# Information Communication Technology, Village Development and Security Committee and Village Vision Movement: A Recipe for Rural Success in Malaysia

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**Abstract**

The growing body of literature associated with information and communication technology within the rural community had examined numerous factors and interrelationships in order to gain a better understanding on the usage of computers among rural people. Rural administrators play a vital role to ensure information and communication technology is utilized regularly by the rural society. Thus, it is significant to draw to attention to the factors affecting rural administrators' information and communication technology usage and its implications to rural administrators profesional development strategies. This article would be of great help for future researchers who are searching for the path to further explain the determinants of information and communication technology acceptance among the rural community and its utilization based on various models depicted in the literature.

**Keywords:** Information and communication technology, Village Development and Security Committee, Village Vision Movement

## 1. Introduction

### *1.1 Information and Communication Technology*

ICT that stands for Information and Communication Technology is an important tool to help people communicate effectively, overcomes the limitations of time and space, empowers people by providing information and knowledge, provides income generating and learning opportunities, increases transparency and efficiency and enables people to express their concerns and to actively participate in decision making processes (Asian Development Bank, 2004). It includes electronic information-processing technologies such as computers and the internet, as well as fixed-line telecommunications, mobile phones and other wireless communications, networks, broadband, and various specialized application devices ranging from barcode scanners and Braille readers to Global Positioning Systems (GPS). ICT devices are also embedded in other machines and appliances to increase their functionality, from watches and washing machines to cars. The information we access through digital technologies can promote innovation, increase productivity, and enrich the quality of our lives. ICT helps us unlock any information needed, making them accessible to all, and it is a powerful tool for directing and expressing our creativity (Nor Sharifah, 2003).

It is undeniable that ICT is the backbone to achieve the mission of Malaysia to become a developed country. Its' role is important for the development of economy in enhancing the effectiveness of market, productivity, competitiveness as well as creating better quality of life for the public. Rural development evolution and transformation has started in Malaysia since 1957 with pre-policy of New Economy to the level of equity development. In the era of second transformation (1994-2020), the focus of rural development is placed to balance development and parallel with the State Vision Policy and now towards sustainable development. The Malaysia Government's efforts to develop information communication technology obviously can be seen through the idea of Multimedia Super Coridor (MSC), Putrajaya and Cyberjaya which provide modern and developed technology infrastructure. In the era of modernization and globalization, the development of rural areas especially in making zero ICT illiteracy among the rural community must not be ignored. Congruent to this objective, numerous efforts have been initiated by the government

### *1.2 Village Development and Security Committee*

In Malaysia, the establishment of Village Development and Committee Security (VDSC) was in accordance to Order No 3, Plan on Country and Rural Development 1962. The purpose of this body is to act as the eye and ear of government in creating more developed communities and strengthening the relationship between the government and the rural communities. Whatever development programs that are needed by the rural community will be provided through VDSC which would plan and evaluate effectively the needs of the community. Realizing this fact, the Malaysian government admits on the importance of the establishment of VDSC to monitor and aid the government in developing the rural community. At the same time, VDSC also has the responsibility to overcome four main problems faced by the rural community which are poverty, health, illiteracy and lackadaisical attitude. Changes and adjustment have been made to ensure the functions of VDSC are successful. It was strengthened through many programs such as Moving Forward Program, Self-Success and Innovation Movement. The number of VDSC members has increased tremendously nowadays. Based on the recent statistics provided by the Department of Community Development (DCD), there are 14,503 VDSC villages and approximately 68,000 VDSC members across the country.

### *1.3 Village Vision Movement*

Besides the formation of VDSC, the other major strategy to enhance rural development is the creation of the Village Vision Movement (VVM) in Malaysia. The concept of VVM is based on the process of enhancing the ability of rural people that could raise consciousness and attitude of the rural community towards the success of Second Plan on Rural Transformation. The objective is to create a rural community that is resilient, high initiative, self-dependent, knowledgeable and high disciplined, thus suits the need of basic modernization. VVM is an effort that was created to focus on the rural development that emphasize on development, attractiveness and profitability in line with the Rural Development Policy. Previously, VVM unit was one of the activities under the Community Development Branch known as Rural Vision Movement (RVM). After the re-organization of DCD, this branch was divided into three units namely Rural Development Unit, Human Capital Unit and Community Education Unit. RVM later was put under the Rural Development Unit. RVM was later restructured and strengthened and was given a new name Village Vision Movement (VVM).

VVM is the strategic synthesis and was strengthened from two main approaches which were The New Way of Rural Development (1984) and RVM (1996). The launching of VVM was officiated by the former Malaysian Prime Minister, Tun Dr. Mahathir Mohamed on 26th July 2003. This body is divided into two main units namely

Social Development Unit and Economy Development Unit. Projects granted under these units focused on six main programs and they are Community Friendly Program, Village Beautification Project, Village Economy Support Program, Trainings for Entreprenuerships, University Graduates programs and Independent program. It needs to be highlighted that it is not the responsibility of the government alone to fulfill all of these programs. VVM has emphasized the involvement of rural community in the planning program in creating more developed, attractive and profitable village. Program planning was made systematically and persistently. With the emphasize on attitude, skills and knowledge, VVM has launched various strategies in strengthening local social institution especially VDSC. Based on the recent statistic provided by the Ministry of Regional and Rural Development (MRRD), there are 7,808 VDSC listed as VVM villages in Malaysia.

Without doubt in terms of rural development, ICT can play an important role in improving the quality of life for rural people. Utilizing of ICT can be informatic and lead to a more literate and efficient administrators among VDSC members. However, the concern is that do the VDSC members ICT literate? If not, what are the impediments and challenges that prevent them from using ICT extensively in their respective villages?

## 2. Models and theory explaining ICT usage

### *2.1 Technology Acceptance Model (TAM)*

There are a number of theories that explain ICT usage and they are as follows. The Technology Acceptance Model (TAM) was first introduced by Davis (1989), based on the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975) in psychology research. The TRA posits that individual behavior is driven by behavioral intention where behavioral intention is a function of an individual's attitude toward the behavior and subjective norms surrounding the performance of the behavior. In other words, it states that ones behavior and the intent to behave is a function of one's attitudes toward the behavior and their perception about the behavior. Therefore, behavior is the function of both attitude and belief. Meanwhile, TAM proposes that perceived ease of use and perceived usefulness of technology are predictors of user attitude towards using the technology, subsequent behavioral intentions and actual usage. Perceived ease of use was also considered to influence perceived usefulness of technology. Figure 1 presents the original version of TAM (Davis, 1989).

TAM has been applied in numerous studies testing user acceptance of information technology, for example, word processors (Davis et al., 1989), spreadsheet applications (Mathieson, 1991), e-mail (Szajna, 1996), web browser (Morris & Dillon, 1997), telemedicine (Hu et al., 1999), websites (Koufaris, 2002), e-collaboration (Dasgupta, Granger & Mcgarry, 2002), and blackboard (Landry, Griffeth & Hartman, 2006). In TAM, *perceived usefulness* refers to the degree to which the user believes that using the technology will improve his or her work performance, while *perceived ease of use* refers to how effortless he or she perceives using the technology will be. Both are considered distinct factors influencing the user's attitude towards using the technology, though perceived ease of use is also hypothesized to influence perceived usefulness and attitude towards using the technology. Finally, such attitude towards using the technology determines the behavioral intention to use that technology.

### *2.2 Extended Technology Acceptance Model (ETAM)*

From its original model that was developed by Davis (1989), the Technology Acceptance Model (TAM) has evolved over time (Ong, Lai and Wang, 2006). Many studies have replicated, extended and used the TAM to examine the convergence and divergence of TAM relationship across different setting in order to make the model better (Trombley and Lee, 2006). Hu et al (2003) derived a model that used the constructs of perceived ease of use, perceived usefulness, subjective norms, self-efficacy, compatibility and job relevance but excluded attitude to investigate the usage of computers by teachers. According to the model, the decision to use a technology is linked with the technology usefulness, ease of use, computer self-efficacy, job relevance, compatibility and subjective norms.

### *2.3 Innovation Diffusion Theory*

Rogers (1983) explained the process of innovation diffusion as one which is dictated by uncertainty reduction behavior amongst potential adopters during the introduction of technological innovations. Even though innovations typically offer its adopters novel ways of tackling day-to-day problems, the uncertainty as to whether the new ways will be superior to existing ones presents a considerable obstacle to the adoption process. To counter this uncertainty, potential adopters are motivated to seek additional information, particularly from their workplace peers (Brancheau & Wetherbe, 1990). Innovation Diffusion Theory (IDT) consists of six major components: innovation characteristics, individual user characteristics, adopter distribution over time, diffusion networks, innovativeness and adopter categories, and the individual adoption process. Arguably the most popular

of the six components of IDT centers on the characteristics of the innovation itself. After analyzing a variety of previous innovation diffusion studies, Rogers (1983) singled out the following five characteristics of innovations that consistently influence the adoption of new technologies:

- **Relative advantage** is the degree to which an innovation is perceived to be an enhancement of the current offerings.
- **Compatibility** refers to the extent to which an innovation is perceived to fit together with potential adopters' habits and practices
- **Complexity** refers to the degree to which an innovation is perceived as being complicated to use.
- **Observability** is the degree to which the results of an innovation are observable to others.
- **Trialability** refers to the degree to which an innovation may be sufficiently tested prior to adoption.

In short, some of the important models that explained ICT usage are demonstrated as in Table 1.

*2.4 Challenges in using ICT*

There are a number of challenges faced by the rural community in terms of usage of ICT. According to Hosseini et al. (2009) these challenges could be classified into six categories and they are as follows: organizational, technical, financial, social, regulatory and human. For the organizational factor, the identified variables were lack of interest by high level mangers and extension experts to use ICT, concerns about the risk of using ICT, low quality of service provided by the service centers, lack of interest by private sector to participate in developing ICT for rural areas, and low number of service centers in rural areas.

Meanwhile, the variables that are based on the technical factor that have an impact on the challenges of using ICT are low bandwidth, lack of hardware, lack of appropriate infrastructure, lack of software, low numbers of web sites, weak telecommunication systems, old telephone lines, and lack of expertise. On the other hand, in terms of financial challenges, among them are high cost of buying hardware and software, high cost of access to internet, cost of maintaining the system, expense of upgrading the system, and lack of investment by private and public sectors.

Besides, the social challenges in using ICT are technophobia, negative attitude about modern technology, not understanding about advantages and disadvantages of ICT, lack of social interaction, and prejudiced beliefs about advantage of ICT. Moreover, there are also challenges brought about by the factor of regulatory and these are the lack of intellectual property right, centralized extension planning, lack of policy support, lack of adequate regulatory environment, rigid and outdated regulations, alck of strategic vision in developing ICT for rural areas, and current regulatory structures and existing national legislation unable to deal with the speed of changes in technology related changes.

Finally, there are also challenges derived from the human factor and among them are low level of knowledge and skills among rural people, negative attitude about the ability of extension experts. Weak experience of using ICT by extension experts, non adequate instructors in ICT, complexity of e-learning and beliefs of farmers to traditional education.

## 3. Information Communication Technology Development Plan in Malaysia

*3.1 National and Information Technology Agenda in Malaysia*

Over in Malaysia, The National Information and Technology Agenda (NITA) has been launched by its former premier Tun Dr. Mahathir Mohamad on 1996. It was established in order to cultivate and strengthen ICT interest and usage among all type of community especially the rural community. Based on the theme *Creating New Waves*, NITA has the guidance for information National Technology Development. The National IT Agenda was restructured to ensure it balance development, information amenities and application. IT agenda is the basic drive towards the developed community based on value, emphasize on justice and equitability in getting information, creation of positive value and changes of community qualitatively. The Eight Malaysia Plan has come with five strategies to accomplish NITA which are e-economy, e-government, e-community, e-education and e-sovereignty. The economy sector is predicted to be able to create value and profits via effective involvement in global economy. Focus should be placed in providing electronic services which are user friendly, helping in creating knowledgeable community and are not left behind in terms of skill and knowledge in information technology.

The plan on NITA has come out with three important elements which are Human, Infrastructure and Application (Figure 2). All of these elements are combined towards creating developed community which is based on value

and knowledge. Infrastructure development strategy is via networks, affordable equipment and law and rules. Application development involves development of original contents (software) via entertainment-info and communication-info suitable with the local context. The Eight Malaysia Plan emphasizes on effort to widen the ICT infrastructure especially on the rural areas as one of the alternatives to reduce digital divide which is instrumental in achieving balanced development. Among the strategy and programs accomplished are the human development strategy through education, skills development and culturalisation, mutual service program, campaign on computer possession, rural internet centre program, e-community and program on community consciousness on computer importance.

*3.2 Level of usage and ICT benefits and problems in using ICT among rural community in Malaysia*

In terms of rural community development in Malaysia, ICT aspects are highly emphasized to enhance productivity and to ensure sustainable development. In this era of technology and communication, ICT can play a significant role in rural development. Referring to Balakrishnan (2002), if ICT can be applied wisely by the community, it can enhance their knowledge, skills, higher opportunity to be employed, increase income and double their networks. Grimes (2000) noted that ICT obviously can increase the rural community opportunity to learn new things and this will produce knowledgeable rural community (e-community). However, the level of ICT usage among the rural community in Malaysia is not very encouraging compared to their counterparts in the urban area (Samuel, 2005). Among the measurement or criteria that are used in measuring digital divide is computer possession, access to internet, communication line and level of knowledge in computer usage (Nor Sharifah, 2006). The differences in the level of ICT usage has drawn two different classes between rural and urban community.

Similarly, a study done by Noor Sharifah et al. (2003), revealed that computer possession among rural community in Malaysia is generally low. From out of 1,652 household studied, only 18.6% respondents possessed computer at their home and only 6.7% have internet connection at their home. Based on the usage level and low level of possession, problems of digital divide will exist meaning that wide gaps in terms of ICT skills and knowledge will occur between those who know ICT and those who do not know, in other words, between those that are rich with information and those without knowledge.

Hence, more efforts need to be undertaken to sustain the ICT usage among rural community especially among VDSC members. The VDSC members must fortify their efforts to improve their ICT knowledge and skills to ensure that they will not be left behind. Samuel et al. (2005), explained that level of ICT usage among the rural community is very discouraging. Musa et al. (2008), support this fact by stating that among the main problems that lead to low ICT usage in the rural areas is caused by the rural community themselves who do not use the ICT daily. According to Bahaman (2009) and Hayrol Azril et al. (2009), generally VDSC members are still lacking in ICT knowledge and skills especially on computer usage. On top of this, internet usage is also lacking in the rural areas. There are a number of possibilities that explain why rural community have less interest to use ICT. One of it is that there is a lack of understanding and consciousness regarding ICT importance, lack of ICT skills and knowledge, lack of support from government and private agencies, lack of ICT research, low budget on ICT equipment, internet service is not available in their area and language problems. Cullen (2001), adds financial, education, culture and irrelevant ICT contents to the rural community are the main causes of their ICT ignorance while Narimah et al (2008), in his study noted that not knowing the benefits of ICT, lack of time to use ICT and ICT being not user friendly are among the major problems faced by the rural community in utilizing ICT.

In spite of the problems stated, there is a solution for it. According to Musa et al. (2008), rural community will know to use ICT if they are exposed to appropriate ICT programs. It is the responsibility of the village administrators mainly VDSC members to provide more ICT courses to the rural community. This is one of the alternatives that can be employed to cultivate ICT interest within the rural community. However, do VDSC members themselves use ICT? Supposedly, as the front liners and leaders in the rural areas, they should be equipped with ICT knowledge before they can be the source of the government in bringing the wind of changes to the rural community. Currently, VDSC face no problems in seeking and strengthening their ICT skills and knowledge. Recent statistics have proved that rural ICT centre has increased. Recent statistics provided in the official website of Malaysia Communication and Multimedia Commission indicated that there are 42 rural internet centers, 42 rural info centers and 109 computer literacy centers which are handled by DCD.

*3.3 E-government and its profits to rural administrator*

Based on the higher level of ICT tools possession such as mobile phone, phone, internet and computer among Malaysians, ICT has a big potential to aid VDSC in their village administration activities. Mobile phone, phone, computer and internet showed increase in possession among Malaysian people as in Table 2. By possessing these tools it will ease communication and administration activities among the VDSC members. The Government also

has introduced a number of online services to help the rural administration. E-Government services such as e-SPK, e-ICT, e-Tabika and e-Taska in the official website of DCD and e-smile application in official website of Ministry of Regional and Rural Development for sure will ease the responsibility of VDSC but VDSC members must master ICT skill and knowledge first before they can utilize all of the e-government services provided. All of these e-government services will save money and reduce time consuming, reduce bureaucracy and enhance ICT skill and knowledge among VDSC members who use it. Khintoliya and Tanwar (2005) agreed with these findings by saying that the e-government services will speed the rural development process.

## 4. Conclusion

It is clear that there are a number of issues that need to be addressed to enhance the usage of ICT among rural community in Malaysia especially among the VDSC members who are the mechanism in enhancing the ICT usage among rural people. This paper has highlighted some of the concerns that need to be tackled to further boost ICT usage among rural community. Among them are the organizational challenges, technical challenges along with human, regulatory, financial and social challenges. It is evident that for VDSC members to play a more prominent role in using ICT require much support in terms of financial, social, human and organizational sustainability so as to achieve the goal of applying ICT as an adaptable, available, accessible, affordable and extendable service to deliver information to rural population (Hosseini et al., 2009). It is undeniable that there is a need to develop innovative technologies and applications that would be of beneficial to the rural community besides providing appropriate training programs to create awareness among the rural community. Indeed, the quest into achieving a digital society among the rural community is absolutely paramount and unique, and as such more studies need to be carried out to further address the shortcomings faced by village administrators, who are considered as the village catalyst, in their march towards using ICT.

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Table 1. Models that explain ICT usage

| Model | Variables |
|---|---|
| Technology Acceptance Model (TAM) | Perceived usefulness<br>Perceived ease to use<br>Attitude |
| Extended Technology Acceptance Model | Perceived usefulness<br>Perceived ease to use<br>Self-Efficacy<br>Compatibility<br>Job Relevance<br>Subjective norms |
| Innovation Diffusion Theory | Perceived usefulness<br>Perceived ease to use<br>Compability<br>Triability<br>Observability |

Table 2. Percentage Distribution of Rural Community by Level of ICT usage

| ICT Tools | | | |
|---|---|---|---|
| | 2004 | 2006 | 2008 |
| Computer | 13.5 | 24.1 | 28.2 |
| Internet | 12.0 | 18.0 | 14.0 |
| Mobile Phone | 18.1 | 19.5 | 22.0 |
| Telephone (Fixed line, public phone) | 20.6 | 17.3 | 23.3 |

Recent Statistic provided by Malaysia Multimedia and Communication Commission (2004-2008)

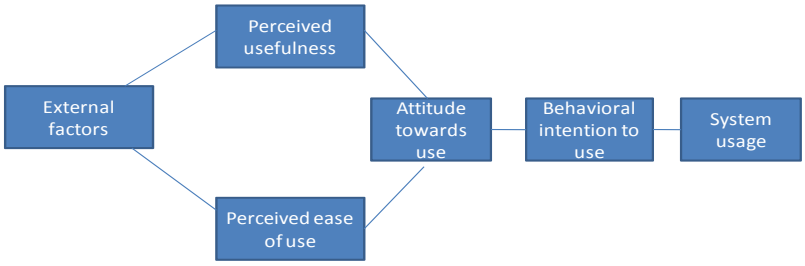


Figure 1. TAM model

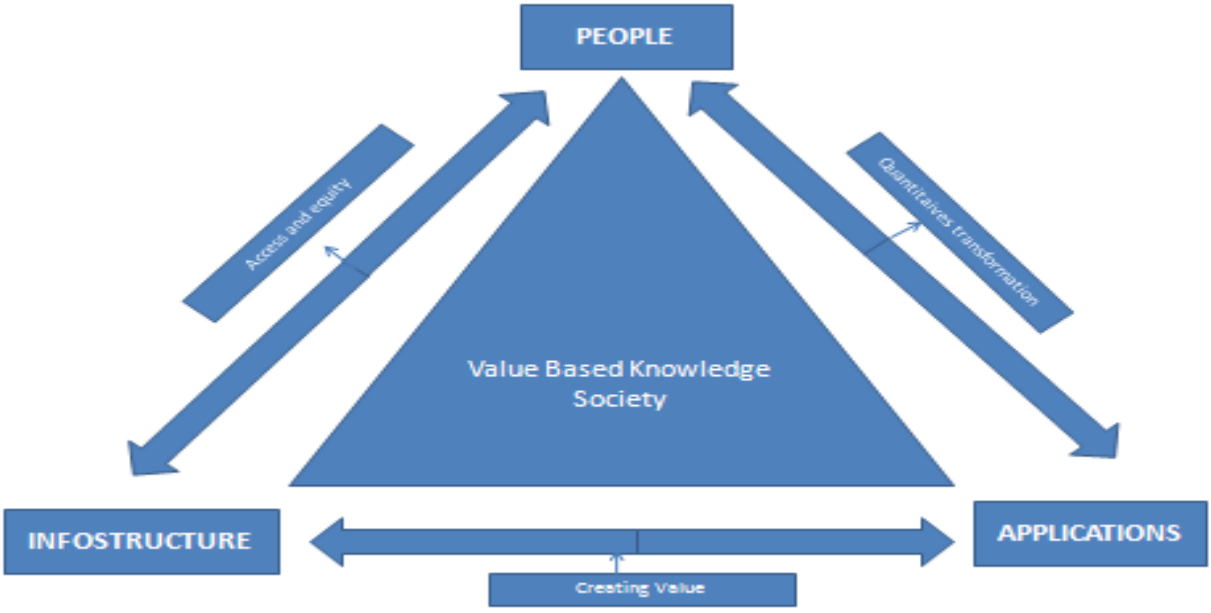


Figure 2. National Information and Technology Agenda