



Research Article

KNOWLEDGE, SKILL AND EXTENT OF COMPUTER USE BY THE FISHERMEN OF ODISHA

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Abstract: In the present-day context for development of agro-sectors in general and fishing community in particular can be boosted up many folds by the use of different ICTs. Computer being one of the major ICT tools can change the fabric of this sector to a great extent. At the same time harnessing the advantages of different ICTs, particularly computer calls for great deal of knowledge, skill and extent of use. The present study has been conducted among the fishermen of two districts of Odisha with the specific objective to ascertain the knowledge about different ICTs, skill and extent of use of computer by the fishing community of Odisha. The results of the present research work amply established that there was no significant district difference on those respect as well as the respondents were found having better level of knowledge, skill and extent of use of computer with respect to specific aspects and purposes. Moreover, it was found that respondents are belong primarily to low to semi-medium level of knowledge, skill and extent of use of computer.

Keywords: Computer, Knowledge, Skill, Extent of use

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Introduction

Information is a powerful tool nowadays. ICT's ability to response to the informational needs of the community cannot be denied. This indeed will enhance their knowledge regarding everything. ICT can be the key to disseminate the right information to the right people in the right form. Investing in ICT is widely regarded as having enormous potential for reducing costs, enhancing productivity and improving living standards. ICTs have also been acknowledged as critical catalysts, tools and enablers especially for socio- economic growth [1].

Access to ICT and the exchange of key information is capable to assist the fishing communities in making informed decisions on fishing related matters from selecting specific fishing operations, trade at a local market or to participate in a meeting that can help reduce their vulnerability and improve their opportunities.

There are many ICT tools, like, mobile, radio, television, computer, print media etc a combination of which is proved to be beneficial for the fishing communities. Like other ICT tools use of computers for example in literacy education can enhance the uptake of literacy skills for a number of reasons. Furthermore, to have frequent ICT training skills is important to reduce the digital divide as it has been emphasized by Carey *et al.* [2] where they revealed that the number of ICT training skills attended have a significant effect on the ICT usage.

ICT tools such as computer can be a medium for e-entrepreneurship among its users (including the fishermen) which encourage them to be involved in business activities which will further boost their socio-economic level.

Realising the importance of ICTs, Govt of India has implemented number of ICT projects, programmes, agendas, strategies and initiatives for the purpose of assisting and strengthening for the development of farming community including fish farming.

In spite of all the advantages of ICTs the great challenge is that most of the fish farmers have comparatively low level of education for which they do not have adequate knowledge and skill, efficiency to use of various ICT tools.

In this context the present study has been conducted with the specific objective to ascertain the knowledge about different ICTs, skill and extent of use of computer by the fishing community of Odisha.

Material and Methods

The present study has been conducted among the fishing community of two districts, namely, Khurda and Puri district of Odisha. 120 farmers each from both the study districts have been selected for the purpose (240 in total). Selection criteria was to select respondents those who are engaged in fishery and possess computer. Structured interview schedule was used for capturing data from the primary source. Standard scales have been used for measurement of variable and corresponding statistical analyses as described below.

To ascertain the extent of knowledge about different ICTs respondents were asked to record their extent of knowledge in a three-point scale [3-5] containing 'full knowledge (with corresponding score 2), partial knowledge (corresponding score (1) and no knowledge (with corresponding score 0) against nine aspects [Table-1] identified for the purpose. Mean knowledge scores were calculated for each aspects and rankings were done on the basis of the pooled mean scores for both the study districts. Further, to ascertain distribution of respondents in different knowledge categories, Knowledge Index (KI) was calculated by following formula: $KI = \{ \text{Score obtained} / \text{Maximum Possible Score} \} \times 100$ [6]. KI was calculated for each respondent against all nine aspects of knowledge

Similarly, for ascertaining the skill competency of computer use of the respondents, eleven aspects of skill competency of computer use [Table-2A] have been identified. Respondents were asked to mention their extent of skill competency against all eleven aspects of skill competency in three-point scale containing, fully skilled (corresponding score of 2), Partially skilled (score 1) and Not skilled (corresponding score of 0) by following the same scale as in case of knowledge aspects.

Table-1A Extent of knowledge about different ICTs among respondents

SN	knowledge	Mean score		Dist. Difference (%)	Pooled mean score (n=240)	Rank
		Khurda Dist (n=120)	Puri Dist (n=120)			
1	Meaning of ICT	0.892	1.008	11.50	0.950	IX
2	Different types of ICTs	0.983	1.042	5.66	1.013	VIII
3	Receiving information from ICTs	1.450	1.375	5.17	1.413	I
4	Operational mechanism of internet	1.308	1.167	10.78	1.238	III
5	Different sites for receiving fishery information	1.308	1.242	5.05	1.275	II
6	Opening of sites in mobile/ computer	1.258	1.217	3.26	1.238	III
7	Operational mechanism of computer	1.225	1.008	17.71	1.117	VII
8	Call centres disseminating fishery information	1.475	1.417	3.93	1.145	VI
9	Number of call centres disseminating fishery information	1.233	1.192	3.33	1.213	V

(Maximum obtainable score- 2)

Table-1B Distribution of the respondents according to Knowledge Index (KI)

SN	Knowledge Index (KI)	Khurda Dist (n=120)		Puri Dist (n=120)		Total (n=240)	
		No	Percentage	No	Percentage	No	Percentage
1	Low (0-25)	18	15.00	15	12.50	33	13.75
2	Semi-Medium (26-50)	30	25.00	34	28.34	64	26.67
3	Medium (51-75)	41	34.17	40	33.33	81	33.75
4	High (76-100)	31	25.83	31	25.83	62	25.83
	Total	120	100	120	100	240	100

Table-2A Skill competency in using computer

SN	Skill	Mean Score		Dist. Difference (%)	Pooled mean score(n=240)	Rank
		Khurda district(n=120)	Puri district (n= 120)			
1	Opening and shutting down computer	1.417	1.417	0.000	1.417	I
2	Opening of various software for different purposes	1.133	1.083	4.412	1.108	II
3	Preparing text, data and image	1.108	0.992	10.469	1.050	IV
4	Photo processing	0.875	0.808	7.657	0.842	IX
5	Saving and retrieve files	0.975	0.900	7.692	0.938	VII
6	Using printer for printing	0.908	0.792	12.775	0.850	VIII
7	Using external hard drive	0.717	0.617	13.947	0.667	X
8	Using CD rom	0.667	0.508	23.838	0.588	XI
9	Using internet	1.108	1.000	9.747	1.054	III
10	Sending and receiving mail	1.067	0.975	8.622	1.021	V
11	Surfing different websites	1.025	0.925	9.756	0.975	VI

(Maximum obtainable score -2)

Table-2B Distribution of the respondents according to Skill Competency Index

SN	Skill Competency Index (SI)	Khurda Dist (n=120)		Puri Dist (n=120)		Total (n=240)	
		No	Percentage	No	Percentage	No	Percentage
1	Low (0-25)	28	23.33	33	27.50	61	25.41
2	Semi medium (26-50)	26	21.67	25	20.83	51	21.25
3	Medium (51-75)	39	32.50	34	28.34	73	30.42
4	High (76-100)	27	22.50	28	23.33	55	22.92
	Total	120	100	120	100	240	100

Like previous section, respondents were categorised in four categories namely, Low, Semi-medium, Medium and High on the basis Skill Index (SI) calculated by following by the formula as followed in case of knowledge aspect.

To ascertain the use of computer for different purposes respondents were asked to mention their extent of computer use on a five-point scale containing, Yearly (with corresponding score of 1), Monthly (score = 2), Fortnightly (score = 3), Weekly (score = 4) and Daily (with corresponding score of 5) against all seven purposes [4]. Mean score of computers use for all seven purposes were calculated along with district difference (percentage) and ranking was done on the basis of pooled mean score.

Results and Discussion

Results of the present research work is presented below in different sections, like, extent of knowledge about different ICTs; extent of skill in computer operation, extent of use of computer, different purposes of using computer and association between different socio-economic variables with extent of knowledge about different ICTs.

Extent of Knowledge about Different ICTs

Nine knowledge aspects have been identified with special reference to fish farmers and are mentioned in [Table-1A]. The results revealed that the respondents of both Khurda and Puri Dist were of almost same knowledge level

about different ICTs, different sites for receiving fishery information, opening of sites in mobile or computer, call centre disseminating fishery information and their numbers etc. District level difference percentage appeared to be non-significant and below 20% in case of all aspects of knowledge. However, higher difference percentage is observed in case of knowledge aspects like, 'operational mechanism of computer' (17.71%), 'meaning of ICT' (11.5%) and 'operational mechanism of internet' (10.78%) etc. Comparatively better mean knowledge score for all the aspects of knowledge (except 'meaning of ICTs' and 'different types of ICTs') among respondents of Khurda district could be observed. On the basis of pooled mean knowledge score of both the districts, knowledge aspects were ranked and found that knowledge about 'receiving information from ICTs'; and knowledge about 'different sites for receiving fishery information' ranked first and second respectively while knowledge about 'operational mechanism of internet' and knowledge about 'opening of sites in mobile/ computer' both were ranked third. Least rank holders were found to be knowledge aspects like, 'meaning of ICT' (Rank IX); 'different types of ICTs' (Rank VIII) and 'operational mechanism of computer' Rank VII).

Further attempts have been made to categorise the respondents on the basis of Knowledge Index (KI) calculated by following the formula as given in the methodology section into four categories like, high (KI = 76 – 100), medium (KI = 51-75), semi-medium (KI = 26 – 50) and low (KI = 0-25). Distribution of respondents on the basis of KI in different categories are presented in [Table-1B].

Table-3A Extent of use of computer by the respondents

SN	Purpose	Mean score		Dist. Difference (%)	Pooled mean score (n=240)	Rank
		Khordha Dist (n=120)	Puri Dist (n=120)			
1	DTP work	2.817	2.758	2.094	2.788	III
2	Sending and receiving mail	2.783	2.65	4.779	2.717	IV
3	Visiting different sites for fishery information	3.033	3.033	0	3.033	II
4	Playing games	2.517	2.55	1.294	2.533	VII
5	Social networking	2.692	2.575	4.346	2.633	VI
6	Entertainment	2.725	2.608	4.294	2.667	V
7	Getting weather report and forecast	3.342	3.283	1.765	3.313	I

(Maximum obtainable score-5)

Table-3B Distribution of the respondents according to Computer Use Index (CUI)

SN	Computer Use Index (CUI)	Khurda Dist (n=120)		Puri Dist (n=120)		Total (n=240)	
		No	Percentage	No	Percentage	No	Percentage
1	Low (0-25)	27	22.5	28	23.33	55	22.92
2	Semi medium (26-50)	39	32.5	32	26.67	71	29.58
3	Medium (51-75)	26	21.67	27	22.5	53	22.08
4	High (76-100)	28	23.33	33	27.5	61	25.42
	Total	120	100	120	100	240	100

From [Table-1B] it can be observed that majority of the respondents of all study districts and total belong to medium level of knowledge about different aspects of ICTs (34.17%, 33.33% and 33.75% respectively for Khurda district, Puri district and total respondents) followed by almost same percentage of respondents having semi-medium (25%, 28.34% and 26.67% respectively for Khurda district, Puri district and total respondents) and high (25.83% respectively for both the study districts and for total respondents) level of knowledge. 13.75% of total respondents were found to have low level of knowledge. To summarise, it can be said the respondents were having semi-medium to high level of knowledge about different aspect of ICTs.

Skill Competency in Computer Use

Results of extent of skill competency of respondents in computer use is presented in [Table-2A]. From the table it can be observed that respondents of Khurda district were having higher mean skill competency in comparison to Puri district in all aspects of skill competency but with very low district difference percentage in all aspects. On the basis of pooled mean score aspects were ranked and found that respondents were more skilled in 'opening and shutting down computer', 'opening of various software for different purposes', 'using internet', 'preparing / processing text, data and image' and 'sending and receiving mail' and were ranked 1, 2, 3, 4 and 5 respectively. Three aspects on which respondents were found having least skill were 'photo processing', 'using external hard drive' and 'using CD rom' and were ranked 9, 10 and 11 respectively.

Further attempt has been made to categorise the respondents in to high, medium, semi-medium and low skill competency index (SI) in computer use. The result obtained are presented in [Table-2B]. From the table it can be observed that majority of the respondents were having medium level of skill competency (32.50%, 28.34% and 30.42% respectively for Khurda district, Puri district and total respondents) followed by low skill competency (23.33%, 27.50% and 25.41% respectively for Khurda district, Puri district and total respondents); high skill competency (22.50%, 23.33% and 22.92% respectively for Khurda district, Puri district and total respondents); and semi-medium level of skill competency (21.67%, 20.83% and 21.25% respectively for Khurda district, Puri district and total respondents) in descending order of concentration of respondents.

As a whole it can be summarised that majority of the respondents were having semi-medium to high level of skill competency in computer operation and there was no district difference in this regard.

To ascertain the extent of use of computer by the respondents ten purposes of computer use have been identified and mentioned in [Table-3A]. Table represents the mean value of use of computer for all identified purposes; district difference, if any, in this regard and ranking of different purposes on the basis of pooled mean value.

From the table it can be observed that with regard to extent of use of computer for different purposes respondents of Khurda district were found in better position in comparison to respondents of Puri district, although there was insignificant district

difference for all the purposes of computer use. Ranking of different purposes of computer use on the basis of pooled mean score depicts that respondents use computer most for getting weather report (Rank 1) followed by visiting different sites for fishery information (Rank 2), for DTP work (Rank 3), for sending and receiving mails (Rank 4) and for entertainment purpose (Rank 5). Purposes like, social networking and playing games in computer were found to be placed in the 6th and 7th Rank.

The results depict very poor responses on various aspects of computer use as mentioned in the table. Computer use require adequate skill competency. The respondents might have not that much of skill competency to use computer for all these purposes. As computer having multipurpose use, the respondents need to be sufficiently exposed and acquired skill competency so that they can develop interest to have their computer and use for their fishery activities.

Although respondents were found having low mean score for all the purposes but they were found using computer mostly for getting weather report, which is very important for fisher enterprise and for getting fishery related information. This is a ray of hope for ICTs to transform information communication and reception in fishery.

Further, like previous sections, respondents were categorised on the basis of the Computer Use Index (CUI) calculated by following formula as mentioned in methodology section. The results for the same is presented in [Table-3B]. From the table it can be observed that respondents are almost equally distributed, with minor variations in all four categories namely, low, semi-medium, medium and high. In case of Khurda district and total respondent majority (32.5% and 29.58% respectively) were found having semi-medium level of extent of computer use followed by high level (23.33% and 25.42% respectively). Moreover, 22.5%, 23.33% and 22.92% of the respondents of Khurda, Puri and total respectively were found using computer at the low level. Rest of the respondents (21.67%, 22.5% and 22.08% respectively for Khurda, Puri and total) were found using computer at the tune of medium level.

Conclusion

From the results of the present study it can be concluded that respondents of both the study districts were of at same level in terms of knowledge about ICTs, skill competency and extent of use of computer while respondents of Khurda district were found in a little bit better position. Receiving information from ICTs, Operational mechanism of internet, Different sites for receiving fishery information and Opening of sites in mobile/ computer were found to be the first three rank holders with respect to the respondents' knowledge about different ICTs. Majority of the respondents were found to have semi-medium to medium level of knowledge about different ICTs. In case skill competency of computer use, it was found that, aspects like, Opening and shutting down computer, opening of various software for different purposes and Using internet were the first three rank holders and majority of the respondents belong to low to medium level of skill competency in computer use.

In case of ranking of different purposes of using computer, it was found that respondents primarily used computer for purposes getting weather report and forecast, Visiting different sites for fishery information and DTP work. Moreover, majority of the respondents were found to use computer semi-medium to high level via medium level.

Application of research: The results of the present study implicate that in order to disseminate fishery information through computer-based platform and corresponding reception of the same by the fishing community calls for a continuous training capacity building of the fishing community.

Research Category: Agricultural Extension

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References

- [1] Barba-Sanchez V., Martinez-Ruiz M.P., Jimenez-Zarco A.I. (2007) *J. Problems Perspect. MANAGE.*, 5(1), 103-114.
- [2] Carey J., Chisholm I., Irwin L. (2002) *J. Educ. Media Int.*, 39 (3&4), 223-235.
- [3] Chandrapaul K. (1998) *M.Sc. (Agri.) Thesis, Acharya N. G. Ranga Agricultural University, Hyderabad.*
- [4] Supe S.V. (1969) *PhD Thesis, Indian Agricultural Research Institute, New Delhi*
- [5] Trivedi G. (1963) *PhD Thesis, Indian Agricultural Research Institute, New Delhi.*
- [6] Muktan M.W., Mukhopadhyay S.D (2012) *Ph. D thesis, Visva-Bharati University, Sriniketan, 731235, West Bengal, India.*