Original Research Article

A study on Awareness of Extension personnel about use of digital marketing applications

ABSTRACT:

The study was conducted in three districts of Telangana with the objective of examining the Awareness of Extension personnel about use of digital marketing applications covering a random sample of 90 extension personnel. It was found that majority of them belonged to age between 29 to 38 years and were found educated up to post graduation. Most of the extension personnel had job experience between 7 to 14 years. Majority of them have received training in agricultural and its allied aspects and frequently used friends or colleagues as their source ofinformation. Most of the extension personnel were having medium level of mobile inclination, information management orientation and job commitment. With regards to awareness extension personnel about the use of digital marketing applications, it was found that majority of the extension personnel were found to have medium level of awareness about use of digital marketing applications.

Keywords: *Awareness, Extension personnel, mobile apps, Digital marketing, Agricultural marketing,*

INTRODUCTION:

Information has become a valuable commodity for agricultural growers in the modern world. (*Akinwale,* 2020). Access to timely, relevant and reliable agricultural information is necessary for agricultural development (*Zhang., Wang, & Duan*, 2016). Highly developed and organised flow of agricultural information is capable of enhancing productivity and better market price for farmers, increase farmers knowledge and facilitate agricultural activities in rural areas (*Msoffe & Ngulube,* 2016). Reachability has grown to be a huge task for the extensional personnel in order to offer them with information (*Meena, R.L., B. Jirli, M. Kanwat and Meena, N.K. 2018*). New extension service delivery tools must be created in order to reach the unreached. Information and communication technologies (ICTs) have made it possible for extension services delivery systems to achieve their enormous responsibility of disseminating knowledge to agricultural farmers. (*Pavan Belakeri,* 2017).

Mobile applications are becoming increasingly popular among farmers among the different ICT tools, and their use in the agricultural industry is expanding quickly. Mobile applications (mobile apps) are software programmes similar to those in desktop and laptop computers, designed to run on mobile devices like smartphones and tablets (*Costopoulou et al*., 2016). Numerous mobile agriculture apps have been created by the major public sector stakeholders in the national agricultural system, including state departments of agriculture, SAUs, ICAR, and the business sector. Many applications are used for many farming functions, including crop information, pesticide, fertiliser, seed, selling of produce, irrigation information, crop production estimation, weather information, and the best farming practises. (*Ansari, M.A. and Pandey, N*. 2011). Both in developed and developing nations, the agriculture sector has a lot of potential to be modernized thanks to mobile apps. For instance, they

can help small-scale producers earn more money, lower the transaction costs associated with producing and distributing goods, enhance customer traceability and quality standards, and open up new business opportunities for financial institutions.

The key benefits of mobile apps for farmers are easy information access on their mobile devices. Information such as specifics of a package of practises, information on pests and diseases, and scheme-related information, etc., is stored on the mobile device itself for convenience. The mobile app needs internet access to retrieve data from the back-end server databases whenever the information is dynamic, such as weather information, market prices, or advisory services. (JillellaTeza.,*et al*.2016).Oladele (2015) contended that ICT, particularly mobile phone applications enable extension agents to reach vast number of small-scale farmers simultaneously using their local language with knowledge and information which strengthens and enables farmers to solve their own problems in addition to making timely informed decisions.

To ensure that farmers, who are largely uneducated and underprivileged, receive accurate information, extension staff must be capable of using the various mobile applications. (Norton, & Alwang, 2020). Farmers' income levels rise when extension workers provide them with useful agricultural information and knowledge, which improves their quality of life. (Kyaw, Ahn, & Lee, 2018). Agricultural extension personnel need to play a stronger role in bridging the knowledge gap between farmers and the information source. For extension personnel, having a working knowledge of mobile applications and keeping up with agricultural technology advancements is essential. With the aid of mobile applications, extension personnel can swiftly connect with larger farmers and provide them with essential information to aid in both problem-solving and prompt decision-making.

METHODOLOGY :

The study was conducted in three districts namely Nizamabad, Karimnagar and Warangal of Telangana state which were purposively selected, as substantial farmers were found using digital marketing mobile applications. For the present study, ex-post facto research design was used to provide deep insight into the problem. From each district 30 extension personnel (3×30 = 90) were selected randomly. A total of 90 extension personnel were randomly selected from State Department of Agriculture (SDA) who are at least in the cadre of Agriculture officer, Agriculture Extension Officer or higher and classified as SDA sector respondents. Interview schedule was developed with 20 statements were developed thoroughly by discussion with the concerned scientists and from review of literature to know the level of awareness about the use of digital marketing applications. The statements were listed in the form of a table and correspondingly three levels of awareness namely Completely Aware, Partially Aware and Not Aware with a scoring pattern of 2, 1 and 0 respectively.. Hence, the maximum possible score is 40 and the minimum possible score is 0. The total score obtained by the respondents was taken as their level of about the use of digital marketing applications. The respondents were grouped into three categories based on their awareness about the use of digital marketing applications by using mean and standard deviation. Data was collected and analyzed using the following statistical tools like frequency, percentage, mean, standard deviation, correlation and regression analysis.

RESULT AND DISCUSSION:

Table 1. Distribution of Extension personnel according to their profile characteristics

S.No	Categories	Frequency	Percentage
A.	**Age**		
1.	upto 28 years	24	26.66
2.	29 to 38 years	52	57.78
3.	more than39 years	14	15.56
B.	**Education**		
1.	Diploma	22	24.44
2.	Under Graduation (U.G)	28	31.11
3.	Post Graduation (P.G)	34	37.78
4.	Doctorate (Ph.D)	6	6.67
C.	**Job experience**		
1.	upto 6 years	22	24.44
2.	7 to 14 years	48	53.33
3.	more than 15 years	20	22.23
D.	**Training received**		
1.	Training not received	4	4.44
2.	Training received	86	95.56
E.	**Source of information**		
1.	Hardly assess (upto 12)	20	22.22
2.	Frequently assess (13 to 15)	44	48.89
3.	Regularly assess (16 and above)	26	28.89
F.	**Information management orientation**		
1.	Low (upto32)	20	22.22
2.	Medium (33 to 48)	46	51.11
3.	High (49 and above)	24	26.67
G.	**Mobile inclination**		
1.	Low (upto 53)	20	22.23
2.	Medium (54 to 65)	48	53.33
3.	High (65 and above)	22	24.44
H.	**Job commitment**		
1.	Low (upto29)	14	15.56
2.	Medium (30 to 35)	58	64.44
3.	High (36 and above)	18	20.00

The data in the table 1 indicates that that majority of them belonged to age between 29 to 38 years (57.78%) and were found educated up to post graduation (37.78). Most of the extension personnel had job experience between 7 to 14 years (53.33%). Majority (95.56%) of the respondents have received training in agricultural and its allied aspects and frequently used friends or colleagues (48.89%) as their source of information. Majority the extension personnel were having medium level of mobile inclination (53.33%), information management orientation (51.11%) and job commitment (64.44%).

Awareness of Extension personnel about use of digital marketing applications:

To measure the Awareness of extension personnel about use of digital marketing applications they were asked to rate the awareness on three-point continuum i.e. completely aware, partially aware and unaware to the statement related to use of digital marketing mobile applications.

The data regarding awareness of Extension personnel about use of digital marketing applications is presented in the Table 2 and discussed as follows. About 91.11 per cent of the extension personnel were completely awarethat digital marketing applications provides better market information to farmers to improve their income and deliver better price to consumer for agricultural products followed by provide information on price discovery, price transparency and price

transmission (91.11%). About 84.44 per cent of the extension personnel were completely awarethat digital marketing applications provide real time and broad-based price dissemination followed by provide a platform which enables to sell and buy agricultural produce and products from any place (82.22%), makes it easier to compare market prices (80.00%), provide a platform where many sellers and buyers are connected across country (80.00%) and provides more selling options to farmers (77.78%).

Majority (75.56%) of the extension personnel were completely aware that digital marketing applications increase market integration followed by eliminates number of intermediaries, thereby ensuring that there is increased price share for the farmers (75.56%), reduced the market imperfection (73.33%) and reduce dependency of farmers on MSP and public procurement (73.33%). While 68.89 per cent of the extension personnel were completely aware that digital marketing applications increase marketing efficiency followed by increase net returns to farmers (66.67%), sales process is less complicated in digital marketing applications (64.44%) and increase competitiveness (64.44%).

Further 57.78 per cent of the extension personnel were completely aware that digital marketing applications reduce monopoly of traders followed by followed by enables more efficient supply chain (55.56%) and improve transparency in marketing system (53.33%). Whereas 53.33 per cent of the extension personnel were completely aware that digital marketing applications increases the price share of the farmers i.e., provides a platform to the farmers to sell his produce where he feels that he is getting a remunerative price for his produce followed by reduces transaction time and increases market revenue (51.11%).

Table 2: Distribution of Extension personnel according to their overall awareness about use of digital marketing applications

(n=90)

S.No	Category	Frequency	Percentage
1.	Low (upto30)	18	20.00
2.	Medium (31 to 35)	50	55.56
3.	High (36 and above)	22	24.44

It is evident from the Table 3 that majority (55.56%) of the extension personnel were having medium level of awareness about use of digital marketing applications followed by high (24.44%) and low (20.00%) level of awareness. The probable reason might be that majority of the extension personnel are well educated, have more job experience and are committed to their job. They also keep themselves updated with the information related to the agriculture, so that they can reach the information to the farmers in right channel and at right time and helpthem to earn good returns.

Table 3. Distribution of Extension personnel according to their awareness about use of digital marketing applications

(n=90)

S.No	Statements	Completely aware		Partially aware		Unaware	
		F	%	F	%	F	%
1.	It provides a platform which enables to sell and buy agriculturalproduce and products from any place.	74	82.22	14	15.56	2	2.22
2.	Improved transparency in marketing system.	48	53.33	30	33.33	12	13.34
3.	It is easier to make price comparisons by using digital marketing apps	72	80.00	18	20.00	0	0.00
4.	Reduced market imperfection	66	73.33	18	20.00	6	6.67
5.	Increased marketing efficiency	62	68.89	28	31.11	0	0.00
6.	Increased competitiveness	58	64.44	22	24.45	10	11.11
7.	Sale process is less complicated.	56	62.22	26	28.89	8	8.89
8.	It provides real time and broad-based price dissemination	76	84.44	12	13.34	2	2.22
9.	It provides information on price discovery, price transparency and price transmission	82	91.11	8	8.89	0	0.00
10.	It will provide more selling options to farmers	70	77.78	16	17.78	4	4.44
11.	It enables more efficient supply chain.	50	55.56	28	31.11	4	4.44
12.	Reduced transaction time and increased market revenue	38	42.22	46	51.11	6	6.67
13.	It provides a platform where many sellers and buyers are connected across country.	72	80.00	18	20.00	0	0.00
14.	It increases the price share of the farmers i.e., provides a platform to the farmers to sell his produce where he feels that he is getting a remunerative price for his produce.	48	53.33	30	33.34	12	13.33
15.	It eliminates number of intermediaries, thereby ensuring that there is increased price share for the farmers	68	75.56	22	24.44	0	0.00
16.	It provides better market information to farmers to improves their incomes and deliver better prices to consumer for agricultural products.	82	91.11	8	8.89	0	0.00
17.	Increased market integration	78	75.56	22	24.44	0	0.00
18.	Increased net returns to farmers	60	66.67	20	22.22	10	11.11
19.	Reduced dependency of farmers on MSP and public procurement	66	73.33	20	22.22	4	4.44
20.	Reduced monopoly of traders	52	57.78	32	35.55	6	6.67

Correlation analysis between independent variables and awareness of Extension personnel about use of digital marketing applications

The data presented in the Table 4 provides an insight towards the relationship between . It is evident that out of 8 variables, only 6 variables i.e. Education, job experience, training received, source of information, mobile inclination and job commitment were found positive and significantly correlated with awareness of Extension personnel about use of digital marketing applications, out of these variables, 3 variables i.e. Education, training received and mobile inclination were found correlated at 0.01 level of probability or 1% level of significance and 3 variables i.e. job experience, source of information and job commitment were found correlated at 0.05 level of probability or 5% level of significance. The remaining 2 variables i.e. age, information management orientation did not indicated significant relationship with awareness of Extension personnel about use of digital marketing applications.

Table 4: Correlation coefficient between independent variables and awareness of Extension personnel about use of Digital marketing applications.

Sl.No	Variables	Correlation Coefficient
1.	Age (X_1)	0.183NS
2.	Education (X_2)	0.420**
3.	Job experience (X_3)	0.306*
4.	Training received (X_4)	0.441**
5.	Source of information (X_5)	0.376*
6.	Mobile inclination (X_6)	0.272 NS
7.	Job commitment (X_7)	0.618**
8.	Information management orientation (X_8)	0.360*

***** Significant at 5 % level of significance ****** Significant at 1 % level of significance

1. Age and awareness:

Age of Extension personnel was found positive and non-significantwith the awareness about use of digital marketing applications. It is generally expected that with the increase in the age, the awareness level of extension personnel about new technologies in agriculture also increases. But the result indicates that Extension personnel of all the age groups (young, middle and old), were similar in their awareness about use of digital marketing applications. Irrespective of the age, every extension personnel keep themselves updated with the information about new technologies in agriculture. So it can be concluded that age does not have significant relationship with awareness of Extension personnel about use of digital marketing applications.

2. Education and awareness:

The positive and significant relationship between education of the extension personnel and their awareness about use of digital marketing applications indicates that with the increase in education level of extension personnel, the awareness level also increases.

3. Job experience and awareness:

The positive and significant relationship between job experience of the extension personnel

and their awareness about use of digital marketing applications indicates that as the job experience increases, awareness of extension personnel also increases. It could be inferred that extension personnel with more job experience effectively utilize various information sources to keep themselves updated with the new technologies in the agriculture.

4. Training received and awareness:

The positive and significant relationship between training received by the extension personnel and their awareness about use of digital marketing applications indicates that extension personnel who have received more training will have more awareness level. It can be inferred that by receiving training, the extension personnel will come to know updated information related to agriculture. Moreover with the increase in the number of trainings will help to enhance the inbuilt abilities and also bring the change can be brought in one's knowledge, skill,attitude, understanding of a particular aspect.

5. Source of information and awareness:

The positive and significant relationship between source of information and awareness of Extension personnel about use of digital marketing applications indicates that as the information source use is increasing the awareness level of extension personnel also increases. This is because as they will get more information through various sources, they will be more aware of information related to agriculture.

6. Information management orientation and awareness:

The non-significant relationship between information management orientation and awareness of Extension personnel about use of digital marketing applications indicates that it does not have significant relationship with awareness of Extension personnel about use of digital marketing applications.

7. Mobile inclination and awareness:

The positive and significant relationship between mobile inclination of the extension personnel and their awareness of Extension personnel about use of digital marketing applications indicates that awareness level increases with the increase in that level of mobile inclination.

8. Job commitment and awareness:

The positive and significant relationship between job commitment of the extension personnel and their awareness of Extension personnel about use ofdigital marketing applications indicated that the extension personnel with higher job commitment were greater were having high awareness level. This might be dueto that the extension personnel with higher job commitment were more physically and psychologically involved in their respected job.

Multiple regression analysis between Independent and awareness of Extension personnel about use of digital marketing applications.

The Multiple regression analysis was carried out between 8 selected independent variables and dependent variables i.e., awareness of Extension personnel about use of digital marketing applications

Table 5 illustrates the regression coefficient of independent variables with awareness of Extension personnel about use of digital marketing applications. It can be said by estimating the

regression coefficient that R^2value in this case is 0.692. Thus it can be said that independent variables explains 63.2 per cent variability in awareness of Extension personnel about use of digital marketing applications.

It can be inferred from the Table that out of 8 variables, 5 variables i.e. Education, source of information, mobile inclination, job commitment and information management orientation were found positive and significant contribution with the awareness of Extension personnel about use of digital marketing applications. Out of these 5 variables, 4 variables i.e.., education, source of information, mobile inclination and job commitment were found positive and significant at 0.01 level of probability and 1 variable i.e. information management orientation were found positive and significant at 0.05 level of probability. Age was found negative and significant contribution with the awareness of Extension personnel about use of digital marketing applications. The remaining 2 variables i.e. job experience and training received did not indicate any contribution with awareness of Extension personnel about use of digital marketing applications.

Table 5: Regression coefficient between independent variables and awareness of Extension personnel about use of Digital marketing applications.

S.No	Variables	"b" value	"t" value
1.	Age	-0.222	-2.597*
2.	Education	1.062	3.131**
3.	Job experience	0.055	0.509NS
4.	Training received	0.183	0.485NS
5.	Source of information	0.315	2.047**
6.	Mobile inclination	0.218	4.275**
7.	Job commitment	0.256	3.006**
8.	Information management orientation	0.096	2.534*

***** Significant at 0.05 % level of probability R^2 value: 0.692

****** Significant at 0.01 % level of probability

Conclusion:

It can be concluded that it is important for the extension personnel keep themselves updated with the latest information about new technologies in agriculture. The knowledge gap between farmers and the information source needs to be closed more effectively by agricultural extension personnel. It is important that extension personnel have to create awareness among farmers by conducting training programmes about the use of the digital marketing applications in marketing of their produce and the advantages it brings to improve their income level. It's critical for extension professionals to stay updated on agricultural technology developments and have a good grasp of mobile applications. Using mobile applications, extension agents may quickly interact with larger farmers and give them crucial information to help them solve problems and make quick decisions.

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