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Socio- economic factors that impinge computer usage in administration works among village leaders in Malaysia

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The main purpose of this paper is to discover and determine the socio-economic factors that impinge the usage of computer in the administration work among village leaders in Malaysia. Using simple random sampling, a total of 240 village leaders which are the Village Development and Security Committee members, have been selected as the respondents for this study. Face to face interview was conducted to gain the data needed. To run the appropriate analyses, SPSS software was employed. Based on the results gained, the level of computer usage in administration work among Village Development and Security Committee members was at a moderate level. There were significant difference in computer usage in administration work in the factors of gender, ICT courses attended, type of position, education and zone where the Village Development and Security Committee members live. Results show that there was significant and positive relationship between usage of computer in administration work and income per month. Positive and significant relationship also was detected between computer usage in administration work and knowledge on computer usage while significant and negative relationship can be identified between computer usage in administration work and age. To enhance computer usage in administration work among Village Development and Security Committee members, it is recommended that every Village Development and Security Committee office and member should be supplied with at least a computer and internet connection. Furthermore, subsidy on purchasing computer should be provided to Village Development and Security Committee members. Special training courses can be introduced to Village Development and Security Committee members in order to inform them on the benefits of using the computer.

Key words: Socio-economic factors, computer, village development and security committee and village vision movement.

INTRODUCTION

Information and communication technology (ICT) without doubt has an important role to play in developing a country. According to Musa (2010), ICT has emerged from the combination of two concepts which are information technology and communication. Information technology refers to method, tool, content and software involved in the unlimited process of developing, gathering, processing, managing, disseminating and recording. Communication is a process of sending, receiving and sharing of means between the related parties. Due to the fact that communication media and communication technology in many occasions are referred to the same concept, thus the concept of

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Abbreviations: NITA, National information technology agenda; **USP,** universal service provider; **PID,** rural internet centre; **MID,** rural info centre; **VDSC,** Village Development and Security Committee; **VVM,** Village Vision Movement.

information and communication technology is used. ICT includes tools, software, contents, applications and products that posses, bring together, promoting, exposing and recording message or knowledge that can be accessed and used at anytime. Computer and internet are the tools that are most related with ICT. Computer and internet nowadays are no longer considered as expensive tools; in this modern world it is more affordable.

Before we go any further, it is best for us to know something about some of the rural development programs that were initiated by the Malaysian Government. VDSC or Village Development and Security Committee was established for more than 50 years. It is a tool used by the government in creating more advanced and developed rural communities. Whatever rural communities needs in term of development will be brought and presented through VDSC and based on this the government will come out with effective plans to fulfill it. Realizing this fact, the Malaysian Government has admitted the importance of VDSC to monitor and aid the government in developing the rural community. VDSC has become the government's catalyst in assisting the rural com-munity to overcome problems such as poverty, health, illiteracy and lackadaisical attitude. Changes and adjust-ment have been made to ensure the functions of VDSC are success-ful. Programs such as Moving Forward Program, Self-Success Program and Innovation Movement Program were initiated to ensure that these changes and adjust-ment are successful. To run their villages effectively is not a main problem for VDSC because they have a huge number of members. Based on the recent statistic provided by the Department of Community Development (DCD), there are approximately 217,545 VDSC members across the country. Village Vision Movement (VVM) is another strategy of the government in exposing develop-ment to the rural community. VVM is the continuity of two previous rural development stra-tegies which were The New Way of Rural Development (NWRD) and Rural Vision Movement (RVM). VVM was launched by former Prime Minister of Malaysia, Tun Mahathir Mohamed on 26th July 2006. Under VVM there are two main units known as Social Development Unit and Economy Development Unit. Projects granted under these units focus on six main programs which are Community Friendly Program, Village Beautification Project, Village Economy Support Program, Trainings for Entreprenuer-ships, University Graduates Program and Independent Program.

In order to ensure the success of these programs, involvement of the rural community is encouraged and this is hoped to create a more developed, attractive and profitable village. Program planning was made systemati-cally and persistently. To strenghten the local institution within VVM especially VDSC, three aspects have been cultivated positively within the community namely attitude, skills and knowledge. Currently there are 7,808 villages listed as VVM in Malaysia.

Next, this paper would like to discuss more specifically about ICT development for rural community in Malaysia. A lot of efforts have been put by the Malaysia govern-ment to ensure that the rural communities are not left behind in terms of ICT development especially in term of computer and internet usage. This can be proven through the establishment of the national information and technology agenda or known as NITA. The main purpose of NITA is to promote, nurture and build ICT interest and usage among all types of communities especially the rural community. To strengthen NITA, The Eight Malaysia Plan has come out with five strategies to accomplish NITA which are e-economy, e-government, e-community, e-education and e-sovereignty. Besides NITA, the government has also come out with Universal Service Provider or USP. USP was initiated in order to ensure the communities have full access to the telephone and internet services. To further promote and encourage rural community to use computer and internet, the government has initiated two ICT projects in the rural areas known as rural internet centre (locally known as PID) and rural info centre (locally known as MID). These two centers doubtlessly have become an impetus to narrow down the digital divide between urban and rural areas besides functioning as a training and virtual interactive meeting point amongst the local communities. There are a num-ber of services that can be gained at these two centers such as basic training and ICT expertise, computer and internet courses, computer printing, website services, workshops on computer servicing and upgrading and providing village information to the whole nation. All of these services can be gained free or at a very minimum cost.

Indeed, these great agendas and programs must be accompanied by great benefits. The question that can be our main query here is what are the benefits that ICT can offer for the rural development? Experience around the world in developing, industrialized and information-based continent such as Africa and South America has shown that for the past three decades the world has witnessed drastic changes in rural development planning among the policy makers in their effort to cultivate ICT culture among the rural community (Marshal and Taylor, 2007; Herselman, 2003) and this doubtlessly also can be practiced and benefited by rural community in Malaysia. Referring to Balakrishnan (2002), if ICT can be applied wisely by the rural community; it can enhance their knowledge, skills, provide bigger opportunity to be employed, increase income and double their networks. Grimes (2000) noted that ICT obviously can increase the rural communities' opportunity to learn new things and this will produce knowledgeable rural community (e-community). Conversely, ICT is something beneficial in accomplishing someone works and provides bigger opportunities for more efficiency and effectiveness in accomplishing their works (Jung, 2001). Poverty

reduction is always related to agriculture projects in the rural areas (Hayrol et al., 2010; Ahmad et al., 2010; Jeffrey et al., 2010), however, ICT also have the same strength and can be a mechanism to overcome poverty problem in the rural areas. Rao (2004) and Abdul et al. (2009) for example, in their study noted that ICT offers remarkable opportunities for the alleviation of poverty and employment generation as well as producing higher achievement among those who master it. Farmers could greatly increase productivity with access to information on improved agricultural inputs, weather, markets, new production techniques, and farming technologies. Traders and other entrepreneurs also could benefit from marketing information and the opportunity to disseminate information about their businesses. According to Norizan (2009), ICT will enable e-entrepreneurship where e-transactions and e-skills to enhance the socio-economic status of the rural communities via the development of websites, e-payment gateways and also e-marketers. On top of it, ICT will also offer employment opportunities, assistance and tele-workers at the rural areas with the provision of broadband access and Internet links (Balakrishnan, 2002). Rural communities can work at homes and this will assist to attract more youth to work at the rural areas and reduce the migration of rural youth to the cities.

Furthermore, ICT is always related with rural development especially in reducing the digital divide problems between urban and rural communities (Zaitun and Barbara, 2005; Akca et al., 2006; Yun, 2007). Information and communication activity is a fundamental element of any rural development activity. Rural areas are often characterized as information-poor and information provision has always been a central component of rural development initiatives.

The rural poor typically lack access to information vital to their lives and livelihoods and ICT has come out with a solution to this problem (Jinqiu et al., 2007; Kawooya, 2004). With its ability to offer huge information it seems that effort to produce knowledgeable rural community is taking a step closer.

Besides these great ICT agendas, services and benefits brought by the government, do the rural community especially their leaders which are VDSC members use computer? If yes, what influences the usage and if not what influences them not to use it. This paper would like to discover socio-economic factors that affect computer usage in administration work among VDSC members.

Previous study done by Mohd Safar and Ali (2010) have proved that younger community leaders are more sustained in using computer where they claimed that interpersonal and social network and perceived and realized benefits are positively related to the sustainability of computer usage among these leaders. However, in a study done by Hayrol et al. (2009), found that senior community leaders in villages have a higher achievement in the aspects of knowledge, skills and motivation in computer usage. Income is one of the

major factors that can influence computer usage among community leaders (Saunders, 2004) but this finding was opposed by Bagchi and Udo (2007). Md Salleh et al. (2009) and Hayrol et al. (2009) in their study have clarified that experience in conducting something and holding an important position in village development programs will not affect computer usage and this contradicts with what have been found by Jokisuu et al. (2007) where they found that experience is an important determinant on computer usage. Conversely, Robinson et al. (2009) have claimed that education is the dominant factor in computer usage. In terms of gender influence on computer usage, Jokisuu et al. (2007) have claimed that gender does not have any significant impact on computer usage among people residing in rural areas while Shashaani and Khalili (2001) and Schumacher and Morahan-Martin (2001) based on their findings believed that male village leaders utilize computer more compared to female village leaders.

Based on all of the inconsistencies presented in the literature review, one question can be raised; Do all these things happen in Malaysia particularly among VDSC members? Thus this study would be able to provide the answers for this question and fulfill its objective which is to reveal the socio-economic factors that impinge the computer usage in administration work among the village leaders which are the VDSC members.

MATERIALS AND METHODS

The respondents for this study were selected based on a simple random sampling method. This method was chosen so that all individuals in the defined population have an equal and independent chance of being selected as a member of the sample. To get the respondents needed, firstly, four zones in Malaysia have been selected namely northern, east coast, central and southern. Each of the zones was represented by the state with the highest number of VDSC members which are Kedah (northern zone), Terengganu (East coast zone), Perak (Central zone) and Johor (Southern zone). Then, the state was represented by a district with the highest number of VDSC members which are Kota Star (Kedah), Kuala Terengganu (Terengganu), Kinta (Perak) and Batu Pahat (Johor). Each of these four districts was represented by 6 randomly selected VVM villages and 10 VDSC members were randomly selected from these villages. So, the overall respondents selected are 240. The instruments used were pre-tested earlier to determine its reliability. The reliability of measuring instruments is the degree of consistency with which it measures whatever is measuring. This quality is essential in any kind of measurements (Ary et al., 2002). There are a number of approaches to determine the reliability of the instrument Mohd Majid (1998) concluded that alpha value of 0.60 and above can be used to determine the reliability. Conversely, Nunnally (1978) has recommended alpha value of 0.70 and above for an instrument to be reliable.

The pre-test of this study has been conducted among 30 villagers of VVM villages in the district of Kuala Langat, Selangor. The overall Cronbach Alpha value for this study was 0.994, thus indicating that the instrument used in this study showed a good level in term of reliability and exceeding the recommended alpha value of Nunnally (1978) and Mohd. Majid (1998).

Face to face interview was employed in the data collection process. For each of the question asked for measuring computer

usage in administration work, the respondents were given a 10 point likert-like scale. There are several reasons to the usage of this scale point. On a 10-point scale, the wider distribution of scores around the mean gives us more discriminating power (Cummins and Gullone, 2000).

For instance, a respondent that routinely receives 90 percent top-two box cores on a five-point scale will likely only enjoy about 85 percent top-two box score on a seven-point scale. On a 10-point scale, the same respondent would expect a score of only about 75%. According to Allen and Rao (2000), the second reason a seven-point or 10-point scale is preferred involves covariance. In general, it is easier to establish covariance between two variables with greater dispersion (that is, variance) around their means. It is this covariance that is so critical to establishing strong multivariate dependence models. Thus, from a model development perspective, the 10-point scale is preferred.

To fulfill the objectives determined, SPSS software was used where descriptive statistics such as frequency, percentage, mean and standard deviation were employed while inferential statistics such Independent t-test, ANOVA and Pearson Correlation were performed to reveal any different and relationship that might occur between the dependent variable and independent variables. The dependent variable for this study is computer usage for administration work while there are ten independent variables studied namely gender, position in VDSC, level of education, level of computer knowledge, zone, ICT course attended, income per month, age, experience holding a position in VDSC and period of staying in VVM village.

RESULTS

Before we go to our main objective, it is better for us to know the socio-economic data of the respondents studied. Based on the results presented in Table 1, majority of the respondents studied are male (82.1%) and posses SPM/SPMV (52.5%) level of education. The mean age of the respondents studied is 50.0 years while majority of them age between 41 to 50 years old and the results gained here is almost similar to what have been found by Bahaman et al. (2009). Based on the data gained it can be seen that more than one thirds of the respondents (35.5%) are self employed. The mean score for income per month is RM1507.90 and majority of the respondents (37.1%) found to earn more than RM1501 a month. In this study it can be portrayed that majority of the respondents studied are inexperienced in administering their village where 42.1% of them are found to hold the VDSC position for less than 5 years. A total of 61.2% of the respondents found to hold a committee position compared to only 38.8% who hold the top management position. It is interesting to reveal that most of the respondents are the "senior villagers". This can be proved by the presented mean score for period of staying in the VVM village which is 38.34 years. Majority of the respondents (37.5%) were found to live in the VVM village for less than 30 years.

Referring to results gained, it is good to know that this study has come out with an early positive indicator. The mean score recorded for computer usage in a week is 11.07 h and majority of them (45.4%) are using computer for 1 to 9 h a week and 41.7% of them use computer for more than 10 hours in a week. Majority of the respondents (28.8%) were found to use the internet for more than 8 h a week compared to 25.8% of the respondents who never use the internet. All of the four zones selected (northern, central, east coast and southern) were represented by equal percentage of respondents (25.0%).

The other socio-economic factor studied is the level of knowledge on computer usage. A total of eight statements have been questioned to the respondents in order to reveal their level of knowledge in using computer. Results presented in Table 2a revealed that seven statements to measure their level of knowledge in using computer manage to record mean score of more than 5.0.

The seven statements are 1) "I know to turn off and turn on the computer easily for continuing my works" (M = 6.10), 2) "I know to save the data in the computer" (M = 5.89), 3) "I know to produce complete report or letters using Microsoft Word" (M = 5.59), 4) "I know to access files that have been saved in the computer" (M = 5.37), 5) "I know to quickly access and reply the received e-mail" (M = 5.10), 6) "I know to use the e-government services provided by the government" (M = 5.08) and 7) I know to draw schedule or chart using Microsoft Excel or Microsoft Power Point. Respondents must be taught on how to use Microsoft Excel in managing the financial record since the statement of "I know to administer the financial matters of VDSC using Microsoft Excel" (M = 4.91) has been identified to recorded the lowest mean score.

To gain the overall level of computer usage for administration work among VDSC members, the cumulitive mean score was computed from the 10 statements of computer usage for administration work. These ten statements are selected because it is believed that the administration tasks of VDSC members are related to 1) preparing letters, memo and minutes of meeting, 2) preparing village profile, 3) preparing presentation, 4) preparing monthly report, 5) preparing timeline activities, 6) preparing schedule, 7) preparing sources for billboard, 8) preparing village data and statistic, 9) communicating and 10) sending information. This cumulative mean score from the ten statements then was grouped into three categories which are low (mean score from 1 to 3.33), moderate (mean score from 3.34 to 6.67) and high (mean score from 6.68 to 10.0). Based on the results presented in Table 2b, majority of the respondents (43.8%) use computer for administration work at a low level compared to those who use computer at a high level (27.5%). More than a quarter of the respondents (28.8%) were found to use computer for administration work at a moderate level. Based on the overall mean score of 4.47 (from the maximum 10.0) it can be concluded that the overall level of computer usage for administration work among VDSC members is still at a moderate level.

To know the level of computer usage for administration work, a total of ten statements were prepared. All of these instruments have been pre tested earlier to strengthen its reliability and validity. For each question,

Table 1. Socio-economic data of the respondents.

Variable	Frequency	Percentage	Mean	Standard deviation
Gender				
Male	197	82.1		
Female	43	17.9		
Age (years)				
≤40	51	21.2	50.0	11.0
41-50	82	34.2		
51-60	60	25.0		
≥61	47	19.6		
Level of education				
PMR and primary school*	65	27.1		
SPM/SPMV**	126	52.5		
University and Pre University	49	20.4		
Type of Job				
Self-employed	85	35.5		
Retiree/housewives	62	25.8		
Government	56	23.3		
Private	37	15.4		
Income per month			1507.90	990.56
<RM750	70	29.1		
RM751-RM1500	81	33.8		
>RM1501	89	37.1		
Value in Ringgit Malaysia (RM)				
Period of holding a position in VDSC (years)				
≤5	101	42.1	8.44	1.80
6-10	85	35.4		
≥11	54	22.5		
Position				
Top management	93	38.8		
Committee	147	61.2		
Period of staying in VVM village (years)			38.34	16.82
≤30	90	37.5		
31-45	64	26.7		
≥46	86	35.8		
Period of computer usage a week (h)			11.07	9.67
0	31	12.9		
1 to 9	109	45.4		
≥10	100	41.7		
Period of internet usage a week (h)			9.05	8.68
0	62	25.8		
1 to 3	48	20.0		
4 to 7	61	25.4		
≥8	69	28.8		

Table 1. Contd.

Have attended any ICT course?		
Yes	72	30.0
No	168	70.0

*PMR- Malaysia lower education certificate. **SPM/SPMV-Malaysia higher education certificate/Malaysia Vocational Higher Education Certificate

Table 2a. Level of knowledge in using computer for administration works.

Statement	Scale										Mean	SD
	1	2	3	4	5	6	7	8	9	10		
I know to turn off and turn on the computer easily for continuing my works.	14.2	7.9	5.8	1.7	8.8	7.1	9.6	16.7	13.8	14.6	6.10	3.14
I know to save the data in the computer	14.2	9.2	4.6	3.3	8.8	10.4	10.4	15.0	11.2	12.9	5.89	3.07
I know to produce complete reports or letters using Microsoft Word	14.6	9.6	6.2	4.2	10.0	12.1	10.8	12.1	9.6	10.8	5.59	3.01
I know to access files that have been saved in the computer	16.7	10.0	6.2	2.9	11.2	11.2	14.2	10.0	7.9	9.6	5.37	3.00
I know to quickly access and reply the received e-mail	18.3	10.0	8.8	4.2	10.8	11.7	10..8	9.6	6.2	9.6	5.10	3.01
I know to use the e-government services provided by the government	21.2	8.3	6.2	6.2	8.3	10.0	13.3	12.1	7.1	7.1	5.08	3.02
I know to draw schedule or chart using Microsoft Excel or Microsoft Power Point	17.5	10.8	7.1	7.1	11.7	11.2	10.8	9.2	8.3	6.2	5.01	2.90
I know to administer the finance of VDSC using Microsoft Excel	17.5	11.2	9.2	4.6	12.5	12.9	9.2	10.4	7.1	5.4	4.91	2.86

Table 2b. Overall level of computer usage for administration works among VDSC members.

Level	Frequency	Percentage	Mean	SD
			4.47	2.63
Low (1 to 3.33)	105	43.8		
Moderate (3.34 to 6.67)	66	27.5		
High (6.68 to 10.0)	69	28.7		

respondents were given an option of ten likert scale question. Based on the mean scores depicted in Table 3 (from 3.43 to 4.98 from maximum mean score of 10.0), it can be concluded that VDSC members must be encouraged to use computer in their administration work, it is important because doubtlessly computer can assist VDSC members in their work such as initiate more systematic work, save space and widen the communication networks (Gakuru et al., 2009; Pickernell et al., 2004; Duan et al., 2009). The statement of "Preparing letters, memo, minutes meeting and reminder, etc" recorded the highest mean score (M = 4.98), followed by the statement of "Preparing Village Profile" (M = 4.92) and the statement of "Preparing presentation using Microsoft Power Point" (M = 3.90). The lowest mean score was recorded by the statement of "Sending information required to related agency through e-government services" (M = 3.43).

Table 3. Computer usage for the purpose of administration works among VDSC.

Statement	Scale										Mean	SD
	1	2	3	4	5	6	7	8	9	10		
Preparing letters, memo, minutes meeting and reminder, etc	18.8	12.5	10.0	7.9	6.7	5.8	9.6	9.2	11.7	7.9	4.98	3.12
Preparing village profile	18.8	8.3	16.2	7.1	7.1	5.0	8.8	12.5	10.0	6.2	4.92	3.03
Preparing presentation using Microsoft Power Point	32.9	14.2	9.2	5.4	7.5	5.4	7.1	8.8	6.2	3.3	3.90	2.96
Preparing monthly report regarding administration and village development	17.9	15.0	11.2	6.2	4.6	6.7	10.4	15.0	7.5	5.4	4.84	3.02
Preparing timeline for activities scheduled	20.0	13.3	9.6	7.5	7.9	8.3	10.8	12.9	5.8	3.8	4.64	2.88
Preparing schedule for VDSC tasks	21.2	13.3	10.0	6.2	10.0	7.5	8.3	11.7	7.9	3.8	4.58	2.93
Preparing sources for billboard at VDSC room or mosque	19.2	12.9	13.8	7.5	6.2	7.9	14.2	11.7	3.8	2.9	4.50	2.77
Preparing village data and statistic	18.3	16.2	13.8	4.2	11.2	6.7	9.6	12.1	3.3	4.6	4.45	2.82
Communicating with VDSC members and village community	28.3	10.8	9.2	7.1	7.5	3.3	7.9	13.3	7.9	4.6	4.43	3.10
Sending information required to related agency through e-government services	37.1	12.1	11.7	7.5	7.9	7.9	5.4	5.0	2.5	2.9	3.43	2.65

In this part we will focus on our main objective, which is to know the socio-economic factors that impinge computer usage in administration work among VDSC members. In this part the independent t-test was employed in order to inspect any difference that might occur between computer usage in administration work and selected independent variables.

Based on the results shown in Table 4, it can be seen that there is significant difference between male and female respondents in using computer for administration work where for male respondents M = 4.71, SD = 2.67 and for female respondents M = 3.37, SD= 2.14; t (240) = 3.082, p = 0.002. There is a possibility that male respondents use computer more for administration work compared to female respondents based on the higher mean score recorded. Result gained here is different from what have been found by Ndubisi and Kahraman (2005).

Further analysis was employed in order to investigate any difference in computer usage for administration works that might occur between top management and committee members. Based on M = 5.26, SD = 2.59 for top management and M = 3.96, SD = 2.59; t (240) = 3.827, p = 0.000 for committee members, there is significant

difference that occur between these two groups. There is a possibility that the top management use computer more for administration work than committee members based on the higher mean score recorded by this group and results gained here is consistent with what has been found by Vorobyov (2005) and Hayrol Azril et al. (2009).

Further analysis was performed to inspect any different in computer usage between respondents who have attended any ICT course and respondents who have never attended any ICT course.

Based on the independent t-test performed, it resulted in (M = 5.33, SD = 3.54) for respondents who have attended ICT course and (M = 3.54, SD = 2.09; t (240) = 6.054, p = 0.0001), thus it can be concluded that there is significant difference in computer usage between respondents who have attended ICT course and respondents who have never attended ICT course. There is possibility that res-pondents who have attended ICT course use computer more than respondents who have never attended ICT course based on the higher mean score recorded by this group (M = 5.33). Results gained here is parallel with what have been emphasized by a number of previous studies. Musa et al. (2009) for example noted that rural community will know to use computer if they are

Table 4. Comparison in computer usage for administration works and selected independent variables using independent t-test.

Variables	n	Mean	SD	t	p
Gender				3.082	0.002
Male	197	4.71	2.67		
Female	43	3.37	2.14		
Position				3.827	0.000
Top management	93	5.26	2.50		
Committee	147	3.96	2.59		
Have attended any ICT course				6.054	0.0001
Yes	72	5.33	2.12		
No	168	3.54	2.09		

Table 5. Comparison in computer usage for administration works and selected independent variables using ANOVA.

Variable	n	Mean	SD	F	p
Level of education				27.346	0.0001
PMR and primary school	65	2.79	2.18		
SPM/SPMV	126	4.73	2.53		
University and pre-university	49	6.01	2.22		
Zone				5.204	0.002
Southern	60	5.44	2.67		
Northern	60	4.43	2.68		
East Coast	60	4.39	2.51		
Central	60	3.60	2.35		

frequently exposed to suitable ICT program while Carey et al. (2002), revealed that the number of training skills attended have a significant effect on the computer usage.

To further identify any difference that might occur between computer usage in administration work and selected independent variables, ANOVA was used and the results are presented in Table 5.

Is there any difference in computer usage between lower and higher education group? Previous study has proved that level of education can play an important role in enhancing level of computer usage (Warren, 2004). For the purpose of analysis, respondents were divided into three groups which are 1) primary school/PMR, 2) SPM/SPMV and 3) University and pre-university. Based on the F value (3, 240) = 27.346, $p < 0.05$, there is significant difference between the three groups studied. Further analysis employed proved that there is significant difference between respondents who received pre-university and university level of education and respondents who received primary school/PMR and SPM/SPMV level of education.

There is a possibility that respondents with pre-university and university level of education use computer more for their administration work based on the highest mean score gained (M = 6.01).

Previous study completed by Gilligan (2006) revealed that regions or zones where people live have an impact on their level of computer usage, but can the results gained by Gilligan (2006) be applied in the Malaysian context especially among the VDSC members? Table 5 has the answer. The highest mean score was recorded by respondents who live in southern zone (M = 5.44). Probably, respondents who live in southern zone got more benefits of computer usage in their administration work based on the highest mean score recorded by this group.

The second highest mean score was recorded by respondents who live in northern zone (M = 4.43). The lowest mean score was recorded by respondents who live in central zone (M = 3.60). Based on the F value (4, 240) = 5.204, $p < 0.05$, there is significant difference found on the four zones. Post Hoc analysis employed showed that there was significant difference between respondents who live in southern zone and respondents who live in northern, east coast and central zone.

Table 6. Relationship between computer usage in administration works and selected independent variables.

Variables	r	P
Knowledge on computer usage	0.649	0.0001
Income per month	0.399	0.0001
Age	-0.144	0.025
Experience	0.110	0.088
Period staying in VVM village	-0.083	0.200

Relations between computer usage in administration works and selected independent variables

Pearson product-moment correlation analysis was employed to inspect the relationship between the computer usage for administration work and selected independent variables. Results of analysis are presented in Table 6.

Based on the results gained, significant and positive relationship occured between level of knowledge on computer usage and computer usage for administration works (p < 0.05). Results gained (r = 0.649) proved that there was positive and moderate relationship between knowledge on computer usage and computer usage for administration work. This indicates that the higher the level of knowledge the respondents possess, the higher their level of computer usage for administration work.

Conversely, positive and significant relationship was also detected between computer usage in administration work and income per month (p < 0.05). Result gained (r = 0.399) proved that there is positive and low relationship between computer usage for administration work and income per month. This indicates that as the income of the respondents increase, the usage of computer in their administration work will also increase and this is consistent with what have been revealed by Quibria et al. (2002).

Negative and significant relationship was found between computer usage in administration works and age (p < 0.05). Result gained (r = -0.144) revealed that there was negative and low relationship between computer usage for administration work and age. This indicates that as the age of the respondents increase, the usage of computer in their administration work will decrease. This is in line with a study done by Taylor et al. (2003). However, analysis done revealed that there is no significant relationship between computer usage for administration work and experience for holding a position in VDSC and period of staying in the VVM village.

Conclusion

The Government has come out with a tremendous plan in reducing the digital divide between rural and urban people. One of the effective strategies in reducing the digital divide is by encouraging the village leaders which are the VDSC members to use ICT especially computer in their administration work. This study has revealed that majority of the VDSC members in Malaysia are male, posses SPM certificates, earn more than RM1501 a month, self-employed and among the senior villagers.

Effective strategies to encourage computer usage among VDSC members must be taken instantly by the responsible agencies due to the moderate mean score of computer usage on administration work. Significant differences were found on the factors of gender, ICT courses attended, level of education, type of position, zone where VDSC members live while significant relationships were found on the factors of knowledge on computer usage, income per month and age.

DISCUSSION

As mentioned earlier, VDSC members must be encouraged to utilize computer in their administration work. Strategies such as conducting computer courses and seminars are believed to have an impact to enhance VDSC members' knowledge on computer usage and motivate them to use computer. Based on this study, one important thing that must be taken into account by the responsible agencies is that all the VDSC offices and members in every zone must be provided with computer and internet line as this study had revealed that residing in different zones have an impact on the level of computer usage in administration works. It is without any doubt that being denied to computer access is one of the main reasons why people especially rural community leaders do not want to use computer and this is in line with previous studies that were carried out by McNeill et al. (2007) and Musa (2002)

The study has also identified that the financial factor can be a considerable barrier for the low income VDSC members to posses computer. Quibria et al. (2002) have revealed that income is a dominant factor for computer usage and claimed that those with higher income seem to have higher financial ability to posses computer thus enhance the possibilities of more usage of computer. In line with this, one effective initiative that can be taken into account to help the low income VDSC members to posses their own computer is by providing subsidy and other financial aid for them to buy computer. Malamud and Pop-Eleches (2010) have come out with a good example on how governments in the South American countries such as Brazil, Uruguay, Peru and Columbia have successfully enhanced the computer usage among the low income group by introducing subsidy on computer purchase. There is a possibility that VDSC members also can receive similar subsidy in order to encourage them to use computer more in their administration work. By having the subsidy there is also a possibility that the difference in computer usage for administration work between the top management and committee members

can be reduced.

Differences in computer usage was found between males and females VDSC members in this study and this is not a new issue since males in villages have more opportunities to use computer compared to females due to their position as VDSC members. On top of it, past literatures that examined on the usage of computer among gender have revealed that males used computer better than females because males showed stronger beliefs and competence in use of computers and expressed a high confidence in their own ability to work with computers (Shashaani and Khalili, 2001; Schumacher and Morahan-Martin, 2001).

Another important result from this study is the significant difference that was found between high and low educated VDSC members. Quibria et al. (2002) have the answer for this difference, they claimed that less educated people will have less opportunity to have a better job and better income and this will affect their chances to possess a computer and minimize their computer usage. In this study, VDSC members especially those with only primary and PMR level of education must be encouraged and exposed frequently to computer usage, special training courses may be necessary to demonstrate to VDSC members on what benefits that computers can offer to them.

REFERENCES

Abdul Razaq A, Norhasni ZA, Jamaludin B, Pang SW (2009). Computer usage and achievement among adults in rural area Malaysia. J. Soc. Sci., 5(1): 1-8.

Ahmad Faiz AN, Jegak U, Hayrol Azril MS, Khairuddin I, Jeffrey Lawrence DS (2010). Fisheries industry potential and issues, a case from freshwater cages entrepreneurs in the district of Kuala Pahang, Malaysia: suggestions for intensification of fishery industry. J. Soc. Sci., 6(2): 206-211

Akca H, Murat S, Kemal E (2006). Challenge of rural people to reduce digital divide in the globalized world: theory and practice. J. Gov. Inf. Q., 24(2): 404-413.

Allen DR, Rao TR (2000). Analysis of customer satisfaction data: a comprehensive guide to multivariate statistical analysis in customer satisfaction, loyalty and service quality research. American Society for Quality, United States of America.

Ary D, Jacobs CL, Razavieh A (2002). Introduction to research in education. Belmont, CA: Wadsworth/Thomson Learning.

Bagchi K, Udo G (2007). Empirically testing factors that drive ICT adoption in Africa and OECD set of nations. J. Issues Inf. Syst., 8 (2): 45-52.

Balakrishnan R (2002). Harnessing ICT for advancement of rural women: FOA perspectives and strategic actions. Paper presented at United Nations Division for the Advancement of Women (DAW) Expert Group Meeting on "Information and Communication Technologies and Their Impact on and Use as an Instrument for the Advancement and Empowerment of Women" Seoul, Republic of Korea, pp. 11-14.

Carey J, Chisholm I, Irwin L (2002). The impact of access on perception and attitudes towards computers: An international study. J. Educ. Media Int., 39(3-4): 223-235.

Cummins RA, Gullone E (2000). Why we should not use 5-point likert scales: the case for subjective quality of life measurement. Proceedings, Second International Conference on Quality of life in Cities (pp. 74-93). National University of Singapore, Singapore.

Duan M, Warren M, Lang Y, Lu S, Yang L (2009). An analysis of ICT development strategy framework in Chinese rural areas. J. Comput Comput. Technol. Agric., 259(3): 1835-1844.

Gakuru M, Winters K, Stepman F (2009). Innovative farmers' advisory services using ICT. Paper presented at W3C Workshop "Africa perspective on the role of mobile technologies in fostering social development", Maputo, Mozambique. pp. 1-2.

Gilligan R (2006). Questioning the rural adoption and use of ICT. J. Comput. Sci., 32(5): 155-167.

Grimes S (2000). Rural Areas in the Information Society: Diminishing Distance or Increasing Learning Capacities? J. Rural Stud., 16: 13-21.

Hayrol Azril MS, Ahmad Faiz AN, Khairuddin I, Jegak U, Jeffrey Lawrence DS (2010). Agriculture project as an economic development tool to boost socio-economic level of the poor community: the case of agropolitan project in Malaysia. Afr. J. Bus. Manage., 4(11): 2354-2361.

Hayrol Azril MS, Bahaman AS (2009). Perception towards the importance of information and communication technology among rural administrators. J. Agric. Ext. Soc. Sci., 5: 67-72.

Herselman ME (2003). ICT in rural areas in South Africa: various case studies. J. Inf. Sci., 25: 945-955.

Jeffrey Lawrence DS, Hayrol Azril MS, Jegak U, Bahaman AS (2010). Socio-demography factors that influence youth attitude towards contract farming: a case from Peninsular Malaysia. Am. J. Appl. Sci., 7(4): 603-608.

Jinqiu Z, Xiaoming H, Banerjee I (2007). The sustainability of public internet access centers: lesson learned from ICT projects in rural China. Paper presented at Conference on Empowering Rural Communities through ICT Policy and Research, December, pp. 15-17, Chennai, India.

Jokisuu E, Kankaanranta M, Neittaanmäki P (2007). Problems and Barriers in Information and Communications Technology Usage among Senior Citizens in Finland. Paper presented at 1st International Conference on Software Development for Enhancing Accessibility and Fighting Info-exclusion. UTAD – Universidade de Trásos- Montes e Alto Douro, Vila Real, Portugal, pp. 8-9. November.

Jung I (2001). ICT-pedagogy integration in teacher training: application cases worldwide. J. Educ. Technol. Soc., 8(2): 94-101.

Kawooya D (2004). Universal access to ICT and lifelong learning: Uganda's experience. J. New Library World, 105(11/12): 423-428.

Malamud O, Pop-eleches C (2010). Home computer use and the development of human capital. Available at: http://www.nber.org/papers/w15814.pdf

Marshal S, Taylor W (2007). Using ICT for rural development. Electron. J. Educ. Dev. Using Inf. Commun. Technol., 3(2): 2-3.

McNeill LH, Puleo E, Bennett GG, Emmons KM (2007). Exploring social contextual correlates of computer ownership and frequency of use among urban, low-income, public housing adults residents. J. Med. Internet Res., 9: 4.

Md. Salleh H, Hayrol Azril MS, Musa AH, Jeffrey Lawrence DS (2009) Developing agriculture in Malaysia: internet utilization among Malaysian youth. Eur. J. Soc. Sci., 11(2): 215-224.

Mohd Majid K (1998). Kaedah Penyelidikan Pendidikan. Kuala Lumpur. Dewan Bahasa dan Pustaka Publisher, Kuala Lumpur, Malaysia

Mohd Safar H, Ali S (2010). Factors affecting sustainability of internet usage among youth. J. Elect. Lib., 28(2): 300-313.

Musa AH (2002). Roles and ICT usage among the community. University Putra Malaysia Publisher, Malaysia.

Musa AH, Md Salleh H, Hayrol Azril MS, Jeffrey Lawrence DS (2009). Problems and obstacles in using information and communication technology (ICT) among Malaysian agro-based entrepreneurs. Eur. J. Sci. Res., 36: 93-101.

Musa AH (2010). Information and Communication Technology and Community Development. Paper presented at IPSAS Intellectual Discourse, IPSAS Meeting Room, University Putra Malaysia, Serdang, Selangor.

Ndubisi NO, Kahraman C (2005). Malaysian women entrepreneurs: understanding the ICT usage behaviors and drivers. J. Enterp. Inf. Manage., 18(6): 721-739.

Norizan AR (2009). Empowering the rural communities via the telecenters. J. Eur. Soc. Sci., 9(3): 425-432.

Nunnally JC (1978). Psychometric Theory. 2nd Edition. Mc-Graw Hill,

New York.

Pickernell DG, Christie MJ, Rowe PA, Thomas BC, Putterill LG, Griffith JL (2004). Farmers market in Wales: making the network?. J. Br. Food, 106(3): 194-210.

Quibria MG, Ahmed SN, Tschang T, Mari-Len R. (2002). Digital divide: determinants and policies with special references to Asia. J. Asian Econ., 13(6): 811-825.

Rao SS (2004). Role of ICTs in India's rural community information systems. J. Inf., 6(4): 261-269.

Robinson P, Shaheen M, Smith J, Ryan D, Baker R (2009). Residential accessibility to information technology retailers and self reported computer use among patients attending community clinic. In AMIA Annual Symposium Proceeding, pp. 542-546

Saunders EJ (2004). Maximizing computer use among elderly in rural senior centers. J. Educ. Gerontol., 30: 573-585.

Schumacher P, Morahan-Martin J (2001). Gender, internet and computer attitudes and experience. J. Comput. Hum. Behav., 17: 95-110.

Shashaani L, Khalili A (2001). Gender and computers: similarities and differences in Iranian college students' attitude towards computer. J. Comput. Educ., 37(3-4): 363-375.

Taylor WJ, Zhu GX, Dekkers J, Marshall S (2003). Socio-economic factors affecting internet usage patterns in central Queensland. J. Inf. Sci., 6: 233-246.

Vorobyov GD (2005). Computer and internet use in the work place: a common sense approach. J. Psychol. Manage., 8(2): 177-187.

Warren M (2004). Farmers online: drivers and impediments in adoption of internet in UK agricultural businesses. J. Small Bus. Enterp. Dev., 11(3): 371-381.

Yun L (2007). An empirical analysis of the determinants of international digital divide. J. Adv. Inf. Commun. Technol., 252: 445-452.

Zaitun AB, Barbara C (2005). Overcoming the digital divide – a proposal on how institution of higher education can play a role. Malaysian Online J. Instr. Technol., 2(1): 1-11.