

Journal of Applied Sciences

ISSN 1812-5654





Journal of Applied Sciences 14 (24): 3638-3645, 2014 ISSN 1812-5654 / DOI: 10.3923/jas.2014.3638.3645 © 2014 Asian Network for Scientific Information

Potential Benefits of the Wireless Village Programme in Malaysia for Rural Communities

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Abstract: The main attempt of this study is to identify the potential benefits of Malaysia Wireless Village programme to rural communities in Malaysia. This is a conceptual study in which reviews of the literature and document analyses have been performed to reveal the potential benefits offered by the Wireless Village programme. A total of six potential benefits have been identified and discussed by the authors. It is hoped that such discussions will assist concerned parties in constructing concrete strategies for improving ICT usage among rural communities in Malaysia.

Key words: Rural community, information and communication technology, rural development

INTRODUCTION

Malaysia is evolving into a nation of advanced technologies and modern commerce, as evidenced by the fact that it is one of the most developed and fastest-growing economies in South-East Asia. The use of Information and Communications Technology (ICT) is one of the constituents of the Tenth Malaysia Plan, which was formulated to progress the government's vision to turn Malaysia into an advanced country by 2020 (EPU, 2010).

As Malaysia is striving to form a knowledge-based economy, by 2015 the Malaysian Government is planning to shift from their customary face-to-face government services to online facilities and e-services. This initiative will bring the level of ICT use in Malaysia in line with that of other developed countries. However, changes are needed to balance the digital gap between the urban and the rural. One way to evolve the vision is by promoting rural development through modernizing village communities from their own traditional mindsets (King and Nazaruddin, 1992).

To promote rural development, a number of governmental programmes have been constituted to initiate ICT use among villagers within rural Malaysian states. In addition, with the aim of furthering socio-cultural improvement, the former Minister of

Information, Communication and Culture, Y.B. Dato' Seri Dr. Rais Yatim conceptualized a Rural Transformation Programme (RTP) by endorsing ecosystem programmes to elaborate a first-class mindset¹ among the rural population.

In March 2010, the Malaysian Communications and Multimedia Commission (MCMC), alongside the Community Broadband Centre (CBC) viably disseminate rural development by distributing 1Malaysia Netbooks to underserved families with low income below RM2000 and erecting 1Malaysia Internet Centres/Telecentres around strategic rural localities. Later in 2011, they have installed communication towers to give ICT exposures to the rural population, Sabah and Sarawak also became part of the Digital Nation platform expansion.

A new system introduced by MCMC called the Universal Service Provision (USP) aims to promote the use of network services around rural Malaysian states. Universal Swrvice Provision was entrusted to provide access to basic communication services for the underserved areas, thus they have installed several network facilities and have provision of services. This study gives emphasis on one of their prominent project called the Kampung Tanpa Wayar, or 1Malaysia Wireless Village, which is a programme attributing to thenational penetration rate of the rural communities and 1Malaysia Netbook recipients.

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¹In the ninth Malaysia plan, the former Prime Minister Y.B. Dato' Seri Abdullah Ahmad Badawi emphasized on nurturing a first-class mindset among Malaysians. This term refers to the building of a knowledgeable, competitive, integrity and moral strength attitude within the mentality of the population; which in turn mobilizes their creativity and innovations. The anticipation of the first-class mindset is highly compromising the government's effort to turn Malaysia into a well-develop country

1MALAYSIA WIRELESS VILLAGE

1 Malaysia Wireless Village is a part of the Malaysian government's broadband penetration programme and it is a network infrastructure platform to create awareness to the use of wireless Internet and advanced communication technologies among rural communities. This provision converges on the widespread availability of Wireless (Wi-Fi) internet provided by network services through wired connection, microwave or the satellite system. Network services such as Telekom Malaysia (TM), Celcom, Digi, Maxis, Redtone and Packet 1 are the main service providers for Wi-Fi, 3G and WiMax coverage around underserved areas.

From 2011 to the end of 2013 about 3,728 Wireless Villages were recorded by MCMC (Table 1) to provide Wi-Fi for the countryside communities in Malaysia. The Wireless Village locations are being implemented through two initiatives:

- Community Broadband Centre (CBC) to home technology infrastructure access location is determined by existing CBC service providers or telecentres developed in earlier phase by the government around nearby villages. By appointing three wireless Access Points (AP) that connects to the CBC wired network router can provide Wi-Fi coverage up to 300 metres from the AP sites to reach the homes of 1Malaysia Netbook recipient
- Collective Broadband Access (CBA) phase
 1 technology infrastructure location is determined by
 erecting broadband towers around underserved areas
 with no Community Broadband Centre (CBC). This
 infrastructure is developed to provide wireless
 access precedence to village libraries, town halls and
 schools

Table 1: List of 1Malaysia wireless village

States	Wireless villages	Service providers
Johor	576	TM, Redtone, Digi
Kedah	187	TM, Packet 1, Maxis
Kelantan	130	TM, Digi
Melaka	148	TM, Digi
Negeri Sembilan	208	TM, Celcom
Pahang	344	TM, Digi
Perak	266	TM, Packet 1
Perlis	48	Celcom
Penang	25	TM, Packet 1, Maxis
Sabah	713	TM, Celcom
Sarawak	731	TM, Maxis, Digi, Celcom
Selangor	147	TM
Terengganu	176	TM, Digi
Total	1355	

Source: Suruhanjaya Komunikasi dan multimedia Malaysia/Malaysian communications and multimedia commission (MCMC) and universal service provider retrieved from http://usp.skmm.gov.my/Projects/Wireless-Village.aspx

The Malaysian government plans to provide wireless Internet services for a minimum fee. This concept encourages the improvement of rural living quality by bridging the rural and urban digital gap to improve rural communication infrastructure so that younger generations will have the desire to work in their hometown due to increases in local entrepreneurial, stakeholder and employment opportunities.

Despite the spread of Wireless Villages in Malaysia, there is currently little understanding of the potential benefits that can be offered. Obtaining such an understanding is important, as a lack of knowledge will inevitably hinder concerned parties' abilities to construct concrete strategies by which to further improve ICT usage among rural communities. In response to this, the present study tried to fill the gap by exploring the potential benefits of the 1Malaysia Wireless Village programme towards the transformation of rural society into the progression of a 1Malaysia knowledge nation.

As mentioned in their report, EPU (2010) highlighted communication facilities are embedded as one of the fundamental utility in the Nasional Transformation Programme (NTP) intended for new development areas, especially the rural zones with little to non-existent basic communication facilities. The implementation of 1 Malaysia Wireless Village programme can ensure benefits of communication and information technology innovations for the rural communities. Malaysia is in the progression into becoming a more connected, educated and culturally competent nation to reach the goal set by the government to turn Malaysia into a high-income nation by 2020 (EPU, 2010; Bilbao-Osorio *et al.*, 2013; MCMC, 2011; Zulkifli and Sulaiman, 2009).

LEVEL OF INTERNET USAGE IN RURAL AREAS IN MALAYSIA

The imbalance of infrastructure that exists between rural and city environments has caused the villagers in Malaysia to have certain blindness when it comes to ICT. Unlike those living in cities, villagers lack access to the Internet due to limited modern technology facilities like Internet cyber cafes and broadband towers in their less urban areas. In 2002, the government launched various multi-use telecentres in rural areas. Now, via the 1Malaysia Netbook initiative which begun in 2011, most students who came from low-income family backgrounds were able to be more exposed to the use of ICT and have access to the internet. However, successfully developing a 'knowledge nation' depends on the level of openness and acceptance among rural communities in terms of adapting to use the Internet to enhance their everyday living efficiency.

Based on the diffusion of innovation theory introduced by Rogers (1995), rural areas in Malaysia can be considered as 'late majorities' among his categories of adopters, because of their traditional mindset, which makes it hard for them to quickly adapt to new ideas. As this demographic makes up one-third of the population, it is essential to inform them about the innovative functions of ICT and encourage their modern-technology awareness. This segment of the population needs to understand the benefits of ICT use in order to apply it as a utility to assist in their daily routines.

Another form of encouragement should come from the local leaders. Therefore, it is vital for local leaders (known as Jawatankuasa Kemajuan dan Keselamatan Kampung (JKKK), or the Village Development and Security Committee) to encourage and show an exemplary use of Internet, due to the large amount of influence they have over the local community. New ideas for innovation can be successfully be implemented with support from local leaders; the main idea is to encourage the acceptance of 1Malaysia Wireless Villages within rural communities, as ICT can profit various sectors and individuals. Within this programme, the government is providing affordable and easy access to the Internet. Just by providing advanced access points, all underserved families provided with a 1Malaysia Netbook can access the Internet from their houses or community centres.

There were several studies done to examine the impacts of ICT programmes on rural communities' knowledge regarding the use of technology in Malaysian countryside. Hassan et al. (2008) conducted personal interviews and surveys on 1,250 villagers who were involved in ICT programmes hosted in their villages. The findings showed that the offered courses and trainings had a positive impact on the participants. About 61.6% of the respondents claimed that they were not ICT blind as each of them have used a computer at least once before joining the organized programmes. However, the level of their computer usage skill was known to be at most basic level like typing in Microsoft Words. The results also showed that their internet knowledge was quite intermediate, at least 53.4% claimed that they knew what the internet is but only 36.8% have used the internet before and 65.2% used the internet for basic purposes that involved web surfing, email and chatting. Only 5.3% integrated internet for innovative use encompassing all the possible use of internet and started a website or an e-group on their own. One may conclude that most of these villagers still had a low level of knowledge and skills when it comes to ICT use due to lack of ICT exposure in their area.

Hassan et al. (2008) findings demonstrated another factor contributing to the ineffective intention for rural ICT exposure, which was rural community's poor enrolment and lack of encouragement to enter ICT programmes. Meanwhile, a study by Omar et al. (2008) conveyed a broader view on factors that could cause the success or failure of an ICT programme through different constituency's perspectives. The downcast of rural community's involvement in countryside ICT programmes were due to lack of proper appliances, management, finances and support services. What these two studies have in common was highlighted to have the role of the elected village representatives to be more supportive in encouraging rural residents' input in ICT programmes as principally they would know the importance of appliances and basic necessity of ICT programmes in their rural area. Hence, after the villagers got involved in ICT programmes, they learnt how to apply it to a better use that can heighten their knowledge of ICT use and socio-economic.

In a study of Internet usage among rural communities in Malaysia (Zulkifli and Sulaiman, 2009), the results showed that 70-80% of users agreed that the use of Internet has improved their work-related skills, made them better informed about current issues and information, given them a source of entertainment and have widened their social network. This study was based on the establishment of community buildings in the form of KedaiKom telecentres in Perak State. The study revealed that the most active users were within teenagers to young adults, or those aged under 25 and were mostly unemployed, single students. Similarly, the head of Pernec, from Sarawak zone, Hamdan, agreed that the Wireless Village programme could stimulate socialization among the villagers and strengthen the bond between people from different villages, who gathered at the local hotspot to surf the Internet (MCMC, 2011).

Another study, by Razak (2009), which focused on the impact of wireless technology among Malaysian society, similarly stated that 50% of the 767 active ICT users in rural areas were aged from 15-25 year old students. The study concluded that only 34.7% of the 995 rural families surveyed, most of them who came from a low-income group, owned a laptop, has asserted that the use of ICT helped them to sharpen their knowledge base through e-learning, has encouraged information sharing between friends and has improved their community infrastructure by overcoming barriers of communication between far-away friends and relatives.

Samah et al. (2013) study in relation to rural youth telecentre usage claimed that the use of Internet in rural areas had aroused community building among its online users because of their sharing and exchanging of information, which was relevant to human resources. On the downside, these young adults mostly used the Internet for activities such as Facebook, gaming and downloading music and foreign movies. Therefore, Razak *et al.* (2010) suggested that a university campaign be develop in rural communities in order to heighten rural users' academic efficiency.

The positive use of the Internet is said to improve users' information-seeking skills, increase their economic status and make them feel more involved with the outside world through digitization activities. Razak (2009) study also implied that the diffusion of Internet was still lacking among the elder generations in Malaysia rural areas; thus, older communities were not aware of the potential benefits of ICT on their lives through job creation, economic growth, political involvement and innovative suggestions provided from the government and from well-developed countries.

A quantitative study was carried out by Hassan *et al.* (2011) to explore the perceived usefulness of ICT usage among 240 JKKK members (aged from 41-50) in 24 selected rural areas in Malaysia. This study reported about 60% of perceived usefulness in ICT usage. Meanwhile, 12.1% revealed a low level of perceived usefulness of ICT services. As mentioned by Rogers (1995), diffusion of Innovation theory, the exemplary intake of ICT use by local leaders, who were supposedly in charge of their village development, could affect the locals' opinions on perceiving the Internet as a common medium to enhance work productivity.

Hassan et al. (2011) implied the importance of JKKK role as a channel and tool for the government to strengthen the socio-economic aspects of rural communities. The position of JKKK is an important key by which to educate the locals on the importance of using ICT services, they shall encourage its' use among the locals. The majority of these JKKKs have agreed that ICT use had facilitated them a great deal in terms of administration work, such as typing and calculating data using Microsoft Office applications. In this era of modernization, most services have turned into, which was quite low. applications that can be access solely via the Internet. However, the JKKKs' scope of understanding ICT services such as the Internet was still at a basic level, as they have not receive any ICT training, only 28.8% of Internet usage per week was recorded.

A case study of the use of Wi-Fi technology to increase Internet penetration rate in Malaysia indicated an advance in communication infrastructure (Kwong *et al.*, 2011). Kwong *et al.* (2011) suggested how

the Wireless village programme is cheaper, faster to deploy and more efficient compared to wired backhaul connectivity. Wireless technology provides extensive coverage depending on the distance between Advanced Access Points (AAPs) and its baselines. In Kwong et al. (2011) case study of Kampung Ulu Dusun (Sabah), only 45 users were found to actively access the Internet in order to gain knowledge on the agricultural sector. Instead of seeking out information on agricultural advices, the respondents were mostly found to use the Internet to enhance their contacts and collaborations with other farmers from the agricultural sector. Amidst the Wi-Fi usage, the network programme was found to be easily jammed with a high number of users. Therefore, suggestions were made to increase network performance through increased bandwidth for a wider reach. Another study on 360 telecentres users in rural areas around Malaysia emphasized that the suitability of the telecentres location and the leadership competency within the telecentres, played a major role in successful ICT acceptance from the rural communities (Badsar et al., 2011; Omar et al., 2008).

In order to achieve a democratic political demand where, everyone in the population are able to contribute towards the social progress and wellbeing of the society, Max Weber's sociological-political view highlighted that a modern pattern country has the potential to monopolize power over their region (Roth and Wittich, 1978). Weber's view on modernization depicts how each individual's participation in bureaucratization process of the country is crucial. Through political, social and cultural aspects, as a citizen of the country it becomes vital spectre in becoming one society unit.

A modern country has the ability to control the economy of the third-world developing countries through advanced technology. In order to turn Malaysia into a developed nation, technology adaptation has to be equal across the population and all members of society must be active partners and not just objects of communication. Weber believed that a modern society is more pluralist, in terms of diverse ethnics the society is able to co-exist. Pluralist views the use of ICT as a way to ensure equal power distribution, as whoever has access to ICT can potentially rule the nation (Roth and Wittich, 1978; Woods, 1993). This view was further accentuated by Alvin Toffler's (Woods, 1993) theory of 'The Third Wave Society', in which he explicitly related how communication technology can shape human development and a knowledge society. Such a society involves an interactive system that allows people to gain power from knowledge and form a transformed society. These views highlight the need for increased ICT awareness among the rural communities in Malaysia.

Malaysia is still lacking in terms of its use of ICT, despite existing efforts to build a digital nation; a Network Readiness Index (NRI) report² highlighted the importance of technology progress in developing countries in order to build an information-rich society, which is imperative for the employment rate (Bilbao-Osorio et al., 2013). In the NRI report, Malaysia was rated the 57th country exceptional for its ICT use in economic growth out of 142 countries studied for its technology infrastructure and digital content economy. This report concluded that Malaysia was still lacking in terms of its population's use of Internet; Malaysia's inclusive internet usage was ranked the 29th in line. The inefficiency of this rank was due to the discrepancy of internet usage between the urban and the rural population; the Malaysian government's use of internet ranked in the top 10, however Malaysia fell in the 46th place for individual internet usage. These figures illustrated the digital gap that exists between the privileged and the underserved society in terms of modern technology use.

Rogers (1986) believed that the lack of equal digitization in Malaysia or in his term better known as 'informatization' resulted in Malaysia's socioeconomic imbalance. This was due to the rural minority's deficient access to computers and other communication and information technologies. The imbalance in technology infrastructure or digital divide in Malaysia has slowed down the Economic Transformation Growth (ETG)³ plan to turn Malaysia into a knowledge-based economy in line with the 'Asian tigers' such as Singapore, the Republic of Korea, Hong Kong SAR and Taiwan. These countries possesses a remarkable business, modern infrastructure and governance mechanisms thanks to their use of digital agendas for their outstanding economies, which were ranked among the best in the world.

The Malaysian Communication and Multimedia Commission Report pointed out that the percentage of broadband penetration in Malaysia resulted in 67.1% of Internet subscription by the end of 2013, which emphasizes the need to speed up internet penetration in Malaysia and to make efforts to further educate rural communities so as to improve their performance and productivity.

POTENTIAL BENEFITS OF 1MALAYSIA WIRELESS VILLAGES

Creating connections and gaining information: The role of ICT in ensuring Malaysia into a well-develop nation by 2020 is crucial to promote the Economic Transformation Programme (ETP) and Government

Transformation Programme (GTP) in the future. With the existing virtually connected world in Malaysia through the provision of the Internet and broadband services, connecting rural communities with the outside world makes it possible for them to fundamentally communicate and gain access to expansive information. Within studies conducted by Zulkifli and Sulaiman (2009), Razak (2009) and Razak et al. (2010), the majority of respondents agreed that online newspapers and blogs facilitate them to be more aware of current issues. Education-wise, the Internet helps to sharpen users' knowledge and encourage information-sharing with their other member online (Samah et al., 2013). Casual connections through social media such as Facebook, Twitter and so on have widened their connections with the outside world. The Internet has also connected the rural and the urban communities.

Kwong et al. (2011) on the Kampung Ulu Dusun (Sabah) community complemented the studies above by stating that most active users access the Internet in order to gain more insight into agricultural sectors due to their agribusiness. The internet helped them expand their contacts and business collaborations with potential stakeholders. Hamdan (MCMC, 2011) suggested that the Wireless Village programme can promote socializing between villagers from the same community and other communities while surfing the Internet. Among rural communities, the main reasons for Internet usage have been revealed as exchanging information for human capital development in order to upgrade their knowledge base and obtaining insights on factors that can help improve their socio-economic status (Hassan et al., 2008; Omar et al., 2008). Hassan et al. (2008) study has endorsed the need for extending ICT knowledge trough early ICT exposure among youth and the 'late majorities' in rural areas, hence the 1Malaysia Wireless Village Programme will help induce this.

Affordable internet services: The existing 1Malaysia Wireless Village programme helps to provide affordable Internet access and function as a basic communication tool. As mentioned previously by Kwong et al. (2011), the 1Malaysia Wireless Village programme offers a cheaper and faster distribution of Internet services and is more efficient compared to wired backhaul connections. In a study mentioned by Omar et al. (2008) have claimed that one of the main reasons why individuals used technology was due to its cost-effectiveness, which means that the technology is affordable for them. There are no more barriers and walls to reach a connected 1Malaysia nation as everyone can now connect virtually through the Internet with people across the states.

²The Network Readiness Index reports the use of ICT for economic growth and employment. This report illustrates how high-speed broadband networks have proven to have long-term positive impacts on economic systems

³In the 9th Malaysia Plan, ICT is highlighted as one of the key factors for Malaysia to become a knowledge-based economy

Wireless Villages are also convenient for families who live a mile or two from the local telecentres, as wireless technology provides extensive Internet coverage that can easily be accessed from home at any time as long as there is an AAP nearby. A wireless technology installation is much cheaper, more efficient and more sustainable, compared to a wired technology. Therefore, the government provides numerous low-cost Internet services to underprivileged families and makes it possible for them to gain Internet access. In addition, with the instalment of satellite dishes with the government's plan to collaborate with one of Korea's advanced wireless technology in the future, the development of a wireless penetration seems possible even in isolated rural areas.

Opportunities for effective communication: Unlike one-way communication media such as the television and the radio, the Internet facilitates two-way communication. It also removes communication barriers, as rural communities can now be part of the 1Malaysia nation and contribute to the country's development. From a political point of view, Zulkifli and Sulaiman (2009) highlighted that about 80% of Internet users believed that the Internet is a medium for communication and be a part of the nation. The villagers felt like they were able to share ideas and to communicate with people who are located elsewhere. Samah et al. (2013) agreed how telecentres can influence community building among its active users and how ICT can disseminate information; hence empower the users to exchange ideas virtually online. Thus, the programme will potentially help rural societies to achieve democracy and achieve equal rights to those living in urban areas, as Max Weber (Roth and Wittich, 1978) highlighted, rural communities have to be active partners in voicing out inferences to convalesce the bureaucracy of the country.

To create a first-class mind individual: The long-term effect of the National Transformation Programme (NTP) on rural communities may include intellectual innovations; a first-class mind filled with creative thinking and knowledge. A first-class mind concept is an achievement of foremost quality for a country ensuring that the populace have a high stance and integrated spiritual association with the country. Several scholars have indicated the use of modern technology as a monopoly of power for the nation to govern their country. Alvin Toffler (Woods, 1993) specifically claimed that the cyber domain can shape human development and knowledge and that via active interaction systems users can explicitly transform from their traditional mind-sets into being more open and accepting towards diffusion of innovations.

The Malaysian government planned to make Malaysia a global centre or hub for communications and multimedia. They are recurrently encouraging information-based services to enable the development of sustainable living quality, promote a high level of consumer confidence in service delivery and facilitate the efficient allocation of resources in terms of having a skilled and a knowledgeable labour. A first class-mind human capital is a useful national asset for Malaysia as it aims to develop Malaysia into a knowledge-based economy by 2020 by empowering youths, women and the disabled.

Economic impact at the community level: In the late 1990s, the Malaysian government introduced the New Development Plan and Vision 2020 to reduce poverty and relative income inequalities and to equalize the distributional economic growth for each ethnicity (Sharifah, 2002). The government has planned ahead with respect how to ensure stable development among the urban and the rural society. The Internet offers assistance to improve the living standards of rural communities and teleworkers who can easily work from home, especially housewives, the disabled and youth community without leaving their hometown (Malek, 2012).

Rural communities can now work or study from home due to opportunities relating to available network links. Hence, this programme attracts youths to work in their hometown or local village and consequently is able to reduce rural individuals migrating into the city. The 1Malaysia Wireless Village programme is providing a better socio-economy, opening up more job opportunities, attracting more entrepreneurs and potential stakeholders such as internet service providers and also providing the opportunity for the country to become a high-income nation and '1Malaysia community' by closing the digital gap between the rural and the urban population.

Exposure to online services: Online portals to e-government services such as registration, tax and utility community complaint systems, online payments, banking, online bookings represents progress for the e-development of most government and private services that aid in facilitating the needs of rural communities. Online services have helped youth development and scholars (Hassan et al., 2008; Zulkifli and Sulaiman, 2009; Razak, 2009; Razak et al., 2010) have reported that the majority of young adults seek work and information online in order to be more aware of curren tissues and to find new jobs. Some online users had even started online businesses and have encouraged local stakeholders to invest in rural businesses. Kwong et al.

(2011) study on the Kampung Ulu Dusun (Sabah) community demonstrated the use of the Internet as a medium for the government to deliver the latest agricultural knowledge to underserved farmers. The relevant communities are now able to reconnect, become educated as a culturally competent population and be on a par with the outside world through the 1Malaysia Wireless Village programme, as well as contributing to developing Malaysia into a knowledge-based economy by 2020.

As Hassan et al. (2008) emphasized the need to profusely enhance village community's involvement in local ICT programmes. Due to previous observation of poor enrolment and lacking of encouragement by villagers to join ICT programmes. Although the Malaysian government and several NGOs have actively organized countless ICT programmes to educate the rural communities, the contributing factor still lies in the efforts of promotion by a middlemen or a 'public relation' by the local leader to mediate between the government agencies and the villagers (Omar et al., 2008). In line with Hassan et al. (2011), Samah et al. (2010) and Rogers (1986) all agreed, consistent training of local leaders would help to avoid misuse of the Internet and encourage early exposure of ICT use intended for more innovative resolution in rural community progress for the development of a knowledge nation.

CONCLUSION

The Malaysian government is striving to progress its development of Vision 2020 and advancing the Iinternet penetration over peninsular Malaysia and the states of Borneo has been one of the initiatives. By 2014, 3,728 1 Malaysia Wireless Villages were successfully erected in 12 states. The Wireless Village concept has the potential to benefit locals who previously had limited access to the information and communication infrastructure and lacked the privilege to access modern technologies.

The potential benefits of this programme will lead to a more improve socio-economy of the countryside and allow its inhabitants to be on a par with the rest of the urban population. If the government can provide more campaigns and educate rural communities on the positive use of the Internet, these populations will adapt to new ideas quicker, thus diminishing any late majorities in Malaysia.

ACKNOWLEDGMENT

This study was supported by Universiti Putra Malaysia's Putra Grant, 2013.

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