A Relationship Study on Characteristics of Tech-Savvy Rural Youth towards their Knowledge Expansion in Kanyakumari District of Tamil Nadu

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ABSTRACT

Technology upgradation will not only extend the mental limits of its users but also paves the way for the integrated development of the Nation. There is an urgent need to inculcate youth population of the nation with adequate professional knowledge and employable skills, for which the 'may influence' variables on knowledge gain of the rural youth have been selected from a wide review of the literature. This study was conducted to find out the relationship of selected variables towards the knowledge gain of the rural youth using smartphones for the study in Kanyakumari district of Tamil Nadu during 2018 and the district was selected purposively but; the respondents were selected through random sampling procedures. Statistical tools used for analyzing the data were simple correlation coefficient, multiple linear regression and step down regression analysis. The study identifies that independent variables namely, gender, occupational status, farm size and information seeking behavior had contributed towards the knowledge gain of the rural youth respondents. And also, backward regression approach points out that the information seeking behavior, gender, educational status, farm size, occupational status, decision-making ability, extension agency contact and training undergone are the major contributing variables towards the knowledge gain of the rural youth respondents. It shall be concluded that by involving the above-identified variables in the knowledge inculcation study among the youth population will fetch good results

INTRODUCTION

Some of the interesting facts about agriculture, rural area and information technologies in the agriculture sector accounts for 55.00 % of National employment, which is 263 million people. The per capita income in rural India has followed an almost similar growth as urban India i.e. 11.60 % in rural per capita income against 12.20 % in urban per capita income for the past 20 years. Still, the economic disparity between the people exists. (Gopalakrishnan and Thorat, 2015).Information and Communication Technologies (ICTs) play a crucial role in agricultural extension services meeting the information required for farmers (Saravanan, 2010).

There are several ICT tools, which are being used in modern days for the dissemination of information. These are radio, television, mobile phone, internet, etc., that are capable of spreading the information to mass as quickly as possible with less utilization of manpower. (Chang *et al*. 2012 and Baumuller, 2017).Hence, the novel attempt has been made to assess the knowledge gain among smartphone users, rural youth in particular on the provision of agricultural information.

This study was taken up with the objective to find out the relationship of selected variables towards the knowledge gain of the respondents i.e. rural youth.

MATERIAL AND METHODS

For this study, the experimental research design was adopted. Kanyakumari district of Tamil Nadu was purposively selected. As the district is with highest literacy rate in the state and stands number one in out-migration rate of rural youth is considered worthy to be studied and also the familiarity of the student researcher with the study area.

Among the nine-blocks of Kanyakumari district, four blocks namely, Agatheeswaram, Rajakkamangalam, Kurunthencode and Thovalaihave been selected purposively for the study due to its higher banana production. The 40 rural youth involved in banana cultivation belonging to these blocks have been

selected randomly for the study. The value addition technologies in banana have been taught to the respondents through the ICT tools namely, mobile application coupled with video mode. The knowledge gain has been selected as the dependent variable for the study and about 19 independent variables have been selected for the study. A set of knowledge testing questions have been finalized with the help of a scientific advisory committee. The responses were obtained for the knowledge-based questions both before and after the respondents' exposure to the treatments, i.e. mobile application + video. The variables were operationalized according to the requirements of the study and measured with the help of a pre-tested, well-structured questionnaire. The collected data were tabulated and analyzed by using statistical tools namely, cumulative frequency, percentage analysis, correlation coefficient, regression coefficient and backward regression coefficient for better understanding of the results. The analysis was done using elite statistical software named SPSS 17.0 (Statistical Package for Social Sciences).

RESULTS AND DISCUSSION

The knowledge gain refers to the mean knowledge gain obtained after exposing the respondents to the ICT tools before and after the method of research design. The association and contribution of the selected independent variables towards the knowledge gain of the respondents have been presented in Table 1 and Table 2.

Table 1. Association of Rural youth respondents' Knowledge gain of ICT tools (Mobile App + Video) users (n = 40)

Variable No.	Variables	'r' value
X_1	Age	-0.077
X_2	Gender	0.320*
X_3	Educational status	-0.200
X_4	Occupational status	-0.046*
X_5	Farm size	-0.166
X_6	Extension Agency contact	0.208*
X_7	Mass Media Exposure	-0.188
X_8	Information seeking behaviour	0.328**
X_9	Achievement motivation	0.018
X_{10}	Innovativeness	0.056
X_{11}	Training underwent	-0.240
X_{12}	Aspiration of rural youth	-0.243
X_{13}	Risk taking ability	-0.307
X_{14}	Decision-making ability	-0.246
X_{15}	Awareness of ICT tools and services	0.061*
X_{16}	Possession of modern electronic gadget	-0.297
X_{17}	Degree of ICT accessibility	-0.005
X_{18}	Preferred location of ICT access	0.009
X_{19}	Willingness to pay for ICT services	-0.146

** - Significant at one per cent level

* - Significant at five per cent level

The independent variables namely, Age, Gender, Educational status, Occupational status, Farm size, Extension Agency contact, Mass Media Exposure, Information seeking behavior, Achievement motivation, Innovativeness, Trainings undergone, Aspiration of rural youth, Risk taking ability, Decision making ability, Awareness on ICT tools and services, Possession of modern electronic gadget, Degree of ICT accessibility, Degree of ICT accessibility and Willingness to pay for ICT services have been taken up for the study. Correlation analysis shows that there is an association of the independent variables towards the knowledge gain of the respondents.

Table 2. Contribution of Rural youth respondents' Knowledge gain of ICT tools (Mobile App + Video) users (n = 40)

S. No.	Variables	Regression co-efficient	't' value	P value
X_1	Age	-0.025	-0.283	0.780
X_2	Gender	2.437	2.058	0.050
X_3	Educational status	-0.704	-1.429	0.169
X_4	Occupational status	-0.782	-1.411	0.017
X_5	Farm size	-1.350	-2.164	0.043
X_6	Extension Agency contact	0.183	1.763	0.093
X_7	Mass Media Exposure	-0.061	-0.368	0.717
X_8	Information seeking behaviour	0.387	2.817	0.011
X_9	Achievement motivation	0.188	1.070	0.297
X_{10}	Innovativeness	0.069	0.074	0.941
X_{11}	Trainings undergone	-0.890	-1.312	0.204
X_{12}	Aspiration of rural youth	-0.149	-0.471	0.643
X_{13}	Risk taking ability	-0.037	-0.127	0.900
X_{14}	Decision making ability	-0.249	-0.902	0.378
X_{15}	Awareness on ICT tools and services	0.679	1.472	0.157
X_{16}	Possession of modern electronic gadget	0.163	0.547	0.590
X_{17}	Degree of ICT accessibility	-0.295	-0.676	0.560
X_{18}	Preferred location of ICT access	-0.950	-0.602	0.554
X_{19}	Willingness to pay for ICT services	-0.950	-0.602	0.554

$R^2 = 0.687$ F = 2.314*

It was observed from the Table 1 that independent variables such as gender (X_2), extension agency contact (X_6), information seeking behaviour (X_8) and awareness on ICT tools and services (X_{15}) have shown a positive association with the knowledge gain of the respondents. In which, information seeking behaviour associated with 0.01 % significance whereas, remaining three variables associated with 0.05 % significance. The independent variable, occupational status (X_4) is negatively associated with 0.05 % significance towards the knowledge gain.

It could be understood from the table that, the respondents who maintain good extension agency contact, information seeking behavior and well aware of ICT tools and services try to grasp more knowledge out of the treatments irrespective of their gender. Whereas, the respondents who rely on more than one occupation for his / her

livelihood relatively obtains less knowledge than the others do. This might be due to the reason that, as the respondents who involved themselves in several occupation mint considerable earning out of it which might have hindered their knowledge expansion on banana value addition technologies. These findings are in accordance with the research findings of Senthil (2013) who reported in his study that farmers' occupational status possess a positive and significant relationship with their knowledge gain through ICT tools.

From the Table 2, it could be seen that all the independent variables exerted their influence to the extent of 68.70 per cent of variation on knowledge gain of the (Mobile App + Video) rural youth respondents.

Table 3. Maximum contributing Independent variables on Knowledge gain (Mobile App + Video) using backward regression approach

Independent Variables	't' value	Significant values	R^2 Contribution	Ranking Order
Information seeking behaviour	3.575	0.001		1
Gender	3.202	0.003		2
Educational status	-3.133	0.004		3
Farm size	-2.545	0.016	0.612	4
Occupational status	-2.057	0.048		5
Decision making ability	-2.047	0.049		6
Extension agency contact	1.959	0.059		7
Trainings undergone	-1.803	0.081		8

The F value (2.314) was found to be significant at the five per cent level of probability. Hence, the results were fitted in the linear regression equation, which follows.

$$Y_1 = 8.921 - 0.283 X_1 + 2.058 * X_2 - 1.429 X_3 - 1.411 * X_4 - 2.164 * X_5 + 1.763 X_6 - 0.368 X_7 + 2.817 * X_8 + 1.070 X_9 + 0.074 X_{10} - 1.312 X_{11} - 0.471 X_{12} - 0.127 X_{13} - 0.902 X_{14} + 1.472 X_{15} + 0.547 X_{16} - 0.676 X_{17} - 0.602 X_{18} - 0.602 X_{19}$$

It could be seen from the equation that out of nineteen independent variables selected for the study, gender (X_2) and information seeking behavior (X_8) had contributed positively and significantly at 0.05 level of probability. Likewise, occupational status (X_4) and farm size (X_5) had contributed negatively and significantly at 0.05 level of probability towards the knowledge gain.

This indicated that a unit increase in gender and information seeking behavior *ceteris paribus* would increase the knowledge gain by 2.058 and 2.817 units respectively. While a unit increase in occupational status and farm size would decrease the knowledge gain by 1.411 and 2.164 units of *ceteris paribus* respectively.

The independent variables of gender and information seeking behavior shown positive and significant contribution, which is represented in Table 2. This finding is in contradictory to the findings of Anandaraja (2002) who indicates that information seeking behavior is negatively contributed towards the knowledge gain of the respondents. The negative contribution of the variables namely, occupational status and farm size may be due to that all respondents who hold larger farm are mostly maintaining other income sources such as, poultry and other crops as well. Hence, they did not show much interest in the knowledge gain on the banana value addition technologies. This finding is in agreement with the findings of Mooventhan (2006) who conducted research on agricultural web page users and reported that their farm size is negatively contributed towards the knowledge gain. In the present scenario, as the ICT tool owning and usage became inevitable, almost all the people irrespective of their proxy and gender utilize the ICT tools in their day to day life hence, the result. This finding is supported by Lavanya (2006) who conducted research on Kisan Call Centre (KCC) and reported gender equality in its usage.

Further strengthening of the study required some powerful statistical tools hence; the serious effort has been taken to identify the major contributing variables towards the change of knowledge gain through the backward regression approach. 'In medical sciences, the backward regression analysis tool was used to identify the risky antibodies among various antibodies' (Knuppel *et al*, 2012). The major contributing variable towards the knowledge gain is depicted in Table 3.

With the help of backward regression approach, information seeking behavior (X_8), gender (X_2), educational status (X_3), farm size (X_5), occupational status (X_4), decision making ability (X_{14}), extension agency contact (X_6) and trainings undergone (X_{11}) were identified as the major contributing variables towards the knowledge gain of the respondents as evident from Table 3, which inferred that the above mentioned eight independent variables alone influencing the R^2 value with their contribution of about 61.20 %. Hence, all other independent variables contribute only to the extent of about 7.50 %.

The rank order was given to further distinct the filtered variables' contribution i.e. information-seeking behavior with the significance value of 0.001, gender with the significance value of 0.003, educational status with the significance value of 0.004, farm size with the significance value of 0.016, occupational status with the significance value of 0.048, decision-making behavior with the significance value of 0.049, extension agency

contact with the significance value of 0.059 and training undergone with the significance value of 0.081 holds the rank order of 1, 2, 3, 4, 5, 6, 7 and 8 respectively. As evident to this result, Jayanthi (2016) quoted that Information seeking behavior is one of the major contributing variables in the knowledge gain study.

CONCLUSION

The study shows that independent variables such as gender (X_2), occupational status (X_4), extension agency contact (X_6), information seeking behaviour (X_8) and awareness on ICT tools and services (X_{15}) are associated towards the knowledge gain on banana value addition technologies among the rural youth respondents. Likewise, independent variables namely, gender (X_2), occupational status (X_4), farm size (X_5) and information seeking behavior (X_8) had contributed towards the knowledge gain on banana value addition technologies among the rural youth respondents. And also, information seeking behavior (X_8), gender (X_2), educational status (X_3), farm size (X_5), occupational status (X_4), decision making ability (X_{14}), extension agency contact (X_6) and trainings undergone (X_{11}) were identified as the major contributing variables towards the knowledge gain on banana value addition technologies among the rural youth respondents. It is concluded that any relevant research studies on knowledge gain of the rural youth in mere future shall provide good results by inculcating these identified maximum contributing variables.

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