Migration Letters

Volume: 20, No: S11(2023), pp. 291-297

ISSN: 1741-8984 (Print) ISSN: 1741-8992 (Online)

www.migrationletters.com

Characteristics of Cyber Extension Innovation as an Extension Media Information from Perspective an Extension Workers in Barru Regency

Agustina Abdullah[1], Syahdar Baba[2], Siti Nurani Sirajuddin[3], Amidah Amrawati[4], Tanrigiling Rasyid[5]

Abstract

This research aims to analyze the characteristics of cyber extension innovation as an extension information media from the extension workers perspective. The determination of extension workers as respondents was random, calculated based on Slovin (Umar, 1997), with the number of respondents being 30 extension workers. Research data was collected by conducting a survey using collection techniques, namely interviews using questionnaires, focus group discussions, and in-depth interviews with several key informants. Data analysis uses descriptive analysis. The results of the research show that in general extension workers are aware of cyber extension innovations as a medium for extension information. The characteristics of cyber extension innovation as a media for extension information from the perspective of agricultural instructors in Barru Regency are in the medium category. The internet network is one of the factors so that there are still instructors lacking access to cyber extension, and there is still a lack of knowledge among instructors regarding the benefits or uses of cyber extension media so that in the current digital era, they prefer to use conventional extension media and use online extension media. For this reason, the availability of internet networks in agricultural instructors' work areas and increasing instructors' knowledge can influence agricultural instructors' interest in accepting and using cyber extensions as a medium for extension information, so that farmers can increase productivity, income and welfare on people's farms in rural areas.

Keywords: *extension agent, perception, information media, cyber extension, barru.*

Introduction

The existence of professional extension workers is very necessary in driving effective extension. Good performance is the main thing for professional extension workers. This is only possible if the extension program is accommodated by a clear extension system and its implementation is supported by competent personnel in the field of extension

[1] Laboratorium Penyuluhan dan Sosiologi Peternakan, Fakultas Peternakan Universitas Hasanuddin, agustina abdullah@unhas.ac.id
[2] Laboratorium Penyuluhan dan Sosiologi Peternakan, Fakultas Peternakan Universitas Hasanuddin
[3] Laboratorium Penyuluhan dan Sosiologi Peternakan, Fakultas Peternakan Universitas Hasanuddin
[4] Laboratorium Penyuluhan dan Sosiologi Peternakan, Fakultas Peternakan Universitas Hasanuddin
[5] Laboratorium Penyuluhan dan Sosiologi Peternakan, Fakultas Peternakan Universitas Hasanuddin

Extension as a non-formal educational institution that focuses on changing the behavior of breeders and their families to be more empowered in a better direction, has its own challenges in carrying out its functions and roles. Agricultural extension workers who will carry out their roles and functions must be able to satisfy farmers and their families. Therefore, the policy of revitalizing extension is considered important in the development of animal husbandry in a region, because it is an agent of change and as a technical implementer in the community, so that extension workers are needed who have the performance to be independent and empower farmers. (Harianto , et al., (2014).

In line with this, the government is making various efforts, including the Agricultural Extension and Human Resources Development Agency, making changes to the development and dissemination of agricultural extension materials using internet network connections. (Chowhan & Ghosh, 2020; Getahun, 2020; Ragasa, Ulimwengu, Randriamamonjy, & Badibanga, 2016; Tata & McNamara, 2018; Vignola, McDaniels, & Scholz, 2013). Meanwhile, Abdullah, et al (2019) stated that the instructor's approach to providing information to breeders is through various methods. Extension methods can be based on the media used, the number of targets and the nature of the relationship between the extension agent and farmers.

The rapid development of technology and information has resulted in a substantial shift in information flows. The shift in data use mostly occurs through print media, followed by offline electronic media. Currently, the flow of information through the media is fast, dynamic and up to date (Skaalsveen, Ingram, & Urquhart, 2020). In carrying out their role as information dissemination agents, it is stated that extension workers must not only wait for the flow of information from information sources (researchers, information centers, government agencies, etc.) but must actively seek help and information that clients need. According to this statement, one of the important elements that agricultural instructors must have in improving their work performance is the ability to access information and communication technology in the agricultural sector to support their role in providing information services based on farmers' needs and the rapid development of technology and communication. One of the government's steps in helping agricultural extension workers is by introducing an internet-based extension program known as cyber extension. Cyber Extension is one strategy to effectively build a programmed agricultural innovation information communication network by applying communication Information Technology in agricultural systems (Rijswijk et al., 2021) which can increase the empowerment of extension workers by preparing timely and relevant agricultural information to support the decision-making process extension workers in conveying agricultural data and information to farmers and farmer groups (Nihayah, 2020; Purwiyati, Daroini, Talkah, & Mulyaningtyas, 2020.

Cyber Extension, an internet-based outreach media innovation. The internet has changed the way information is exchanged and even how people live their lives, including agricultural extension efforts (Cahyono, 2018; Mapiye, Makombe, Molotsi, Dzama, 2021) (Mardikanto, 2009). Therefore cyber extensions are seen as very efficient and effective because after the Extension material is uploaded, it can be watched and downloaded. However, not all conditions in the field can be used by agricultural instructors, from interviews with instructors it is clear that various things mean that cyber extension is not optimally used because there are still many agricultural instructors who are still confused about technology. This is related to traditional extension patterns which they consider to be the only way of extension, even though information technology has advanced so far. In addition, changing habits by moving to new outreach media is difficult. This is because there are still many agricultural extension workers who are still "Technology Stupid" with a technological gap, according to Walangadi, Bahua, Arham, & Jamil, (2021).

The characteristics of cyber extension innovation as an information media for extension from the instructor's perspective are the instructor's view of the characteristics of cyber

extension innovation, including the advantages and benefits that the instructor obtains from using cyber extension, as well as convenience and others. Based on this, the aim of this research is to analyze cyber extension innovation as a media for extension information from the perspective of extension workers in Barru Regency.

Research Method

The research was carried out in Barru Regency, South Sulawesi Province. The determination of extension workers as respondents was random, calculated based on Slovin (Umar, 1997), with the number of respondents being 30 extension workers. Research data was collected by conducting a survey using collection techniques, namely interviews using questionnaires. Apart from that, focus group discussions were also carried out, namely conducting focus group discussions with instructors to dig deeper and identify various actual problems and conditions that occur in cyber extension innovation. Apart from that, in-depth interviews were conducted with several key informants.

The variables in this research are the advantages and benefits of cyber extension innovation, demographics and outreach materials on cyber extension innovation and ease of use of cyber extension. Measurement of research variables is carried out through measuring indicators for each research variable/sub variable in question. Qualitative variable indicators are measured using a Likert scale consisting of three levels, each given a score of 1, 2, and 3 . The measurement of each indicator is obtained by taking the average value of the scores of all parameters. Data analysis begins by tabulating the data, and carrying out descriptive analysis of the data by looking at the means, percentages and frequencies which are processed with the help of SPSS software.

Result and Discussions

Based on the results of research conducted on the characteristics of cyber extension innovation as a media for extension information from the perspective of extension workers in Barru Regency, it shows that basically agricultural extension workers are aware of the existence of a special website provided for extension workers to help with work in the field. However, even though instructors are aware of the existence of cyber extensions, there are still instructors who do not know how to access cyber extensions, especially older instructors who no longer learn much to improve human resources because they are more focused on their family life than their duties. To find out the instructor's assessment of cyber extension innovation, Table 1.

Table 1. Extension workers assessment of Cyber Extension innovation as a medium for extension information

No	Indicator	Skor	Frekuensi	Bobot	Persentase (%)
1	Benefit and uses of cyber extension innovation	3	16	48	53,33
		2	10	20	33,34
		1	4	4	13,33
	Jumlah		30	72	100
2	Demographic aspect and outreach materials on cyber extension	3	8	24	26,67
		2	12	24	40

		1	10	10	33,33
	Jumlah		30	58	100
3	Ease of Use of Cyber extension	3	2	6	6,67
		2	12	24	40
		1	16	16	53,33
	Jumlah		30	46	100
	Rata-Rata			58,6	100

Source: primery data, 2023

Based on Table 1, it can be seen that the total score of cyber extension innovation from the instructor's perspective in the aspects of benefits and usefulness, demographic aspects and aspects of ease of using cyber extensions in Barru Regency is 58.6, which is in the medium category.

For the measurement scale for the characteristics of cyber extension innovation as a medium for extension information from the perspective of extension workers in Barru Regency, it can be seen in Figure 1

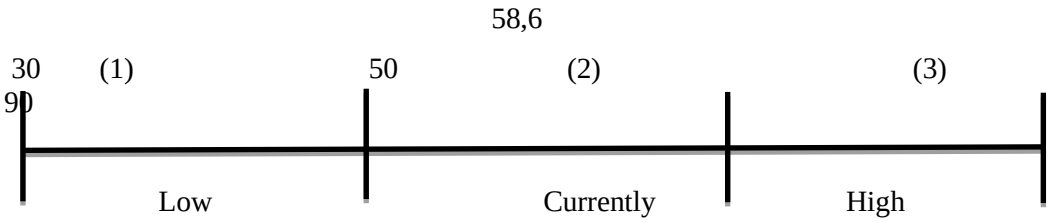

Figure 1. Scale for measuring the characteristics of cyber extension innovation

From these values, the following categories can be created

Low(1) : 30-50

Currently (2) : 50-70

High (3) : 70-90

Cyber extension as a media for extension information in the perception of extension workers that agricultural extension workers have experienced the benefits/usefulness of cyber extension, this information technology system helps agricultural extension workers complete more extension activities and solve farmers' problems more quickly without waiting several days. Information is constantly updated, and farming-related materials and information are available. On the other hand, if someone believes that an information system is less valuable, they will not use it. If someone feels the benefits of using information technology, they will have the desire to use it. suggests that work effectiveness should increase as the new system is implemented. The availability of information via the internet helps the agricultural extension process be faster and more effective (Rakhra & Singh, 2020); (Yadav, Garg, & Luthra, 2020) (Naika, Kudari, Devi, Sadhu, & Sunagar, 2021). However, the research results show that there are still extension workers who have not used cyber extensions as a medium for extension information, usually cyber extensions are used only as a data bank, if at any time they will be asked to make a monthly report. The unavailability of an internet network in the work area of agricultural instructors is one factor that prevents instructors from utilizing cyber extensions. In fact, the obstacle to speeding up the work of agricultural instructors is using cyber extensions, but if the internet is good then all the extension workers' work

will be completed quickly. The material available on Cyber Extension is also always updated.

Agricultural instructors who used cyber extensions from the interview results stated that the material provided was in accordance with farmers' needs so they did not experience difficulties in finding extension materials. Extension agents believe that using this system will free them from difficulties, in the sense that this system is easy to use, especially during the Covid-19 pandemic. However, from a demographic aspect, agricultural instructors explained that the availability of internet network services greatly influences agricultural instructors in accessing cyber extensions, which are internet-based outreach media. So the existence of an internet network will make it easier for agricultural instructors to provide up-to-date important information. Some important information needed by farmers that seems important for agricultural growth and development, including market information, the latest techniques and technology, rural development programs and subsidies, weather forecasts, post-harvest technology, general livestock news, price information, and availability, early warning and disease management and prevention. However, based on facts on the ground, there are certain points or areas in Barru Regency that do not yet have an internet network. This condition means that some agricultural instructors still use conventional extension media in agricultural extension activities in target areas that are not yet reached by internet networks.

Based on this, it is hoped that instructors' interest in utilizing cyber extensions can be optimized because it is likened to the ultimate goal of an innovation, it is hoped that instructors can accept an innovation or product. This is in line with (Dharmmesta, 1998) which defines the behavior or attitude of consumers who have the desire to use services continuously and will take certain actions in the future. A person will have behavioral intentions towards a technology if he or she has perceived the usefulness and ease of using the technology. Research that influences agricultural instructors' intentions to use cyber extension cannot be separated from demographic aspects, and other determining factors, usefulness and convenience. These three main factors are the driving force for agricultural extension workers to accept and use cyber extension. Their perception is that if these three factors support them, they will utilize cyber extension as a source of extension information because all work will go according to plan so that they can improve the performance of extension workers. Thus, it can be said that agricultural instructors in Barru Regency generally know the use of cyber extension well, but there is still a need for extension instructors to optimize the use of cyber extension innovation as a medium for extension information, so that farmers can increase productivity, income and welfare on people's farms in rural.

Conclusion and Recomendations

Based on the results and discussion in research regarding the characteristics of cyber extension innovation as a medium for extension information, from the perspective of agricultural instructors in Barru Regency, it is still in the medium category. The internet network is a factor so that there are still instructors who lack access to cyber extension, and there is still a lack of knowledge among instructors regarding the benefits or uses of cyber extension extension media so that in the current digital era, they prefer to use conventional extension media and use online extension media, because they experience difficulties in accessing information and agricultural extension materials on cyber extension.

For this reason, the availability of an internet network in the work area of agricultural instructors and increasing the knowledge of instructors is very important because it can influence the interest of agricultural instructors in accepting and using cyber extension as a medium for extension information, in increasing productivity, income and welfare on people's farms in rural areas.

References

Abdullah; Jamila; Amidah; Baba; Ibrahim, (2019). Identification of applications for using cyber extension as a source of information for extension agent in the adoption of feed technology. Suluh Pembangunan: Journal of Extension and Development Volume 1 Nomor 2: 109-114

Cahyono, B. (2018). Adopsi Cyber Extension oleh Penyuluh Pertanian Lapangan (Ppl) di Kabupaten Boyolali Dengan Metode Technology Acceptance Model (Tam).

Chowhan, S., & Ghosh, S. R. (2020). Role of ICT on Agriculture and Its Future Scope in Bangladesh. Journal of Scientific Research and Reports, 20–35.

Getahun, A. A. (2020). Challenges and opportunities of information and communication technologies for dissemination of agricultural information in Ethiopia. International Journal of Agricultural Extension, 8(1), 57–65.

Harianto , E . , Surahmanto , Putu Arimbawa .2014 .Performance agricultural extension agent as fuel information facilitators and escort in the development of Bali cattle (bos sondaicus in Muna Southeast Sulawesi . Agriplus , vol .24: 232-239

Mapiye, O., Makombe, G., Molotsi, A., Dzama, K., & Mapiye, C. (2021). Towards a Revolutionized Agricultural Extension System for the Sustainability of Smallholder Livestock Production in Developing Countries: The Potential Role of ICTs. Sustainability, 13(11), 5868.

Mardikanto, T. (2009). Sistem Penyuluhan Pertanian. Surakarta. Universitas Sebelah Maret Press.

Mulyandari, R. S. H. (2010). Implementasi cyber extension dalam komunikasi inovasi Pertanian

Naika, M. B., Kudari, M., Devi, M. S., Sadhu, D. S., & Sunagar, S. (2021). Digital extension service: Quick way to deliver agricultural information to the farmers. In Food Technology Disruptions (pp. 285–323). Elsevier.

Nihayah, N. U. (2020). Efektifitas Cyber Extension Pada Penyuluh Agama di Kota Semarang. Jurnal Bimas Islam, 13(2), 404–434.

Purwiyati, R., Daroini, A., Talkah, A., & Mulyaningtyas, R. D. (2020). Factors That Influence Utilization of Cyber Extension and Social Media (Facebook, WhatsApp, YouTube) in the Adoption of Innovations in Nganjuk. 79–85.

Ragasa, C., Ulimwengu, J., Randriamamonjy, J., & Badibanga, T. (2016). Factors affecting performance of agricultural extension: Evidence from Democratic Republic of Congo. The Journal of Agricultural Education and Extension, 22(2), 113–143.

Rakhra, M., & Singh, R. (2020). Internet Based Resource Sharing Platform development for Agriculture Machinery and Tools in Punjab, India. 636–642. IEEE.

Rijswijk, K., Klerkx, L., Bacco, M., Bartolini, F., Bulten, E., Debruyne, L., … Brunori, G. (2021b). Digital transformation of agriculture and rural areas: A socio-cyber-physical system framework to support responsibilisation. Journal of Rural Studies.

Skaalsveen, K., Ingram, J., & Urquhart, J. (2020). The role of farmers' social networks in the implementation of no-till farming practices. Agricultural Systems, 181, 102824.

Tata, J. S., & McNamara, P. E. (2018). Impact of ICT on agricultural extension services delivery: Evidence from the Catholic Relief Services SMART skills and Farmbook project in Kenya. The Journal of Agricultural Education and Extension, 24(1), 89–110.

Umar, H. 1997. Research methodology: Its application in marketing. PT Gramedia, Jakarta

Vignola, R., McDaniels, T. L., & Scholz, R. W. (2013). Governance structures for ecosystem-based adaptation: Using policy-network analysis to identify key organizations for bridging information across scales and policy areas. Environmental Science & Policy, 31, 71–84.

Walangadi, Y., Bahua, M., Arham, M., & Jamil, M. (2021). The influencing factors on the performance of agricultural extension agents in corn farming (a study conducted in Gorontalo province). 681(1), 012001. IOP Publishing.

Yadav, S., Garg, D., & Luthra, S. (2020). Analysing challenges for internet of things adoption in agriculture supply chain management. International Journal of Industrial and Systems Engineering