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Factors influencing Awareness Level of Extension Personnel Regarding Information and Communication Technologies

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Abstract

ICT stands for the information and communication technologies which can be broadly interpreted as technologies that facilitate communication, processing and transmission of information by electronic means. It is defined as technologies involved in collecting, processing, storing, retrieving, dissemination of information using microelectronics, optics, telecommunication and computers. ICT comprises a set of technological tools and resources to create, disseminate, store and manage data and information. Traditional ICT tools eg., T.V, Radio and Telephone have already established their credibility and effectiveness in transfer of information and new technology to the farmers. The present study was carried out in Cuddalore district. The respondents were selected based upon simple random sampling. 120 extension personnel were selected. The data were collected through a well structured and pre-tested Questionnaire. The statistical tools used were viz., cumulative frequency method, percentage analysis, zero order correlation and multiple regressions. The findings were meaningfully interpreted and relevant conclusions are drawn. Out of 15 variables seven variables had shown significant association with the awareness on ICT tools. Among the seven variables age, educational qualification, possession of ICT gadgets, perception towards ICT, ICT credibility and orientation towards ICT based extension service profession had shown positive and significant association with awareness on ICT tools at 0.01 per cent level of probability. The variable training undergone in ICT had shown positive and significant association with awareness on ICT tools at 0.05 per cent level of probability.

Key words: Extension Personnel, ICT tools, Correlation, Regression, Awareness level.

Introduction

Information and communication technologies have unique features that provide opportunities to harness them in ways that are different from how the traditional media have

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been used for development. Once mastered in ICTs potentially it allow every user to be a sender, receiver and broadcaster; facilitate the merging of global, local knowledge and information, support, create and strengthen interactive and collaborative networks that enable information to flow to and from rural communities; facilitate dialogue between communities, intermediaries and development organizations; foster coordination of national and local development efforts and overcome physical barriers to knowledge and information sharing.

Agricultural Extension, in the current scenario of a rapidly changing world, has been recognized as an essential mechanism for delivering knowledge (information) and advice as an input for modern farming and the role of ICT in actualizing so has drawn interest of practitioners (Richardson, 2003). The application of ICT in the field of agriculture and allied sectors has been reported from different parts of the globe.

Agricultural development can be accelerated and livelihoods can be supported by ICT in so many ways. The dramatic changes that have taken place in the last decade in ICT have touched almost every field of human activity and agriculture is not an exception. ICT has tremendous potential to revolutionize the way information, knowledge and new technology is managed, developed and delivered to farmers through ICT utilization in agriculture. ICTs have been used to provide relevant information to farmers to improve their productivity, increase yields and obtain better prices for their produce (Bhatnagar and Schware, 2002). The most significant ICT applications are providing efficient access to useful information, securing adequate feedback for learning, providing tailor made advice, exchanging of similar experiences of people elsewhere, and providing inventory and/evaluation of opinions (Leeuwis, 2003).

Being an agriculturally rich country, India needs to harness the power of Information and Communication Technologies (ICTs) in the field of agricultural development. The new agricultural paradigm in India will have to be recast to take advantage of the wealth of knowledge available to achieve multiple goals of sustaining the food security, income, jobs, etc. The ICTs along with knowledge management (KM) strategies have significant role to play in evolving such a vibrant agricultural system.

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Methodology

The present study was carried out in Cuddalore district. The respondents were selected based upon simple random sampling. 120 extension personnel including 12 ADAs, 15 AOs, 5 ASOs, 60 AAOs, 13 BTMs and 15 ATMs. The data were collected through a well structured and pre-tested Questionnaire. The statistical tools used were viz., cumulative frequency method, percentage analysis, zero order correlation and multiple regressions. The findings were meaningfully interpreted and relevant conclusions are drawn. The accessibility to computer was operationalised as the extent to which the respondents are efficient in operating the computers and internets. The accessibility to computer was measured by never, rarely, sometimes and never with the score of 1,2,3 & 4. The possession of e-mail ID was categorized into two categories. Those are having means 'yes' and those are not having means 'no' with the score of 2 &1.

Perception is the process whereby an individual reviews stimuli through various senses and interprets them. Taneja (1989) defines perception as the process of understanding sensation or attaching meaning based on past experience to signs. Perception of the same situation may differ from individual to individual. The various perceptional statements used to measure the perception of extension agents about ICT use. To study the perception of the extension personnel an exhaustive list of different perception statements were framed in consultation with the scientist. Finally 13 statements were selected. There were three response categories namely 'Highly satisfied', 'Somewhat satisfied' and Not at all satisfied' provided with scores of 3, 2 and 1 respectively. The scores for all items were summed up to get individuals total score. By employing cumulative frequency method and percentage analysis method the respondents were categorized as low, medium, high.

Results and Discussion

Accessibility to computer

To know about the accessibility to computer by the extension personnel data are collected and presented in Table 1.

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Table 1. Distribution of extension personnel according to their accessibility to computer (n=120)

S. No	Category	Number	Per cent
1.	Never	04	3.33
2.	Rarely	11	9.17
3.	Sometime	16	13.33
4.	Always	89	74.17
	Total	**120**	**100.00**

The results in Table 1, indicated that most (74.17 per cent) of the extension personnel were always accessed the computer followed by some time access (13.33 per cent), rarely access (9.17 per cent) and the remaining (3.33 per cent) of the extension personnel access to computer. It was interpreted from the above findings computers are now used for various purposes in agriculture. All the information is gathered through the internet, it is access through computer, laptop, tablet and android phones anywhere, any time and most of the extension personnel owned the ICT gadgets. This may be the probable reason for high level of accessibility to computer. This finding is line with the finding of Agwu and Ogbonnah (2014).

Possession of E-mail ID

The details on the possession of e-mail ID by the extension personnel data are collected and presented in Table 2.

Table 2. Distribution of extension personnel according to their possession of e-mail IDs (n=120)

S. No	Category	Number	Per cent
1.	Personal	80	66.67
2,	Official	40	33.33
	Total	**120**	**100.00**

*-Multiple response

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It evident from the Table 2 that more than two-third (66.67 per cent) of the extension personnel had their own personnel e-mail IDs. The remaining (33.33 per cent) had official IDs. Hence, it could be concluded that almost all the extension personnel were operating both personnel and official e-mail IDs and utilize it for the purpose of sending and receiving official communications and also to exchange greetings among friends and relatives. They can also make use of the e-mail IDs for operating bank accounts, booking air, bus and train tickets etc. This finding is accordance with the findings of Sulaiman *et al.,* (2015).

Perception towards ICT

Perception of the same situation may differ from individual to individual. The various perceptional statements used to measure the perception of extension agents about ICT use. To know about the perception towards ICT by the extension personnel data are collected and presented in Table 3.

Table 3. Distribution of extension personnel according to their perception towards ICT (n=120)

S. No	Category	Number	Per cent
1.	Low	23	19.17
2.	Medium	58	48.33
3.	High	39	32.50
	Total	**120**	**100.00**

The collected data indicated that medium level of perception towards ICT was found among (48.33 per cent) of the extension personnel followed by high level (32.50 per cent) and remaining (19.17 per cent) of them had low level of perception towards ICT. Hence, it could be concluded that nearly half of the extension personnel had medium level of perception towards ICT. Because most of the respondents are aware of that extension work can be greatly enhanced by ICT and ICT usage has a great significance in agricultural development. This may have positive impact in transferring the modern agricultural

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technologies to the farmers for sustainable agricultural development. This finding is in accordance with the findings of Prodhan and Afrad (2014).

Association and contribution of characteristics of extension personnel with their awareness on ICT tools

Correlation and multiple regressions co-efficient were worked out to find out the relative association and contribution of independent variables towards the awareness on ICT tools of extension personnel. The results are presented in Table. 4.

Correlation analysis

It could be seen from the Table 4 revealed that out of 15 variables seven variables had shown significant association with the awareness on ICT tools. Among the seven variables age, educational qualification, possession of ICT gadgets, perception towards ICT, ICT credibility and orientation towards ICT based extension service profession had shown positive and significant association with awareness on ICT tools at 0.01 per cent level of probability. The variable training undergone in ICT had shown positive and significant association with awareness on ICT tools at 0.05 per cent level of probability. The remaining variables namely gender, professional cadre, experience in service, membership in social networks, time management, accessibility in computer, e-mail ID's and perceived attributes of ICT did not shown any association with awareness level.

Regression analysis

Multiple regression analysis was carried out to find out the relative contribution of each variable towards the awareness on ICT tools. It could be observed from the Table 4 that all the 15 independent variables taken together explained 68.20 per cent variation in the awareness on ICT tools of extension personnel.

The 'F' value (11.482) was found to be significant. The liner regression equation fitted was as follows.

$Y_1=6.26+1.171X_1*+0.230X_2+0.515X_3+0.435X_4**+0.119X_5+1.417X_6*+1.125X_7+0.105X_8*+0.110X_9+0.223X_{10}*+0.118X_{11}+0.182X_{12}+0.150X_{13}+0.113X_{14}+0.247X_{15}$

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Out of the 15 variables, educational qualification was contributed significantly at 0.01 per cent level of probability. Age, training undergone in ICT, perception towards ICT and orientation towards ICT based extension service profession were contributed significantly at 0.05 per cent level of probability.

Table 4. Association and contribution of characteristics of extension personnel with their awareness on ICT tools.

Variable No.	Independent variables	Correlation Co-efficient	Regression Co-efficient	Standard error	t' value
X1	Age	0.337**	1.171	0.245	2.421*
X2	Gender	0.168	0.230	0.230	1.130
X3	Education qualification	0.305**	0.435	0.128	3.402**
X4	Professional cadre	-0.152	0.515	0.680	0.758
X5	Experience in service	0.129	0.119	0.485	1.163
X6	Membership in social networks	0.208	0.113	0.318	0.605
X7	Training undergone in ICT	0.255*	0.105	0.221	2.145*
X8	Time management	0.213	0.110	0.118	1.416
X9	Possession of ICT gadgets	0.294**	0.118	0.128	1.762
X10	Accessibility to computer	-0.171	1.125	1.156	-1.670
X11	e-mail ID	0.115	0.182	0.297	0.628
X12	Perception towards ICT	0.355**	0.223	0.475	2.128*
X13	ICT credibility	0.324**	0.150	0.384	-1.518 NS
X14	Perceived attributes of ICT	0.201	0.247	0.326	0.502
X15	Orientation towards ICT based extension service profession	0.636**	1.417	1.077	2.356*

R^2 =0.682 * - Significant at 0.05 per cent level

A= 6.26 **- Significant at 0.01 per cent level

F= 11.482 NS- Non Significant

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Thus, it concluded that, middle age category of the extension personnel and education plays a significant role in creating awareness and interest in innovations. It is also fundamental to the understanding of the usage, and functionalities of computer appliance. Information sources utilization leads to a tendency towards more awareness on ICT tools in agricultural extension service delivery of extension workers. Majority of the extension personnel be aware of that extension work can be greatly enhanced by ICT, hence, the variable perception towards ICT, Possession of ICT gadgets and ICT credibility shown a positive relationship with awareness level. This finding derives support from the findings of Ajayi *et al.,* (2013).

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