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Factors Affecting Perception of Extension Agents Towards Effective Social Media Utilization Behaviour

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ABSTRACT

Changing times demand an in-depth analysis of the unexplored opportunities which social media offers. As extension agents are the front line of the extension and advisory services a study focused on analyzing their perception towards effective social media utilization behaviour and factors affecting their perception was carried on in the IT revolutionized Andhra Pradesh state during 2021. The survey method was used to collect data from 160 extension agents selected through a proportionate random sampling method from three districts namely Chittoor, Srikakulam, and Guntur of Andhra Pradesh. It was found that 51.88% of the extension agents had a neutral perception. It was found that scientific orientation, job perception, technology management orientation, innovative proneness, information management orientation, and orientation towards the extension service profession of the extension agents had a significant and positive correlation with the perception. Stepwise regression analysis revealed that eight variables namely technology management orientation, orientation towards extension service profession, innovative proneness, scientific orientation, perceived workload, education, gender, and work experience, were a good fit with an R-square of 55.1 per cent.

INTRODUCTION

Traditional agricultural extension services in India and other developing countries confront several constraints that restrict their effectiveness in providing services. To deal with these challenges it is necessary to explore the potential of ICT-based platforms that provide two-way continuous communication and feedback. Studies on ICT-based extension have put forward many new extension models and strategies to increase the reach of agricultural extension services. Study conducted by Kale et al., (2016) found that the scientists had a positive perception of the ICT-based extension. Social media is one such ICT-based platform that can lead to enhanced smallholders' access to timely information services. Social media also decreases the cost of personal visits and facilitates two-way contact between farmers and extension agents, improving the quality of services given. Because of its potential, it is a very effective and beneficial tool for extension agents to engage with their clients and colleagues. Social media utilization behaviour has a lot to do with attitude rather than age (Saravanan, 2016). Since extension agents play a crucial role in mainstream extension, frontline extension, and private extension services it is highly essential to include their viewpoints on effective social media utilization behaviour. Social media have the capability to create extension mechanism for purposeful farmer to farmer learning exchange (Nain et al., 2019). A majority of farmers were using social media for receiving and sharing agricultural information according to the study conducted by Nain et al., (2015); Panda et al., (2019); Singh et al., (2021). James et al., (2020) showed that three-fourths 78.13 per cent of KVK scientists shared a strong or better perception of social

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media. He further reported that 77.02 per cent of scientists had a good to a better perception of social media. It was also found that job performance, job experience, scientific orientation, job involvement, organizational climate, abroad exposure, mass media involvement, education, achievement motivation, number of publications, innovative proneness, e-readiness, competition orientation, field activities conducted, and training of KVK Scientists had a significant to a highly significant relationship with their perception regarding social media. Considering the given potential of social media the study was conducted on the extension staff of all the extension organizations such as state government, KVKs, SAU, ATMA, Input dealers, and NGOs to analyze their perception of social media and the socio personal job-related characteristics affecting their perception.

METHODOLOGY

The study was conducted in three districts namely Chittoor, Guntur, and Srikakulam of Andhra Pradesh through random selection. From the pool of extension agents working in the three districts under the frontline extension and field extension, a proportionate random sampling method was used to select 160 extension agents (60 from Guntur, 60 from Chittoor, and 40 from Srikakulam). Well-structured questionnaires were designed for data collection for survey. The perception towards effective social media utilization behaviour was operationalized as the degree to which an individual believes that using a particular system would enhance his or her job performance. To measure the perception the scale developed by Kale et al., (2016) with modifications was used. To evaluate the perception, extension agents were requested to respond to 20 items listed in the questionnaire against a five-point continuum. Based on the overall score obtained each respondent was categorized into unfavourable, neutral, and favourable perception. The socio-personal and job-related variables included age, gender, education, background, work experience, social participation, training attended, achievement motivation, innovative proneness, scientific orientation, perceived workload, job perception, job performance, technology management orientation, information management orientation, and orientation towards extent service profession. Categorical variables were analyzed through frequency and percentage whereas continuous variables were analyzed and categorized into low, medium, and high based on mean and standard deviation. To find the relationship of independent variables on perception towards social media, different statistical analyses such as the chi-square and Fisher's exact tests for categorical variables and correlational analysis for continuous variables were done. To study the most parsimonious variables that show the combined effect of independent variables in explaining the variation on the dependent variable (perception), the stepwise multiple regression analysis was carried out. The model excludes the variables which do not significantly contribute to the dependent variable.

$$Y = b0 + b1\ X1 + b2\ X2 + b3\ X3 \ldots\ldots\ldots bn\ x\ n$$

Where, b0 = Constant, Y = Dependent variable, X1 …X n = Independent variable, b1 …bn = Regression coefficient for respective variables.

RESULTS AND DISCUSSION

Majority of the extension agents had a neutral perception towards social media usage in agriculture extension service delivery which accounted for (51.88%) and (28.75%) had unfavourable perception. These results were consistent in good agreement with other study by James et al., (2020).

The item-wise analysis of the positive and negative items was done for each item. The results in Table 1 state that the statement, videos are very useful for educating farmers on improved practices and technologies was the item that has scored the highest as videos also help illiterate farmers in better understanding. Adding up the scores of the extension agents across the item the score accounted for 706 which takes the strongly most agreed item. It was

Table 1. Item wise analysis of perception

S.No.	Perception items of social media utilization behaviour	Weighted score
1.	Creative application of social media can lead to enhanced quality and use of the information disseminated.	673
2.	Social media help in strengthening the research-extension-farmers linkage	679
3.	Through using social media, statistical analyses of the research data become very easy	655
4.	Social media are more useful tool for extension agents when dealing with illiterate farmers (-)	395
5.	Videos are very useful for educating farmers on improved practices and technologies	706
6.	Social media reduce the workload of KVK staff and enhanced the productivity of scientists	628
7.	Use of social media is very cumbersome for agricultural extension activities (-)	263
8.	Internet is an important source for collecting current information on every aspect of agriculture	683
9.	Social media reduce interpersonal relationships between extension agents and farmers (-)	510
10.	Social media help carry out extension activities like training, demonstration, field day, Kisan Mela, campaign, etc	688
11.	The use of social media is very time consuming and boring in extension work (-)	546
12.	Due to eye pain, headache the use of social media is decreasing (-)	500
13.	Mobile phone is an emerging ICT tool for extension work in India	678
14.	Social media are not suitable for extension activities in rural India (-)	569
15.	The application of social media saves time, covers the masses in a short period, and reduces the distance	680
16.	ICTs like multimedia, video, and PowerPoint can be used to create a constructive and interesting learning environment	679
17.	Social media promote communication and coordination among KVKs, research institutes, and SAUs	665
18.	Preference for mobile phones for disseminating knowledge, market, and weather information to the farmers is increasing	677
19.	Preference for sending the Short Message Service (SMS) in extension is decreasing (-)	517
20.	Social media tools offer real advantages over traditional methods of training and extension	655

Table 2. Relationship between socio-personal, job-related variables with perception

Variables	Test	Values	Significance
Gender x Perception	Chi-square test	5.93	0.052^{NS}
Background x Perception	Chi-square test	2.89	0.236^{NS}
Education x Perception	Fisher's Exact test	11.14	0.023*
Work Experience x Perception	Fisher's Exact test	4.12	0.121^{NS}
Social participation x Perception	Chi-square test	10.06	0.007**
Training x Perception	Chi-square test	1.76	0.415^{NS}

NS = Non significant, * Significant at 0.05 level of significance, ** Significant at 0.01 level of significance

supported by the research study conducted by Tambade et al., (2019) whereas agricultural videos played a vital role in improving the skill and knowledge of the farmers. The item social media help carry out extension activities like training, demonstration, field day, Kisan Mela, campaign, etc. was the second most accepted item well supported by the research study of Sharma et al., (2020) whereas social media became the preferred source for getting and sharing agricultural information and other social messages. The item social media are not suitable for extension activities in rural India' was the negative item that scored 569. It was interpreted as a item that was highly disagreed as it was contradictory to all the research findings.

Relationship between socio personal job-related variables and perception towards social media

The results in Table 2 indicate that among the categorical variables cross-tabulation was done, chi-square and fisher's exact test were used to find out the association of the variables with the perception. The gender, background, work experience, and training received by extension agents did not show any significant relationship with the perception. It may be interpreted that a positive perception towards social media can be developed among the extension agents irrespective of their gender, background, work experience, and training received. Variables such as education ($p<0.05$) and social participation ($p<0.01$) showed significant association with the perception towards social media. The results are compatible with Kale et al., (2016); Nirmalkar et al., (2022).

The data in Table 3 indicate the relationship of the continuous variables with the perception towards social media through a correlation analysis. The results of the correlational analysis state that age and achievement motivation were not significantly related with the perception towards social media. Job performance had a significant and positive relationship with perception towards social media at 0.05 level of significance. It was also evident that perception towards social media showed a negative relation with the perceived workload where an individual who felt that they were filled with workload cannot perceive the new platforms such as social media. Hence the organizations need to take up stress control measures and make employees free from their perceived workload which will increase their positive perception towards social media in order to indirectly help decrease their workload.

Table 3. Correlational analysis of the independent variables with dependent variable

Independent variables	Correlation with Perception
Age	0.065^{NS}
Achievement Motivation	0.124^{NS}
Innovative Proneness	0.373**
Scientific Orientation	0.316**
Perceived Work Load	-0.159*
Job perception	0.397**
Job Performance	0.169*
Technology Management Orientation	0.541**
Information Management Orientation	0.423**
Orientation Towards Extension Service Profession	0.527**

NS = Non significant, * Significant at 0.05 level of significance, ** Significant at 0.01 level of significance

Variables such as innovative proneness, scientific orientation, job perception, technology management orientation, information management orientation, and orientation towards the extension service profession had a significant and positive correlation with the perception towards social media at a 0.01 level of significance. It can be interpreted that the development of these qualities among the extension agents through capacity development programmes can lead to an increase in positive perception among the extension agents towards the effective social media utilization behaviour. These results are consistent with other studies like James et al., (2020).

Based on the results in Table 4 it is revealed that in stepwise analysis, eight variables dominated in the estimation of perception towards social media. The model with all these eight variables was a good fit with an R-square of 55.1 per cent which revealed that 55.1 per cent variation in the perception towards social media could be explained by these eight variables (independent) selected in the study. It can be interpreted that variables namely technology management orientation, orientation towards extension service profession, innovative proneness, scientific orientation, perceived workload, education, gender, and work experience, determine the variation in the perception of extension agents. It can be interpreted that change in these variables can contribute to change in the perception of extension agents. Hence it is an opportunity for all the grassroots extension organizations to work on these qualities of extension agents which leads to change in their levels of perception towards effective social media utilization behaviour.

CONCLUSION

Most of the extension agents had a neutral perception regarding social media in advisory services. It indicates that some additional support from different extension institutes and exposure to different types of social media platforms would help to increase and develop a positive perception among the extension agents. It is easy to increase the positive perception of the extension agents irrespective of their age, gender, background, work experience,

Table 4. Stepwise multiple regression

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	21.965	5.572		3.942	.000
	Technology Management Orientation (X_{14})	.510	.086	.378	5.941**	.000
	Orientation towards Extension Service Profession (X_{16})	.340	.087	.257	3.897**	.000
	Innovative proneness (X_9)	.527	.196	.162	2.688**	.008
	Scientific Orientation (X_{10})	.373	.145	.153	2.573*	.011
	Perceived work load (X_{11})	-.426	.141	-.188	-3.023**	.003
	Gender=Female (d_{female})	-1.943	.769	-.141	-2.526*	.013
	Education=UG (d_{ug})	1.809	.810	.133	2.232*	.027
	Education=PG (d_{pg})	1.294	1.266	.060	1.022	.309
	Education=Ph.D. (d_{phd})	6.334	2.474	.146	2.560*	.011
	Work Experience=Junior level (d_{junior})	1.271	1.425	.056	.892	.374
	Work Experience=Senior level (d_{senior})	-5.417	2.734	-.124	-1.981*	.049

a. Dependent Variable: Perception

R^2=55.1%

$$Y_1 = 21.965 + 0.510\ X_{14} + 0.340\ X_{16} + 0.527\ X_9 + 0.373\ X_{10} - 0.426X_{11} - 1.943d_{female} + 1.809d_{ug} + 1.294d_{pg} + 6.334d_{phd} + 1.271d_{junior} - 5.417d_{senior}$$

previous training attended, and achievement motivation. The variables namely technology management orientation, orientation towards extension service profession, innovative proneness, scientific orientation, perceived workload, education, gender, and work experience had dominated the estimation of perception towards social media. Extension organizations should work on these qualities among the staff so that it may lead to a higher contribution in the way they perceive and take benefits from using technologies such as social media platforms.

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