



e-READINESS OF FARMERS IN AGRICULTURAL EXTENSION SYSTEM: A CASE OF RI-BHOI DISTRICT, MEGHALAYA, INDIA

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Abstract

A study was conducted in Umiet village, Ri-Bhoi district, Meghalaya, India, to measure the e-readiness of the agricultural farmers towards use of Information and Communication Technologies (ICTs.) An index was developed to measure in order to the e-readiness of farmers towards use of ICTs in agricultural extension system. Here, e-readiness is defined as physical, motivational, and literacy readiness of farmers to use ICTs in agricultural extension system. The findings show that majority of the respondents were middle aged (56.25%), male (57.50%) and studied up to secondary level (71.25%) respectively. About 61.25 per cent respondents possess smart phone with internet connection to their mobile phones. Study also reveals that components like availability basic elementary ICT expertise, internet expertise and software literacy expertise were found to be very shabby but the motivation dynamics of the respondents were found to be very high.

Key words: ICTs, e-readiness, farmers

Introduction

The ongoing hasty advance of Information and Communication Technologies (ICTs) has, in reality, made access to information easier & prominently, a lot more freely accessible to the wider populace around the world. The truth is however, that as much as the technology can forge a path of rapid development-its establishment can, if incongruously grip, significantly aggravate progress efforts and ravage both time and very scant resources. Function of the technology is tackled by a range of factors-including substantively, very human ones which ought to be faced & resolved, if it is to capitulate affirmative outcome. During the preceding decade, various leaders in administration, commerce, and societal organizations

around the globe had considered how preminent to harness the supremacy of information and communication technology (ICT) for development. Quantifying E-readiness is intended to channel expansion efforts by providing standards for evaluation and determining growth. Quite a few e-readiness initiatives have been launched to help developing countries in this sector, and plentiful E-readiness appraisal gears have been formed and used by diverse clusters (The World Bank, 2005). Frequent alteration in the agricultural sector around the humankind that occurred are due to outcome from forces that are motivating agriculture at present like: climate change, alter in natural resources quality, lack of coping policies at micro and worldwide stages of decision making, globalization, the promising market forces and sustainability constrictions. ICTs can aid in ease extension workers to

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congregate, accumulate, recover, acclimatize, confine and publicize a broad range of information needed by farmers (Meera *et al.*, 2010). The relevance of ICTs in the field of agriculture and allied sectors has been reported from diverse parts of the world. In India, agriculture is one of the most imperative sectors, and could gain enormously with the appliance of Information and Communication Technologies (ICTs) principally in transforming the socio-economic conditions of deprived in diffident areas. Information and Communication Technology (ICT) has a vital responsibility in linking research, extension and the market toward mounting the specialized and entrepreneurship capabilities, capacities among the specialists and the agricultural societies. e-readiness is defined as the degree to which an economy or community is prepared to participate in the digital economy (APEC, 2000). e-Readiness is the ease of use and access to IT infrastructure, the policies to sustain and to partake in the international global network (Powell, 2000). Frontline extension workers who become the direct link between farmers and other actors in the extension of agricultural knowledge and information systems are well positioned to make use of ICT to access expert knowledge or other types of information that could facilitate the accomplishment of the farmers' routine activities (Omotayo, 2005). ICT includes know-how and systems for gathering, managing and processing as well as communicating information (Akpabio *et al.*, 2007), depends To a large extent, agricultural extension depend son information exchange between and amongst farmers, has been accredited as one area in which ICT can have a predominantly significant influence (Ballantyne and Bokre, 2003). ICTs are progressively perceived as cost-effective and as sensible tools to ease information deliverance and knowledge division among farmers, extension agents and other stake holders (Annor-Frempong *et al.*, 2006). ICT readiness appraisal permits individual to devise inclusive e-Learning approaches and efficiently execute ICT objectives (Kaur and Abas, 2004). ICT readiness estimation help a nation's head to quantify and preparation for ICT amalgamation, focus their efforts and recognize areas where supplementary concentration is obligatory (Krull, 2003). The role of extension in the agricultural information system as a connecting linkage between the farmers and the research centers, ICTs should play its task in exploiting the recent information and passing on it to the farmers and at the same time reportage the requirements of the farmers to the centers (Arkhi *et al.*, 2008). Three steps of dissemination of ICT at the country level investigation which includes ICT readiness stage, the ICT intensity stage and the ICT

impact stage. In the first stage of ICT readiness, they dispute that when the knowledge is innovative to a country or a province, the readiness of its populace to accept it is a decisive concern (Kauffman and Kumar, 2005). The components like basic ICT skills, internet skills and motivational factors are quite fine in contrast to availability, accessibility and software literacy applications. Thus there is a need to spotlight on these missing areas so that ICTs can be better exploited in agricultural extension system (Raksha *et al.*, 2015). Several preceding studies have confirmed that demographic and distinctive background such as age, gender, ethnicity, marital status, level of education, prior experiences with computers and the Internet manipulate the ICT and or e-Learning acceptance (Teo & Lim 2000; Muilenberg and Berge 2005; Ong and Lay 2006). Infrastructure and internet connection, human resources, policy support from government and pedagogy are some of the problems in developing countries at the same time it was further emphasized that human resources is one of crucial factors to diffuse utilizing ICT to learners (Soekartawi, 2005). Therefore, this study scrutinizes the readiness of the agricultural extension personnel in terms of six factor *i.e.* possession of smart devices, availability at personal level, elementary ICT expertise, internet expertise, software literacy expertise and motivational dynamics.

Materials and methods

A survey research design was adopted for the study. The population of the study comprised farmers from Umiet village, Ri-Bhoi district, Meghalaya, India. A self-designed question naire was used as the major research instrument. Data were analyzed using descriptive statistics to obtain the result. In total forty five respondents were surveyed in order to get the results. In total eighty farmers were interviewed in order to obtain the results. The following sections deals with the results obtained from the study. The main objective of this study was to access the extent of e-readiness of the farmers. The collected multiple responses with respect various aspects of e-readiness were tabulated and descriptive statistical measures like frequency and percentage were taken to analyze the data. Percentage was calculated with the following formula:

$$\text{Percentage} = \frac{\text{Numbers of response obtained}}{\text{Total number of respondent}} \times 100$$

Results and Discussion

Table 1 is indicative of the fact that majority of the respondents belongs to middle age category (56.25 per cent) being followed by old and young categories *i.e.* 25.00 per cent and 18.75 per cent respectively.

e-Readiness of the Farmers: For easy understanding, individual e-readiness was categorized into six components *i.e.*, possession of smart devices, availability at personal level, elementary ICT expertise, internet expertise, software literacy expertise and motivational dynamics. These components are planned carefully by keeping in mind the facts that first of all, availability of ICTs is very vital. Besides availability, to use the technology effectively elementary ICT expertise with internet expertise and software literacy expertise is indispensable. Motivational dynamics are also important with other physical components so, total six components were taken in order to assess the e-readiness of the farmers.

Table 1: Individual profile of the respondents (N=80)

Characteristics	Category	Number	Percentage
Age	Young	15	18.75
	Middle	45	56.25
	Old	20	25.00
Gender	Male	46	57.50
	Female	35	42.50
Education	Secondary	57	71.25
	Higher secondary	15	18.75
	Graduate	8	10.00

Table 2: Possession of Smart Devices by the respondents (N=80)

Smart Devices (ICTs)	Number	Percentage
Personal Computer/Laptop	8	10.00
Personal Computer/Laptop with internet connectivity	4	5.00
Smart phone	49	61.25
Smart phone with internet connectivity	49	61.25

Table 2 was indicative of the fact that 10.00 per cent of the respondents had personal computer/laptops and 4.00 per cent had personal computer/laptops with internet connectivity. 25.00 per cent of the respondents had smart phone and at the same time 22.25 per cent of the respondents had smart phone with internet connectivity.

It could be inferred from the table 3 that limited number of the respondents were able to use computers/laptops without any other's assistance (25.00%) followed by ability to use the internet (21.25%) and ability to handle the smart phone for my work (18.75%).

Elementary ICT expertise show the current trend of the expertise possessed by the respondents to run the ICTs. It shows that 21.25 per cent respondents have

Table 3: e-readiness of farmers (N=80)

Statements	No.	%	Mean Score
<i>Availability at individual level</i>			
Ability to use computer/laptop without any other's assistance	20	25.00	17.33
Ability to use the internet	17	21.25	
Ability to handle the smart phone for my work	15	18.75	
<i>Elementary ICT expertise</i>			
Capability to use the computers and its peripherals	17	21.25	14
Capability to use MS windows	15	18.75	
Ready to partake in on line program	10	12.50	
<i>Internet expertise</i>			
Understanding of online technology	13	16.25	17
Understanding of group mails, online file sharing, and chatting tools etc.	9	11.25	
Operational knowledge of video chatting	10	12.50	
Operational knowledge of social networking	12	15.00	
Awareness on online survey	2	2.50	
Familiarity on online library and resource catalogue	5	6.25	
<i>Software literacy expertise</i>			
Know-how about file compression or zip	12	15.00	40
Curiosity to learn more on ICT courses	52	65.00	
Curiosity towards online learning through various seminars/workshops	56	70.00	
<i>Motivational dynamics</i>			
Over coming physical and psychological commotions	58	72.50	63.75
Motivation to learn without any proper training	72	90.00	
Demand in g nature of ICTs	52	65.00	
Speed of ICTs	73	91.25	

capability to use the computers and its peripherals followed by capability to use MS windows (18.75%) and ready to partake in online program (12.75%) as inferred from table 3.

Internet expertise give a decent picture of the respondent's readiness towards ICTs. It was inferred from table 3 that limited number of the respondents have knowledge of online technology (16.25%) followed by operational knowledge of social networking (15.00%),

operational knowledge of video chatting (12.50%) etc.

With respect to Software literacy expertise, 15.00 per cent of the respondents had know-how about file compression or zip followed by curiosity towards online learning through various seminars/workshops (70.00%) and curiosity to learn more on ICT courses 65.00 per cent as inferred from table 3. There is dire need to upgrade the software literacy expertise of the respondents and this can do through appropriate awareness and hand on trainings.

The motivational component of the e-readiness gives a good picture that although respondents had low software literacy but their motivation is high which be better utilize. The table shows that 91.25 per cent respondents agree that as ICTs are speedy transfer tools and highly demanding in their job, so they can learn more about it if need arises. Again about 90.00 per cent respondents suggested they are motivated to learn without any proper training inferred from table 3.

Conclusion

e-readiness is a notch of attentiveness in terms of knowledge, physical, mental, motivational in frastructural, etc. This attentiveness may be at an individual level or state/government level. e-readiness index illustrates that whether the individual/government is at its best and where the lacking is and thus highlights the stout and feeble points so that actions can be made consequently. Through this study, it was also found that the components like availability basic elementary ICT expertise, internet expertise and software literacy expertise were found to be very shabby but the motivation dynamics of the respondents were found to be very high. So there is a need to focuson these missing areas so that ICTs can be better utilizedin agricultural extension system.

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