



Research Paper

Knowledge, Skill and Extent of Mobile Use by the Fishermen in Odisha.

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Abstract

Nowadays mobile phone helps in development of agri-sector and pisciculture by the use of different ICTs. Mobile phone services and its application plays key role in the lives of fishermen community. By the use of mobile phone fishermen gains skills and knowledge of upcoming events related to fishery sector. The extent of use of mobile helps them to their life by the use of different ICTs of fishery sector. 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 mobile by the fishing community of Odisha.

The results of the present research work amply established that there was no significant district difference on those respects as well as the respondents were found having better level of knowledge, skill and extent of use of mobile 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 mobile.

Keywords: Mobile, Knowledge, Skill, Extent of use

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I. Introduction

In the 21st century mobile phone is essential element in our life and fishermen. Morning starts by touching and use of mobile application. Mobile phone and its application become heart of life and without mobile phone a person does not wants to travel. Mobile application is very helpful in our day today activities of fishermen community. Fishermen uses mobile application to know weather information, market information, GPS of an area and to know up to date information related to pisciculture.

Mobile and its application adds fabric to fishing community and helps to boast its income source by the use of mobile makes aware of many fishery information, problems and its solution within a sort period of time by talking with experts through Kisan Call Centres nos and Fishery officers. Ultimately its saves time, money and increase income of the fishermen. Mobile phone and its application and services helps to increase our knowledge and skill in fishery sector. Therefore mobile phone and its application is a powerful tool to solve any kind of problem in fishery sector. Mobile phones provided latest information about fish market to fishermen and improved their income. Mobile phone has save their time, travel and energy mostly fishermen live away from their families and could not contact with their families therefore the mobile phones have reduced the gap among these communities (Hudson, 1984).

Fishermen use mobile phone in different ways some fishermen call their friends and inform them about good and bad time alerts in different areas and many fishermen get the help from friends in the case of emergency. Similarly fishermen know to their family members regarding their movements. Fishermen use of mobile phone to some level, though not as widely as would have been possible with more time his is in direct contrast to the situation amongst mobile phone owning fishermen. Mobile phones help work activities to the nature of the market economy in different areas (Sey, 2008).

II. 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 mobile. 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 mobile 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

Sl No	knowledge	Mean score		Different (%)	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)

Sl No	Knowledge level	Khurda Dist (n=120)		Puri Dist (n=120)		Total (n=240)	
		No.	Percentage	No.	Percentage	No.	Percentage
1	High (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	Low (76-100)	31	25.83	31	25.83	62	25.83
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.

Table-2A Skill competency in using Mobile

Sl No.	Skill	Mean Score		Difference(%)	Pooled mean score(n=240)	Rank
		Khordha district(n=120)	Puri district (n= 120)			
1	Making calls	1.942	1.917	1.880	1.929	III
2	Searching contacts	1.950	1.925	1.282	1.938	II
3	Receiving calls	1.942	1.942	0.00	1.942	I
4	Receiving and opening of sms	1.900	1.858	2.211	1.879	IV
5	Writing and sending of sms	1.733	1.717	0.923	1.725	V
6	Using smart android phone	1.575	1.508	4.254	1.542	VII
7	Using social media like face book, whatsapp etc	1.308	1.242	5.046	1.275	X
8	Opening and receiving voice sms	1.483	1.367	7.822	1.425	VIII
9	Using phone camera	1.567	1.542	1.595	1.554	VI
10	Using internet in mobile	1.392	1.317	5.388	1.354	IX
11	Receiving and sending email through mobile	1.058	0.875	17.297	0.967	XII
12	Visiting different web sites in mobile	1.225	1.050	14.286	1.138	XI

(Maximum obtainable score -2)

There was no significant difference in skill competency of the respondents of both Khordha and Puri Dist except receiving and sending email through mobile as well as visiting different web sites in mobile. The respondents of both the Dist had better skill competency on receiving calls, searching contacts, making calls, receiving and opening of sms, writing and sending sms, using phone camera, using smart android set, opening and receiving voice sms, using internet in mobile as well as using social media like facebook and whatsapp etc. Skill deficiencies were observed on visiting different web sites as well as receiving and sending email through mobile.

Mobile is very much essential for the fishing communities in procurement of inputs and marketing of the produce. They have to use mobile regularly for correspondence to various stake holders. They have also accumulated skills in the process of using mobile. The findings therefore conclude that the respondents had better skill competency in using mobile. However, further exposure are required to develop their skill, competency on receiving and sending e-mail as well as visiting different web sites through mobile taking into account of the essentialities of these two aspects for the fish farmers.

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

Sl No	Knowledge level	Khurda Dist (n=120)		Puri Dist (n=120)		Total (n=240)	
		No.	Percentage	No.	Percentage	No.	Percentage
1	High (0-25)	6	5	7	5.83	13	5.42
2	Semi-medium (26-50)	3	2.5	2	1.67	5	2.08
3	Medium (51-75)	35	29.17	35	29.17	70	29.16
4	Low (76-100)	76	63.33	76	63.33	152	63.34
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 mobile for different purposes respondents were asked to mention their extent of mobile 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 mobile use for all seven purposes were calculated along with district difference (percentage) and ranking was done on then basis of pooled mean score

III. 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 mobile operation, extent of use of mobile, different purposes of using mobile 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].

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 Mobile Use

The data in Results of extent of skill competency of respondents in mobile 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 'making calls receiving calls, searching contacts receiving and, opening of sms', & writing & sending of sms, and were ranked 1,2,3 4 and 5 respectively. Three aspects on which respondents were found having least skill were using social using internet in mobile media like facebook, whatsapp *etc.*, visiting different websites in mobile and receiving and sending email through mobile were ranked 9,10,11 & 12 respectively. Further attempt has been made to categorise the respondents in to high, semi-medium, medium and low skill competency index(SI) in mobile 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 (63.33.50%, 29.17% respectively for Khurda district, Puri district and total respondents) followed by low skill competency (2.5% and 5.0.% respectively for Khurda district, Puri district and total respondents); high skill competency (63.33.50%, and 29.15% respectively for Khurda district, Puri district and total respondents); and semi-medium level of skill competency 63.33% and 29.17% 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 mobile operation and there was no district difference in this regard. To ascertain the extent of use of mobile by the respondents ten purposes of mobile use have been identified and mentioned in [Table-3A]. Table represents the mean value of use of mobile 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 mobile 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 mobile use. Ranking of different purposes of mobile use on the basis of pooled mean score depicts that respondents use mobile most for

receiving calls (Rank 1) followed by searching contacts (Rank 2), for making calls (Rank 3), for receiving and opening of SMS (Rank 4) and for Writing and sending SMS (Rank 5). Purposes like, Using phone camera and Using smart Android phone were found to be placed in the 6th and 7th Rank. The results depict very poor responses on various aspects of mobile use as mentioned in the table. mobile use require adequate skill competency. The respondents might have not that much of skill competency to use mobile for all these purposes. As mobile having multipurpose use, the respondents need to be sufficiently exposed and acquired skill competency so that they can develop interest to have their mobile and use for their fishery activities. Although respondents were found having low mean score for all the purposes but they were found using mobile mostly for receiving call, 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 Mobile 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 (22.92% and 30.42% respectively) were found having semi-medium level of extent of mobile use followed by high level (21.25% and 25.41% respectively). Moreover, 22.50%, 32.50%, 21.67% and 23.33% of the respondents of Khurda, Puri and total respectively were found using mobile at the semi-medium level. Rest of the respondents (23.33%, 28.34%, 20.83% and 27.50% respectively for Khurda, Puri and total were found using mobile at the tune of semi-medium level. The table revealed that the skill competency in using mobile by the respondents of both Khordha and Puri Dist were almost at par. Majority of 30.42% of the respondents had comparatively semi-medium skill competency followed by high level (25.41%) in both the districts. The findings lead to conclude that the respondents have acquired adequate skills in using mobile for various purposes on their fishery activities

IV. Review of Literature

Mobile phone in developing countries have played very important role in economic and agriculture development 1970 and 1980 was the time of landline substitute of mobile phone. While after mobile phone in less investment it was increased in developing countries. Almost in developing countries an average 10% of subscriber uses mobile phones per hundred populations between 196 and 2003 (Waverman, et al., 2005). Through this technology people have made their life easy in access and increased their knowledge and skill for the improvement of the society.

Mobile phone is one of the small, lighter and strong tools which support a many different kinds of application. Such as web surfing, text messages and emails transmission one of the easy accesses to world by this technology (Muthukumaran, et al., 2008). People have good way to connect by mobile through email as well as messages to communicate each other.

Mobile phone is most important tool where people use for their purpose of business and in personal context. For instance farmers use mobile phone for get the latest information about weather fishermen use for obtain information regarding fish market prices similarly businessmen contact with dealer. This technology has provided an easy access to people for contact with each other (Oksman & Turtiainen, 2004).

Mobile phone is growing towards the main medium. By this people do their shopping, chatting, and booking of journeys. Furthermore it is revolving into the single exclusive device of facilitating communication between people and institutions. The mobile phone is also joining the scope of mass media. After few years mobile phone could the main primary source of radio and television signals. Similarly the mobile phones keep up to date people particularly fishermen when go to fishing in different parts of the country mobile phone is one of the best source of communicating about any emergency, weather, market (Nyiri, 2002, 2005).

The use of mobile phone among fishermen and other fishing related community in South India has dramatically reduced in the price of dispersion and near perfect adherence to the law of one price. Furthermore mobile phone has given a chance of close relationship among market brokers and customers to fishermen. Mobile phone given ways of communication to fishermen for sell their produce in different places of market (Shepherd, 2000).

In India fishermen use mobile phones and have learnt about how to write the text messages or communicate with different ports to know about the level of demand and supply when they finished. Fishermen could talk and have purchased and wait for customers and suppliers at port so as not to lose the whole cargo when they get to port late. Such kind of services have greatly increased their power of business and provided a ground of earning the money and transfer more wealth from middlemen to them. Some fishermen have seen their monthly profit triple since they gained access to these mobile phone and other related technologies in their business (Sullivan, 2006).

The information about market price was provided to fishermen by mobile phone as well as medical information description was introduced among fishermen during their stay in the sea. The main reason for

medical information was to provide health services to fishermen during the time of fishing in sea. Mobile phone services have provided easy access to collected information regarding market and similarly by use of this technology the government in formulating plans to resolve their health issues and problems of fishermen community (Sharma, 2011).

In Indian states it was reported that the use of mobile phone for growth and development of rural societies have played very important role especially in teaching programmes which have positively affected professional workers. For instance in Andhra Pradesh the one mobile phones project was launched in around 80 places and fishermen were getting information about market cost as well as by use of mobile phone these community improved their life (Kuffalikar & Rajyalakshmi, 2006).

The reported indicated that fishermen use cell phone to transfer information about the accessibility of fish in particular places in Kerala India. While customers use mobile phones and control on prices. Furthermore study indicated in Indian states that the use of mobile phone has played important role in the development of rural societies, especially in teaching programmes which have positively affected professional workers and fishermen of the Kerala, India (Sreekumar, 2011).

Fishermen in India use mobile phones to obtain information regarding fish market price at various near ports before making choice about where to land their catch and where should sell their product (Rai 2001).

When fishermen were beside the coast the mobile phone is the most important medium for share of information among each other. Few fishermen use SMS by mobile phone and communicate with fellows, friends as well as their families when fishing offshore (Gezelius, 2007).

Majority of the farmers and fishermen were living in remote areas in villages. Due to lack of information about price, weather, credit market as well as market opportunities. But after mobile phone technology provided a good opportunity to contact, sell, and get the information regarding weather mobile phone has improved farmers and fishermen life (Cecchini & Scott, 2003).

The most advantage of mobile phone for fishermen that when their contact fail during communicate with their family and friends most of the fishermen use short message system (SMS) and immediately contact with their family as well as similarly get the weather information (Lacohée, et al., 2003).

The use of mobile phone provided a good chance to fishermen to communicate with market traders and get good price of fish. However by use of short service messages service (SMS) fishermen contact to their community and get the information about weather before leaving for fishing (Mudhai et al., 2009).

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