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How Social Media Savvy are Krishi Vigyan Kendra Scientists of South India?

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ABSTRACT

The present research study was conducted in Andhra Pradesh, Karnataka, Kerala, Lakshadweep, Puducherry, Tamil Nadu and Telangana during 2019-2020 to analyze the knowledge of Krishi Vigyan Kendra (KVK) scientists regarding social media. The sample consisted of 161 scientists out of a population of 542 scientists from 117 Krishi Vigyan Kendras in the above mentioned states. The results revealed that a greater proportion of KVK scientists (39.14%) had high knowledge regarding social media, whereas slightly more than one-third (36.64%) of KVK scientists had medium level of knowledge regarding the social media and nearly one-fourth, *i.e.,* 24.22 per cent of respondents had low knowledge regarding social media. The independent variables, namely, education, e-readiness, innovative proneness and trainings that were received by the KVK scientists seemed to have positive and also a relationship that was significant, with knowledge level of the KVK agricultural scientists with the level of probability being one per cent. Twenty-one independent variables contributed to the tune of 87.15 per cent to the knowledge of KVK scientists regarding social media. Sixteen of the independent variables screened for the path analysis had a positive and direct effect on knowledge of the agricultural scientists of KVKs regarding social media.

Keywords : Knowledge, Social media, KVK scientists, Agricultural development

THE growth in significance of social media among professionals and researchers of agriculture, over the past few years, has been remarkable. Capturing millions of users from all over the world, social media has become one of the most popular means of interacting and information-sharing. Social media can be defined as web based tools of electronic communication that allow users to interact, create, share, retrieve and exchange information and ideas in any form (text, pictures, video, *etc.*) that can be discussed upon, archived and used by anyone in virtual communities and networks (Suchiradipta and Saravanan, 2016). The annual growth rate of social media users worldwide is 13 per cent whereas in India it is 31 per cent. In the agricultural sector, there is an increasing rate of social media usage amongst stakeholders. Today, farmers are using Facebook, Twitter and other tools to access and disseminate the news. Farmers are sharing pictures of their farms on Facebook; selling products on Twitter and connecting with experts on WhatsApp. The scientists of Krishi Vigyan Kendras (KVKs) play a pro-active role in transferring latest technologies with beneficial impacts to the farmers at grassroots level. They continuously improve their knowledge and skills by updating themselves regarding latest information and technologies. Social media speeds up connections between scientists in the virtual space and it can be used effectively by the KVK scientists for agricultural development (Jayashree, 2018). In this backdrop, the present study has been carried out with the following specific objectives :

1. To analyse the knowledge of KVK Scientists regarding social media and

2. To know the relationship between personal, socio-economic, psychological and communication characteristics of KVK scientists and their knowledge regarding social media.

Material and Methods

The present study was carried out in Andhra Pradesh, Karnataka, Kerala, Lakshadweep, Puducherry, Tamil Nadu and Telangana during 2019-2020. One hundred and sixty one scientists working in 117 Krishi Vigyan Kendras were purposively selected as the sample of the study. Ex post-facto research design was adopted for conducting the study. Knowledge level of KVK scientists in the present study was operationalized as the quantum of scientific information known to the scientists about the tasks that can be performed using selected social media.

A list of eleven selected social media was enlisted and the scientists had to tick the activities/ tasks that the particular social media could be used for. A preliminary survey was conducted using Google forms to know the usage of social media by KVK scientists under the jurisdiction of University of Agricultural Sciences, Bengaluru, as well as from scientists working in other KVKs of Karnataka, Central Silk board, ISEC (Institute for Social and Economic Change, Bengaluru), IGFRI (Indian Grassland and fodder Research institute, Jhansi) and CICR (Central Institute for Cotton Research, Nagpur). Based on the preliminary survey, 11 social media platforms were selected for the study, namely: Facebook, WhatsApp, YouTube, Instagram, Twitter, Telegram, LinkedIn, Skype, Messenger, Quora and Research Gate.

The correct responses were awarded a score of one. The wrong answers were allotted a score of 0. If no attempt was made against a particular social media, a total score of 0 was allotted for knowledge regarding that particular social media. Also, if a respondent scored nine or more than nine for a particular social media, he/she was considered to have complete knowledge regarding that social media. If the respondent scored one to eight for a particular social media, he/she was considered to have partial knowledge regarding that social media. The summation of scores for a particular respondent indicated his/her knowledge level about social media. Based on the total score obtained, the respondents were classified into three categories namely, 'low', 'medium' and 'high' using mean (42.00) and half standard deviation (11.82) as a measure of check. The collected data was scored, tabulated and analysed using frequency, mean, standard deviation, correlation test and path analysis.

Results and Discussion

1. Personal, Socio-Economic, Psychological and Communication Characteristics of KVK Scientists

Larger proportion of KVK scientists were of middle age (70.19%), studied up to Ph.D. (Agri.) degree (45.96%), having more job experience (47.20%) with semi-urban background (41.61%), as depicted in Table 1 A. Larger number of KVK scientists were

Table 1A

Personal characteristics of KVK scientists

(n=161)

Characteristics	Category	KVK Scientists	
		Number	Per cent
Age	Young	29	18.01
	Middle	113	70.19
	Old	19	11.80
Education	M.Tech. (Agri. Engineering)	5	3.11
	MHSc.	7	4.35
	MVSc.	12	7.45
	M.Sc.(Agri)	63	39.13
	Ph.D. (Agri.)	74	45.96
Rural urban background	Rural	41	25.47
	Semi-urban	67	41.61
	Urban	53	32.92
i) Job experience	Less	45	27.95
	Moderate	76	47.20
	More	40	24.85
ii) Social media experience	Less	65	40.37
	Moderate	54	33.54
	More	42	26.09

noticed as having high level of job satisfaction (37.27%), high job performance level (39.75%), low achievement motivation level (42.24%), medium level of innovative proneness (54.04%), scientific orientation (63.98%), perceived work load (37.89%) and job involvement (40.99%), high level of e-readiness (44.72%), organisational climate (46.58%) and finally, low level of competition orientation (44.10%) as depicted in Table 1 B. Comparatively, a higher proportion of scientists were in the medium level in obtaining awards/ recognition (44.72%), had low level of abroad exposure (63.98%), had conducted less number of field activities (59.63%), with low utilization pattern of mass media utilization (47.83%), with less number of trainings received (43.48%), moderate number of publications (52.17%) and medium participation in seminars/ conferences (40.37%) as shown in Table 1 C.

TABLE 1B

Psychological characteristics of KVK scientists

(n=161)

Characteristics	Category	KVK Scientists	
		Number	Per cent
Job satisfaction	Low	47	29.19
	Medium	54	33.54
	High	60	37.27
Job performance	Low	40	24.85
	Medium	57	35.40
	High	64	39.75
Achievement motivation	Low	68	42.24
	Medium	42	26.09
	High	51	31.67
Innovative proneness	Low	44	27.33
	Medium	87	54.04
	High	30	18.63
Scientific orientation	Low	28	17.39
	Medium	103	63.98
	High	30	18.63
Perceived work load	Low	39	24.22
	Medium	61	37.89
	High	61	37.89
Job involvement	Low	35	21.74
	Medium	66	40.99
	High	60	37.27
e-readiness	Low	41	25.47
	Medium	48	29.81
	High	72	44.72
Organizational climate	Low	48	29.82
	Medium	38	23.60
	High	75	46.58
Competition Orientation	Low	71	44.10
	Medium	50	31.06
	High	40	24.84

TABLE 1C

Socio-economic and communication characteristics of KVK scientists

(n=161)

Characteristics	Category	KVK Scientists	
		Number	Per cent
Awards/ recognition received	Low	63	39.13
	Medium	72	44.72
	High	26	16.15
Abroad exposure	Low	103	63.98
	Medium	30	18.63
	High	28	17.39
Field activities conducted	Less	96	59.63
	Moderate	29	18.01
	More	36	22.36
Mass media utilization	Low	77	47.83
	Medium	35	21.74
	High	49	30.43
Trainings received	Less	70	43.48
	Moderate	54	33.54
	More	37	22.98
Number of publications	Less	43	26.71
	Moderate	84	52.17
	More	34	21.12
Participation in seminars/ conferences	Low	64	39.75
	Medium	65	40.37
	High	32	19.88

2. Knowledge of KVK Scientists Regarding Individual Social Media

The results in Table 2 provide conclusive evidence regarding knowledge of KVK scientists regarding selected individual social media. A great majority (67.70%) of the KVK scientists possessed complete knowledge regarding WhatsApp whereas 55.90 per

TABLE 2

Knowledge of KVK scientists regarding individual social media

(n= 161)

Social media	Knowledge level					
	Complete knowledge		Partial knowledge		No knowledge	
	Number	Per cent	Number	Per cent	Number	Per cent
Facebook	85	52.80	68	42.24	8	4.96
WhatsApp	109	67.70	47	29.19	5	3.11
YouTube	90	55.90	53	32.92	18	11.18
Instagram	33	20.50	56	34.78	72	44.72
Twitter	67	41.61	39	24.23	55	34.16
Telegram	48	29.81	59	36.65	54	33.54
LinkedIn	65	40.37	55	34.16	41	25.47
Skype	42	26.09	62	38.51	57	35.40
Messenger	54	33.54	41	25.67	66	40.99
Quora	24	14.91	44	27.33	93	57.76
ResearchGate	78	48.45	43	26.71	40	24.84

cent respondents had complete knowledge regarding YouTube, 52.80 per cent respondents had complete knowledge regarding Facebook, 48.45 per cent respondents had complete knowledge regarding ResearchGate, 41.61 per cent had complete knowledge regarding Twitter, 40.37 per cent had complete knowledge regarding LinkedIn, 33.54 per cent complete knowledge regarding Messenger, 29.81 per cent had complete knowledge on Telegram, 26.09 per cent had complete knowledge on Skype, 20.50 per cent respondents had complete knowledge on Instagram and only 14.91 per cent KVK scientists had complete knowledge regarding Quora.

A close view at the results of Table 2 also reveals that 42.24 per cent respondents had partial knowledge regarding Facebook, followed by Skype (38.51%), Telegram (36.65%), Instagram (34.78%), LinkedIn (34.16%), YouTube (32.92%), WhatsApp (29.19%), Quora (27.33%), ResearchGate (26.71%), Messenger (25.67%) and Twitter (24.23%). The results in Table 2 further revealed that 57.76 per cent KVK scientists had no knowledge regarding Quora, whereas 44.72 per cent had no knowledge regarding Instagram, 40.99 per cent had no knowledge regarding Messenger, 35.40 per cent respondents had no knowledge regarding Skype, 34.16 per cent scientists had no knowledge regarding Twitter, 33.54 per cent respondents had no knowledge regarding Telegram, 24.84 per cent of them had no knowledge regarding ResearchGate, 11.18 per cent KVK scientists did not have knowledge regarding YouTube, 4.96 per cent had no knowledge regarding Facebook and only 3.11 per cent KVK scientists didn't have knowledge regarding WhatsApp.

Overall Knowledge of KVK Scientists Regarding Social Media

The bird's eye perusal of Table 3 shows that greater proportion of the KVK scientists (39.14%) had high knowledge regarding social media, whereas slightly more than one-third (36.64%) of respondents possessed medium level of knowledge regarding social media and finally, 24.22 per cent KVK scientists possessed low knowledge regarding social media. It may be inferred from findings that 75.78 per cent KVK scientists possessed medium to high knowledge level regarding social media. Majority of the respondents have good amount of knowledge with regard to social media as it is imperative as educated scientists, to have know-how regarding such useful

TABLE 3

Overall knowledge of KVK scientists regarding social media

(n=161)

Categories	KVK Scientists	
	Number	Per cent
Low (< 30.19 score)	39	24.22
Medium (30.19 – 53.82 score)	59	36.64
High (> 53.82 score)	63	39.14
Total	161	100.00

Mean= 42.00; Standard deviation = 23.63

information sharing and communication platforms as social media. Findings akin were put forth by Aisar *et al.* (2015), Rashmi and Sapna (2016) and Ayushi (2018).

Since there is difference in respect of knowledge level among KVK scientists regarding social media, the set forth hypothesis, that is, there's no difference in knowledge level regarding social media among KVK scientists, is rejected.

3. Relationship between Personal, Socio-Economic, Psychological and Communication Characteristics of KVK Scientists and their Knowledge Regarding Social Media

The results in Table 4 reveal that education, innovative proneness, e-readiness and trainings received had positive and significant relationship with knowledge of KVK scientists at one per cent level of probability. Whereas, job experience, job performance, achievement motivation, scientific orientation, job involvement, competition orientation, awards/ recognition received, abroad exposure/ countries visited, field activities conducted, mass media utilization, number of publications and participation in seminars/ conferences were found to have a significant relationship with knowledge of KVK scientists regarding social media at five per cent level of probability. Age was the only independent variable that had negative but significant relationship with their knowledge regarding social media, at level of probability being five per cent. The remaining four variables, namely, rural urban background, job satisfaction, perceived workload and organizational climate were not having significant relationship with knowledge regarding social media.

TABLE 4

Relationship of personal, socio-economic, psychological and communication characteristics with knowledge of KVK Scientists regarding social media

(n=161)

Independent Variables	Correlation coefficient
Age	-0.211 *
Education	0.4012 **
Rural urban background	0.092 NS
Job experience	0.201 *
Job satisfaction	0.192 NS
Job performance	0.199 *
Achievement motivation	0.216 *
Innovative proneness	0.313 **
Scientific orientation	0.202 *
Perceived work load	0.099 NS
Job involvement	0.222 *
e-readiness	0.300 **
Organizational climate	0.062 NS
Competition Orientation	0.239 *
Awards/ recognition received	0.248 *
Abroad exposure/ countries visited	0.226 *
Field activities conducted	0.210 *
Mass media utilization	0.251 *
Trainings received	0.410 **
Number of publications	0.244 *
Participation in seminars/ conferences	0.233 *

NS=Non-significant, * Significant at 5 per cent level, ** Significant at 1 per cent level

4. Direct, Indirect and the Largest Indirect Effect of Selected Personal, Socio-Economic, Psychological and Communication Characteristics of KVK Scientists on their Knowledge Regarding Social Media

Path co-efficient of the personal, socio-economic, psychological and communication characteristics of KVK scientists with respect to direct effects, the total

indirect effects and the largest indirect effects that were channelled through other independent variables on knowledge regarding social media are presented in Fig. 1. For path analysis, sixteen variables were considered that having positive, significant relationship with the knowledge of KVK scientists regarding social media. All the sixteen independent variables selected for path analysis did have a positive, direct effect on knowledge of KVK scientists regarding social media.

Ranking of variables based on the total direct effects on knowledge of KVK scientists regarding social media reveals that trainings received (X14) had highest direct effect (0.497) on knowledge of KVK scientists regarding social media, followed by e-readiness (X8) with direct effect value of 0.412 and education (X1) with direct effect value of 0.312.

With respect to total indirect effect of the personal, psychological, socio-economic, and communication characteristics on knowledge of KVK scientists regarding social media, it was found to be quite substantial. The ranking of these effects revealed that trainings received (X14) ranked highest with the total indirect effect of 0.389, followed by e-readiness (X8) with total indirect effect of 0.381, education (X1) with a total indirect effect value of 0.333, innovative proneness (X5) with a total indirect effect value of 0.331, achievement motivation (X4) with a total indirect effect value of 0.296.

Further, it's evident from results that first largest indirect effect channelled was through trainings received (X14) in case of seven variables namely, education (X1), job experience (X2), achievement motivation (X4), e-readiness (X8), competition orientation (X9), abroad exposure/ countries visited (X11) and mass media utilization (X13).

Training on social media helps the agricultural scientists to gain valuable knowledge on integration

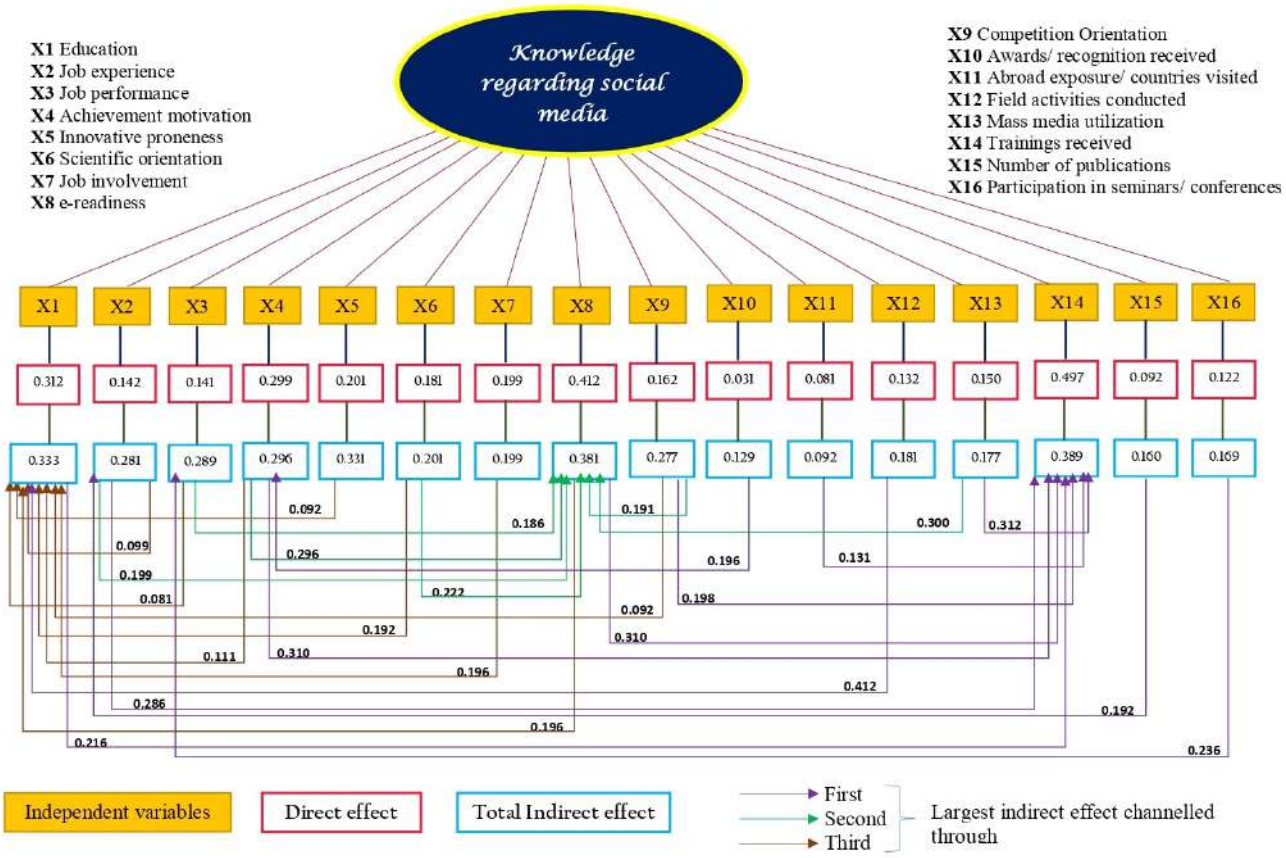

Fig. 1 : Path Analysis showing the effects of profile of KVK scientists on their knowledge regarding social media

of different types of social media, technicalities of social media, content creation and use of social media in general. Training will help the scientists to handle social media effectively and in the process, know more about the intricacies of social media. This is the reason why training can be considered the forerunner of knowledge of KVK scientists regarding social media as it had highest direct effect on knowledge regarding social media. Training was followed by e-readiness, education, achievement motivation, innovative proneness, job involvement, scientific orientation, competition orientation, mass media utilization, job experience and job performance.

Majority of the KVK scientists were seen to have complete knowledge regarding two to three popular social media only. They have no knowledge regarding several social media listed specifically in the study and the possibly unlisted social media platforms available in the ever-growing virtual world. Thus, it is essential that all the KVK scientists who need more knowledge regarding social media have to attend online webinars or e-courses on social media, its uses and features, in order to gain better knowledge regarding social media.

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