

Available Online at www.aextj.com
Agricultural Extension Journal 2018; 2(2):69-74

REVIEW ARTICLE

Social Media in Agricultural Extension

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Received: 15-01-2018; Revised: 16-02-2018; Accepted: 01-04-2018

ABSTRACT

The access to information is being an influential issue, and the ones with the contemporary information carry potential to grab the opportunities and benefits in our globalized society. The evolution of social media has changed the sphere of human lives and redefined the pattern and network of communication and interaction. With the increased use of social media, it is the subject of challenge for extension to stay relevant with the client in this digitalized era. This article reflects the role of Facebook, Twitter, and other social media as the extension's repertoire of methods for education, communication, program implementation, and marketing; and how it allows the extension professionals in building the social networks with the client online and transfer the social capital to offline world. As these media provide platform for the people with specific interests to connect and share knowledge and technologies through certain means such as developing groups or pages; it helps society to socialize, and the extension professionals need to consider this platform for the effective program implementation and analyze how these media can influence the outcome delivery to the client.

Key words: Agricultural extension, education, marketing, social media, SWOT

INTRODUCTION

With increased popularity of the social media and the ease of its use, it has played an important role as a new medium for communication all around the world and its craze is reaching to the peak with more than 2.28 billion users involved in social networking platforms using these media.^[1] However, the uses of social media in agriculture seem limited or constrained, although they tend to have great potential in this field. It is in the phase of evolution with increased numbers of farmers in access to the mobile-based platform to acquire the information, help, and guidance for the issues related to farming, thus improving their decision-making capacity. With this, many innovative steps have been taken in use of social media in farming community and this paper tends to illustrate some of such engagement in Nepal. Communication is being vibrant in modern society. Information technology has huge importance for the

upliftment of the developing as well as developed economy in the world. With the introduction of new social media such as Facebook, LinkedIn, and YouTube, the virtual world has been created in Nepal. Facebook and LinkedIn are growing social media used for networking, communication, and information collection. People in Nepal have positive attitude on social networking websites.^[2] Social media helps people to work together by forming a network structure. Relationship is the basis of social media, so both governmental and non-governmental agencies can utilize this efficient way for better community connections.^[3] Social media is growing with big opportunities and potentials for extension service agencies of both governmental and non-governmental sectors. These organizations have prime objective that is communication to their clientele. The most popular social media is Facebook used by agriculture service providers. Basically, sharing the innovations, news, and advisory services are utilized by most of the extension personals.^[4] In Nepal, Facebook is not only being utilized for disseminating the farm information and advisory

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services but also for building relationships. Thus, social media have been utilized by many extension personnel and farmers for a different kind of information such as education and news.^[5] Social media is playing an important role in increasing interactions and information flow among different stakeholders involved in agriculture and increase abilities of agricultural extension and advisory service providers. The relationship and connectivity formed through Facebook is termed “social capital.”^[6] This contributes to make individual and community capacity.^[7] Social media such as Facebook have the possibility to enhance country’s extension system to construct relationships and ascertain networks with farmers and extension worker.

Social media are the platforms facilitated by the web and mobile-based technologies to create, share, adapt, and reuse the content while appealing in digital dialog and collaborative activities. Various social media tools popular these days are listed below.

Blogs

A blog is a discussion or information website, or somewhat a personal web diary used to share the information, ideas, opinions, or experiences on any topic. It may consist of text, images, audios, videos, or any links to other websites. In general, blogger and word press are two famous platforms for creating blogs.

Facebook

It is an online social media and social networking service (SNS), created with mission “Give people the power to build community and bring the world closer together.” The users can create their own profile and connect with their closed ones along with sharing their photos, videos, opinions, or ideas. There is provision for exchanging messages, chatting, and creating groups of users of common interests.

Flickr

It is the image and video-hosting website with two major goals: (a) help people make their photos available to the people who matter to them and (b) enable new ways of organizing photos and video. It has provision for keeping the contents private or sharing them.

LinkedIn

It is the business and employment-oriented professional social network site where users maintain certain connections with the desired ones to build up a contact network to create and grab different jobs, people, or business opportunities and be more productive and successful.

Twitter

It is online news and SNS, simply a micro-blogging platform where users share short messages, breaking news, and the latest in entertainment, sports, and politics up to 280 characters except for Chinese, Japanese, and Korean where limit is 140 characters. Users can specify whom to follow and also retweet (resend) the tweets they receive.

YouTube

It is the video sharing platform with mission to give everyone a voice and show them the world and is based on four values: Freedom of expression, Freedom of information, Freedom of opportunity, and Freedom of belonging. Users can upload and watch the videos, and there is provision for sharing and commenting on videos with additional facility for subscription of other users.

Wikis

They are generally the online encyclopedias that allow users to add, remove, edit, and change content freely and directly from the web browsers, a common example of which is Wikipedia, a collaborative web-based encyclopedia project.

CATEGORIES OF SOCIAL MEDIA

Social media can be categorized in the following ways:

1. Discussion forums/platforms, that is, D groups and Google Groups.
2. Voice over Internet applications, that is, Google Talk and Skype.
3. Audio sharing applications, that is, Podomatic and Sound Cloud.
4. Video sharing applications, that is, YouTube, Blip.tv, and Vimeo.
5. Micro-blogging applications, that is, Twitter,

- FriendFeed, and Tumblr.
6. Presentations, that is, author STREAM, Slid share, and Slide six.
 7. Social bookmarking applications, that is, Stumble Upon, Digg, and Delicious.
 8. Academic social networking sites, that is, Mendeley, Research Gate, and Method Space.
 9. Online mapping tools, that is, Google Maps and Google Earth.
 10. Online calendars, that is, Google Calendar, Yahoo Calendar, and 30 Boxes.
 11. Cloud storage applications, that is, Dropbox, iDrive, Microsoft, and SkyDrive.
 12. Online collaboration applications, that is, Google Docs and Wikis.
 13. Photo sharing applications, that is, Flickr and Picasa.
 14. Blogging applications, that is, Blogger, Wordpress, and TypePad.

ROLE OF SOCIAL MEDIA IN FARMING

In the global context, the agriculture sector is being utilizing the social media for promotion of the relevant information and knowledge within the industry and developing the networks with other like-minded agricultural professionals. The social media channels have extended and strengthened the relationships of agriculture-based communities and helping the rural workers to combat the feeling of isolation that arises due to their work. It has overcome the geographical boundaries, bringing together the farming communities of mutual interests. As of now, there is a large presence of blogs covering topics on agriculture, animal husbandry, health, education, and other subjects/topics of common interest.

Social media such as Facebook, Twitter, YouTube, and Blogs are emerging as suitable platform for sharing information and creating awareness among different stakeholders by directly engaging them to generate and shape the content of the program. These media have been complementing the traditional media as viable source of information and facilitating the marketing of agriculture produces and their products using pictures, links, and videos. They provide users with opportunities to share and exchange information and discuss the burning issues in agriculture based on their knowledge and experience and draft the effective solutions for the faced problems, thus facilitating the marketing and network formation.

Furthermore, these media are effective platforms for receiving the feedback and queries from the clientele.

OVERVIEW OF FACEBOOK

Facebook has been changing its look and content gradually with time since its formation.^[8] With continued increase in use and users and owing to its high popularity, it proves to be a significant social media tool for extension professionals for communication, education, marketing, and enhancing the effective learning methods.^[9] In our era of information, communication, and technology where internet is an effective means of generating the new connections and relations among people with similar interests,^[10,11] this widely used social media tool, that is, Facebook emerges as a cost-effective method for extension professionals to communicate with the clientele, empower the social connection, and engage in long-term extension programs.^[12] It creates platform for the followers to engage with the extension professionals through react, comment, or message options which updates them with relevant information and about available programs frequently and secures the online connection in the real offline world. Park and Floyd^[11] mentioned that the one-third of the study participants stepped up from online discussions to direct interactions.

RELATIONSHIP THROUGH FACEBOOK

Allowing people to connect with others around the world, Facebook lays its emphasis on building and strengthening relationships.^[13] The use of Facebook is generally considered as the predictor of increased social capital;^[6] social capital being termed as “the benefits of networks built through experiences and interactions.”^[7] It helps in strengthening the extension outreach and in maintaining the informal networks, thus broadening the personal communications and interactions and strengthening the social capital. It also provides opportunity for the extension service to capitalize on Facebook and convert the online information gatherers to fully engaged volunteers and leaders. Facebook proves to be a significant tool for information dissemination to local community about extension programs and volunteer opportunities.

As the strong social connections are highly beneficial to the communities, Facebook allows

the extension professionals to create, develop, and sustain the social relations and enlarges the network of volunteers and supporters of local program goals. Farrow and Yuan,^[14] in a survey of university alumni, pointed that communication and emotional connectivity was highly influenced and strengthened by Facebook communication, the result of which was seen behavioral by influencing the level of volunteering and charitable giving.

FACEBOOK AND EDUCATION

Facebook groups and pages are highly significant for educational purposes. The Facebook groups allow the people of common interest on specific area join together to share their information, ideas, and opinions among one another. There is provision for privacy maintenance, and the group administrators decide the one to join and participate in the group. Similarly, Facebook pages are created, generally, for public figures, organizations, and business in similar format of profile and are visible to everybody. It allows anyone interested to follow the page for information and information. Page admins are usually the official representative of respective organization or business.

The traditional format of extension teaching and learning process may face constraint in meeting clientele need with change in time. In this context, the electronic technologies are very useful and are offering opportunities for educational programming.^[6] The professionals can utilize the groups and pages to post educational articles and links for reliable information or as an online committee for sharing their efforts, experience, and opinions on specific area and topic. These features of Facebook (group and page) allow the administrator to conduct small and simple survey online and gather information from the clientele. Furthermore, the potentiality of wide coverage of Facebook groups and pages allows the professionals to reach large number of clients with relevant information and address their needs.

MARKETING THROUGH FACEBOOK

Extension professionals can use Facebook for enhancing and expanding their marketing efforts. Extension professionals can reach large and diverse audience with wide coverage through effective marketing skills. A survey of extension agents in Florida found that program promotion was carried

through two common forms of marketing: word of mouth and online marketing.^[15] Facebook combines these two forms of marketing methods and allows the extension professional target the educational and program content directly to the clientele and shared between clients, thus increasing the recipients and lifespan of the information. This ease of sharing encourages the clientele to grab the educational contents and programming opportunities.

Successful marketing of program or information relies on creating memorability with the messages and images.^[16] Consistency in the language and graphics should have special care while posting online. The prime goal is to allow people quickly recognize the relevant postings by extension and share with one another. Creating a signature line or signature picture and following the marketing and branding guidelines of extension programs helps in increasing the reliability and creditability of the shared information and programs.

USE OF MOBILE APPS FOR ENHANCING SOCIAL MEDIA APPLICABILITY IN AGRICULTURE IN NEPAL

The recent advancements in ICTs have benefitted the farmers in Nepal with easy access to information regarding farming technologies, pest-disease attack and control, market situation and fluctuations, and weather forecasts. It has developed a network between the farmers and consumers saving both cost and time. Project for Agriculture Commercialization and Trade and Agriculture Management Information System, under the Ministry of Agricultural Development (MoAD), have been working together to enhance the accessibility of mobile phones and applications among farmers to create a platform for optimum social media use in farming community.

Different mobile apps and websites are created to link-up fellow farmers along with markets in a convenient way. Popular example is IFA Krishi, Nepal, which provides the information about agriculture in Nepali language being user-friendly for farmers. Contents are referred from local publications by subject experts and this app connects farmers beyond the network of middleman to obtain optimum price for their produce. Furthermore, information about fertilizer use, pest-disease identification and control, market enquiry, and weather forecast are easily

Table 1: SWOT analysis of social media use in agriculture extension

Strengths	Weakness	Opportunities	Threats/challenges
Cost-effectiveness	Duplication of information.	Possibility of translating ideas/information into action	Lack of infrastructure
Democratization of information	Lack of social media readiness	Forming special interest groups	Farmers'/users' literacy and satisfaction.
Voice of community	Information explosion	Collaboration	Quality control
User-generated content	Limited audience	Internationalization and localization	Institutionalization
Easy access	Stereotyped thinking	Information brokering and fostering innovation	Measuring impact
Extended reach		Sharing stories	Privacy concerns
Social capital		Crisis communication	Content update with time
Problem and client-oriented		Developing innovation competencies	Creating awareness at organization level
Brings all stakeholders into single platform			

*Adapted from Bhattacharjee and Raj^[17]

Table 2: Some examples of social media used for agriculture extension

Name of groups/community/pages	Description	Target users	Region
Facebook			
Agricultural extension in South Asia (AES) (https://www.facebook.com/groups/428431183848161/)	Platform for sharing relevant publications, announcement of conference and workshops, reports of workshops and global meetings and articles to the broader theme of extension	Agricultural extension stakeholders	South Asia
Global Forum for Rural Advisory Services (GFRAS) (https://www.facebook.com/groups/gfras/)	Provides information related to advocacy and leadership on pluralistic, demand-driven rural advisory services	AEAS professionals and others	Global
Twitter			
INGENAES (https://twitter.com/INGENAES)	Shares the gender-appropriate, nutrition-enhancing information and technologies to improve life and livelihood of farmers by integrating gender and nutrition within agriculture extension and advisory services.	Researchers, extensionists, farmers	Global
MEAS (https://twitter.com/MEAS_extension)	Handled by project Modernizing Extension and Advisory Services, for sharing good practices and information to enhance the livelihood of rural poor of 12 selected countries of Asia and Africa	Development practitioners	Global
e-Agriculture (https://twitter.com/e_agriculture)	Global initiative to enhance sustainable agricultural development and food security by improved use of ICTs.	Farmers, researchers, development practitioners	Global
CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) (https://www.youtube.com/user/CCAFS)	Shares stories of smallholder farmers, interviews with leading agricultural experts across the globe	Researchers, farmers, policymakers	Global
AICC, Nepal (https://www.youtube.com/channel/UCSdDHJDTqr8sbck7PF4nndw)	Shares information and documentaries related to recent and improved technologies in agriculture	Farmers and stakeholders involved in agriculture	Nepal
Krishi Television (https://www.youtube.com/channel/UCkQ4Sr1Wkj32VR87nWU7x9w)	Official and the first channel for agriculture-related programs broadcasted by Nepal Television	Farmers and stakeholders involved in agriculture	Nepal
Mobile app			
Smart Krishi	The first mobile app related to agriculture shares information regarding vegetable and fruit farming and animal husbandry for enhancing professional agriculture	farmers, students, job-holders in government organizations and I/NGOs along with those having special interest on modern farming technology	Nepal

accessed by the farmers, and the app generates its content from the publications of authorized bodies such as NARC, Department of Agriculture, MoAD and market information and prices through major agriculture centers of Kathmandu making it reliable and credible. Still, reaching the farming community of rural premises who do

not own mobile phones is still a great challenge. The app developers state that the partnership with Center for Environmental and Agricultural Policy Research will help the promotion of app to farmers and farmers will be aware of the benefits of smartphones and the limitations of SMS-based system along with solving the challenges of

digital literacy and web connectivity, which are commonly faced by farmers.

SOCIAL MEDIA AND AGRICULTURE EXTENSION: STRENGTHS, WEAKNESS, OPPORTUNITIES, AND THREATS

Social media has no doubt revolutionized the communication industry and has opened a completely new vista in mass personal communication with its varied degree of applicability based on situations and users. However, it has its own strengths, weaknesses, opportunities, and challenges, mostly of which are generic in nature and are listed in Tables 1 and 2.

CONCLUSIONS

Extension professionals have greater ability of expanding the influence of their programming efforts through thoughtful use of Facebook, the impact being multidimensional through educational information share, improvised communication establishment, and effective marketing of both extension and its programs. The online extension is not the substitute for offline contact, rather is the support for enhancing the connectivity between extension service and clientele. The professionals could reach the wide range of audience from diverse geographical, economic, and social backgrounds and address their needs using Facebook which is a cost-effective free social media to reach new and traditional audiences in a relevant, accessible, and timely manner.

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