the E-Community Centers also need to be prepared, allocation to develop content sources for the computer assisted language learning which will be owned by KETENGAH also needs to be prepared. For sure a consistent monitoring from the experts is a vital step in evaluating the impact of the program.

References: