Review Article

Information Communication Technologies as Potential System of Knowledge Dissemination in Rural Agricultural Development

Abstract

The primary purpose of this research is to look at the potential of technology norms and practices in a variety of agricultural resource management systems. By identifying creative IT application implementation, the research also gives an overview of how to overcome rising hurdles in the adoption of information and communication technology. This article also emphasizes some of the noteworthy findings of a study conducted on the majority of farmers, which revealed that ICT devices such as multi-SIM mobile phones, smart phones, and tablets are used by the majority of farmers. Cell phones and smart phones are the most generally accepted and utilized ICTs, and they have helped farmers become more socially engaged. Many agriculture-friendly mobile apps are also assisting farmers in appreciating the relevance of technology. They can contact middlemen for marketing purposes and can immediately contact field specialists in real time for guidance on topics such as preserving the quality of inputs/outputs, insect/pest control, and crop disease management, among others. The antagonism toward technology and the hesitancy to adapt new things, as well as their possible impacts on the reorganization of extension services, are important obstacles to actively integrating ICT.

Keywords: Agriculture development, communication technologies, information system.

1. Introduction:

Information technology is a collection of multifarious heterogeneous technological tools, enhanced support systems, and portable resources meant to facilitate communications, information storage, simple retrieval, comprehending complicated structures, and managing multidimensional data [1]. Many devices, including PCs, laptops, smart phones, tablets, and a range of hardware and software connected via the Internet, may now be supported thanks to technological advancements. The current communication infrastructure supports permanent technologies such as live television, radio and television broadcasts, as well as free telephone lines [2], [3]. It has a number of features, including internet portals, email, webinars, live recordings, and video conferencing, among others. Information technology is a collection of multifarious heterogeneous technological tools, enhanced support systems, and portable resources meant to facilitate communications, information storage, simple retrieval, comprehending complicated structures, and managing multidimensional data [4]. Many devices, including PCs, laptops, smart phones, tablets, and a range of hardware and software connected via the Internet, may now be supported thanks to technological advancements. The current communication infrastructure supports permanent technologies such as live television,

radio and television broadcasts, as well as free telephone lines. It has a number of features, including internet portals, email, webinars, live recordings, and video conferencing, among others.

Information technology is a collection of multifarious heterogeneous technological tools, enhanced support systems, and portable resources meant to facilitate communications, information storage, simple retrieval, comprehending complicated structures, and managing multidimensional data. [5]. Many devices, including PCs, laptops, smart phones, tablets, and a range of hardware and software connected via the Internet, may now be supported thanks to technological advancements. The current communication infrastructure supports permanent technologies such as live television, radio and television broadcasts, as well as free telephone lines. It has a number of features, including internet portals, email, webinars, live recordings, and video conferencing, among others.

We used to talk about television and radio as the primary means of reaching out to rural communities. However, internet-based mobile communication channels are already infecting all aspects of agriculture. Social networking, computerized knowledge archives, digital video, and photography have all benefited from IT. Farmers confront common issues and challenges, such as sustainability, scalability, and availability of relevant knowledge, despite all of the chances and opportunities offered by IT.

ICT models in new age

Many new information exchange models have emerged as a result of the rapid rise of the IT era, representing the spontaneous evolution of immediate quality [6]. Agricultural Information Acts are now classified as follows:

Online Web Portal: A collection of websites and web links presented on a single platform for users.

Voice-centric service: Provides a two-way voice service to farmers over the phone. Terminals are often located at KVK, where farmers can apply for assistance. In fact, it does the job of distributing information over the phone. i.e. BPO's, KPO's, etc.

VoIP: Voice over Internet Protocol (VoIP) allows farmers to communicate over a Unified Access Platform (UFP). This protocol can ensure equal dissemination of information through phone calls and high-speed data services. The development of voice calling services allows farmers to use instant real-time chat, voice and video chat, and various other multimedia communication platforms.

SMS/MMS Services: This type of information delivery comprises text/media messaging. We need to collaborate with the agriculture industry as well as telecommunications companies. Building a Support Community - This section includes both free and paid online forum-based support systems where farmers may connect, ask questions, and receive professional guidance in their preferred format. This service-oriented framework creates an agricultural community in which farmers may register their honest information in order to obtain assistance from other members of the community [7]. Other farmers, government officials, agricultural experts, technicians, and small company owners may be active community members. Everyone may use their mobile smart phone to talk utilizing the internet chat software.

Videoconferencing is a dedicated satellite system that connects various sites, such as KVK numbers and other rural locations, with the capacity to speak with remote resources [8]. Farmers do not have to be there at the time of the talk, but they may interact face-to-face and comprehend practical tips and methods when they are at home, thanks to this technology. Similarly, they might show an expert sitting across from them a sample of a damaged crop along with their symptoms, and the professional would know how to treat that crop [9].

Smart Internet Services: Any smart gadget used by farmers to disseminate information falls under this category. Smartphone's are the most common devices used for online agricultural product marketing, quality comparison, monitoring daily online pricing, and news updates [10].

2. Conclusion:

The basic line is that information technology is extremely beneficial for knowledge transmission. Agriculture cannot be overlooked in the development of emerging countries like India. Information technology is the study of how we utilize data, process it, and share it with others. In the current environment of employing information technology for quality and mass production, it is necessary to acknowledge the agricultural side of information technology as a big potential for farmers to comprehend. The creation of technology-friendly institutions to serve as knowledge centers for farmers might also aid in the dissemination of information through ICT in rural regions.

3. References:

Batchelor, Simon, Simon Hearn, Malcolm Peirce, Susan Sugden, and Mike Webb. "ICT for development: Contributing to the millennium development goals-Lessons learned from seventeen infoDev projects." World Bank Publications (2003).

De Silva, Harsha, and Dimutliu Ratnadiwakara. "Using ICT to reduce transaction costs in agriculture through better communication: A case-study from Sri Lanka." LIRNEasia, Colombo, Sri Lanka, Nov (2008).

Fu, J., 2013. Complexity of ICT in education: A critical literature review and its implications. *International Journal of education and Development using ICT, 9*(1), pp.112-125.

Glendenning, Claire J., and Pier Paolo Ficarelli. "The relevance of content in ICT initiatives in Indian agriculture." International Food Policy Research Institute Discussion Paper 1180 (2012): 1-40.

Ludena, R. Dennis A., and Alireza Ahrary. "A big data approach for a new ICT agriculture application development." In Cyber-Enabled Distributed Computing and Knowledge Discovery (CyberC), 2013 International Conference on, pp. 140-143. IEEE, 2013.

Maumbe, Blessing M., and Julius Juma Okello. "Uses of Information and Communication Technology (ICT) in agriculture and rural development in sub-Saharan Africa: Experiences from South Africa and Kenya." In Technology, Sustainability, and Rural Development in Africa, pp. 113-134. IGI Global, 2013.

Comment [N22]: applied

Comment [N23]: use parallel structure marketing agricultural product online, comparing quality, monitoring daily online pricing, and updating news

Comment [N24]: use more natural English language

Comment [N25]: what does the author mean? developing countries

Comment [N26]: use passive language: how data could be utilized, processed and shared with others.

Comment [N27]: great

Comment [N28]: contribute to

Comment [N29]: references are supposed to mention in thee same form such as APA,...

Meera, Shark N., Anita Jhamtani, and D.U.M. Rao. "Information and communication technology in agricultural development: A comparative analysis of three projects from India." Network Paper No 135 (2004).

Mittal, Surabhi. Modern ICT for agricultural development and risk management in smallholder agriculture in India. CIMMYT, 2012.

Muriitlii, Anthony Gikandi, Bett Eric, and Ogalleh Sarah. "Information technology for agriculture and rural development in Africa: Experiences from Kenya." (2012).

Zhang B, Li S. Agricultural information service models innovation in the construction of socialist new village (in Chinese). Chin Agric Sci Bull 2007;23(4):43H-4.