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A study of the profile characteristics of KVK Scientists utilizing ICTs

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Abstract

The study was conducted in all KVKs of Maharashtra. To study the profile characteristics of KVK Scientists, a total 264 respondents were selected by complete enumeration method and data was collected using a structured interview schedule. The result revealed that 68.94 per cent of respondents were middle aged; four-fifths of the respondents 80.68 per cent belonged to male category; majority of the respondents 87.88 per cent belonged to designation of SMS i.e. Subject Matter Specialists; nearly half of the respondents i.e. 48.86 per cent possessed a medium level of work experience; above two-fifths of the respondents 41.29 per cent belonged to the medium level of computer literacy; majority of KVK personnel i.e. 87.88 per cent have attended at least one training program on ICT; nearly two-thirds of the respondents i.e. 64.01 per cent belonged to the medium level of extension service orientation; nearly two thirds of the respondents i.e. 58.33 per cent were classified under the medium level of information management orientation; nearly two-thirds of the respondents i.e. 65.15 per cent belonged to the medium level of innovativeness; majority of the respondents i.e. 71.60 per cent were classified under the medium achievement motivation; more than half of the respondents i.e. 57.20 per cent were categorized under the medium perceived work-load; nearly three-fifths of the respondents i.e. 57.95 per cent belonged to the medium level i.e. job Satisfaction; Three-fifths of the respondents i.e. 60.60 per cent belonged to the medium level of organizational Climate; majority of respondents i.e. 71.59 per cent were categorized under the favorable of attitude towards ICT.

Keywords: ICT, KVK, KVK Scientists characteristics, Profile

Introduction

The Indian economy mainly revolves around agriculture by employing more than half of the population and accounting to a great percent of GDP in the rural regions of India. It is a source of national food security, a source of raw material to major industries like textiles and food processing, besides supporting numerous marginal and small farmers livelihoods and hence, is a source of major contribution to alleviating poverty as well as rural development. Some of the major issues affecting Indian farmers in terms of agricultural advisory services are that they do not make informed decisions, and they partake in limited productivity. One of the greatest problems is the unavailability of timely and location specified information. Digital advisory platforms started growing, although they have a limited effect due to low digital literacy levels, lack of language, and proper localization. Most farmers find it hard to handle some apps or services which are not listed in local languages. Also, doubts regarding government or non-governmental advisories perpetuated through misinformation or previous adverse developments decrease the engagement. Such challenges are worsened by fragmentation of the extension systems, lack of trained staff as well as poor capacity building. To improve advisory services, implementation should be holistic in nature, relying on technologies, localized and trust-driven with regards to actual needs of farmers. The proliferation of ICTs has significantly transformed agricultural extension and advisory systems worldwide. In India, Krishi Vigyan Kendra (KVKs), functioning under the ICAR, plays a significant role in transferring farming innovations and knowledge to the farming communities. The integration of ICT tools that includes mobile and different mobile applications, social media, expert systems, video conferencing, and digital content platforms into the operational framework of KVKs is considered instrumental in enhancing the reach, timeliness, and efficiency of agricultural services.

Materials and Methods

In the study, Ex post facto research design was followed as the phenomenon had already occurred and the researcher does not have direct control over independent variables because their manifestations have been already occurred. Maharashtra state was purposively selected for the study as it is the state having second highest number of KVKs i.e., 50 after Uttar Pradesh. The respondents for the current research study had been selected by complete enumeration

method. There is a total of 50 KVKs in Maharashtra and all the senior scientists and Head, KVK scientists working in all these KVKs were considered to be the sample. The total number of working staff under these 50 KVKs was found to be 264.

The data was collected by personal interview method through a structured interview schedule and analyzed by employing suitable statistical methods. Fourteen independent variables were identified for the study.

Results and Discussion

Table 1: Distribution of KVK Scientists according to their profile characteristics

Particulars	Category	Total	
		Frequency	Percentage
Age	Young (Up to 35)	50	18.94
	Middle (36 to 50)	182	68.94
	Old (51 and above)	32	12.12
Gender	Male	213	80.68
	Female	51	19.32
Designation	SMS	232	87.88
	Senior Scientists and Head	32	12.12
Work experience	Low (Up to 5)	37	14.02
	Medium (6-10)	129	48.86
	High (11 and above)	98	37.12
Computer Literacy	Low (Up to 37)	57	21.60
	Medium (38 -66)	109	41.29
	High (67 and above)	98	37.11
Trainings received on ICT	No trainings attended	32	12.12
	One Training Attended	112	42.42
	Two Trainings Attended	94	35.61
	More Than two Trainings Attended	26	9.85
Extension service orientation	Low (Up to 24)	54	20.46
	Medium (25 - 42)	169	64.01
	High (43 and above)	41	15.53
Information management orientation	Low (Up to 27)	66	25.00
	Medium (28 - 50)	154	58.33
	High (51 and above)	44	16.67
Innovativeness	Low (Up to20)	43	16.28
	Medium (21 - 32)	172	65.15
	High (33 and above)	49	18.57
Achievement Motivation	Low (Up to18)	41	15.53
	Medium (19 -27)	189	71.60
	High (28 and above)	34	12.87
Perceived work-load	Low (Up to 8)	46	17.42
	Medium (9 -12)	151	57.20
	High (13 and above)	67	25.38
Job Satisfaction	Low (Up to 22)	67	25.38
	Medium (23- 30)	153	57.95
	High (31 and above)	44	16.67
Organizational Climate	Low (Up to 20)	61	23.11
	Medium (21 - 28)	160	60.60
	High (29 and above)	43	16.29
Attitude towards ICTs	Less favorable (Up to 38)	16	6.06
	Medium favourable (39 - 56)	189	71.59
	Highly favourable (57 and above)	59	22.35

Table 1 shows that 68.94 per cent of respondents were middle aged; four-fifths of the respondents 80.68 per cent belonged to male category; majority of the respondents 87.88 per cent belonged to designation of SMS i.e. Subject Matter Specialists; nearly half of the respondents i.e. 48.86 per cent possessed a medium level of work experience; above two-fifths of the respondents 41.29 per cent belonged to the medium level of computer literacy; majority of KVK personnel i.e. 87.88 per cent have attended at least one training program on ICT; nearly two-thirds of the respondents i.e. 64.01 per cent belonged to the medium level of extension service orientation; nearly two thirds of the respondents i.e. 58.33 per cent were classified under the medium level of information management orientation; nearly two-thirds of the respondents i.e. 65.15 per cent belonged to the medium level of innovativeness; majority of the respondents i.e. 71.60 per cent were classified under the medium achievement motivation; more than half of the respondents i.e. 57.20 per cent were categorized under the medium perceived work-load; nearly three-fifths of the respondents i.e. 57.95 per cent belonged to the medium level i.e. job Satisfaction; Three-fifths of the respondents i.e. 60.60 per cent belonged to the medium level of organizational Climate; majority of respondents i.e. 71.59

per cent were categorized under the favorable of attitude towards ICT.

The age distribution likely reflects a KVK system with a well-established and experienced workforce, where scientists have progressed through their careers, resulting in concentration in the middle and older age groups. This paves the way for better provision of advisory services and enhanced farmers' development if correctly moderated. There were very few females in KVK positions. The limited representation of women in agricultural education and technical roles had contributed to this trend of fewer females in KVK positions. So, women should be equally encouraged and given equal opportunities. Majority of the personnel had medium to high computer literacy. But the presence of low literacy among One-fifth (21.60%) of the respondents is also an issue of due consideration. It could be attributed to a lack of training opportunities, limited exposure to ICT tools, or age-related factors, as older personnel might not have had as much access to or training in technology. The trend in computer literacy indicates a moderate overall literacy level, which suggests that while there is some familiarity with computers, but there may still be room for improvement in terms of skill development and exposure to advanced ICT tools. The variation in scores of different KVK scientists further points to a gap, highlighting the need for targeted training programs. The relatively high per centage of personnel attending at least one training program suggests that there is an awareness on the importance of ICT skills in improving agricultural extension services. However, the fact that only 9.85 per cent have attended more than two trainings indicates that there might be limitations in the frequency or availability of advanced or continuous training opportunities.

The extension service orientation results indicates that while most personnel fall in the medium to high category, there is considerable variation in the extent to which they are engaged in extension services. One-fifth of the personnel with low extension service orientation could be due to personnel who are more technically oriented and may not have as much emphasis on farmer-facing activities or outreach. This suggests that with certain personnel being more focused on extension while others may lack the same level of involvement or training in extension activities. One-fourth of the respondents with low information management orientation likely represent those who may struggle with information management due to limited exposure to data systems, lack of formal training, or inadequate technological infrastructure. This could also be linked to the challenges faced by personnel in rural areas where internet connectivity and access to modern information management tools are limited. The trend in innovativeness indicates that most personnel fall into the medium range for innovativeness, meaning they are somewhat open to change but may need further encouragement or resources to move towards higher innovation. Respondents with low innovativeness may be due to a more traditional approach to agricultural extension, possibly influenced by years of experience or a preference for tried-and-tested methods. These individuals may be less inclined to adopt new technologies or experimental practices, perhaps due to comfort with existing practices or limited exposure to innovative ideas. The results of achievement motivation reflects that most KVK personnel have a moderate level of achievement motivation, and while they are likely motivated to perform well, there is still room for enhancing goal-setting, personal ambition, and striving for higher accomplishments. They aspire but may not possess the intense drive or ambition needed to strive for exceptional accomplishments.

Little above one-fourth of the respondents expressed low job satisfaction. They might be experiencing dissatisfaction due to reasons such as inadequate resources, limited support from higher authorities, or challenges in work-life balance. These individuals might feel undervalued or lack the necessary tools and environment to perform their jobs effectively. While most individuals are generally content, there is room for improvement in aspects like work conditions, professional growth opportunities, and job recognition. The results of the organizational climate show moderate variation in perceptions, suggesting that while most employees experience an encouraging and positive organizational climate, there are some notable differences in how employees perceive the overall work environment as nearly above one-fifth of the respondents perceived low organizational climate. This might be due to factors such as poor interpersonal relations, lack of trust in management, or insufficient support and resources for employees to thrive. These individuals might feel disengaged or experience challenges like unclear expectations, low morale, or lack of recognition in the workplace. supportive but may not be exceptionally positive or highly conducive to motivation and innovation. This could indicate a balance where personnel have basic organizational support but may not experience strong leadership, clear communication, or an atmosphere that fosters collaboration and growth.

The medium level of attitude towards ICT suggests a relatively positive but moderate overall attitude towards ICT, indicating that while personnel are generally open to using ICT, there is still room for improvement in terms of fully integrating ICT into their roles. This reflects that most KVK personnel acknowledge the importance of information and communication technology but may not fully embrace or actively integrate it into their daily work practices. This could be due to a combination of factors such as limited access to ICT tools, insufficient training, or a preference for traditional methods.

Conclusion

In conclusion, understanding the different profile characteristics of KVK scientists is essential how they will influence their ICT utilization behavior. For planning any training related to ICTs to be successful it must be need-based and; hence, the profile characteristics of the KVK scientists must receive the attention for improving overall ICT utilization.

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