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Customers' attitude towards agro based benefits provided by the telecommunication operators in Bangladesh

S.M. Sohel Ahmed, Shah Johir Rayhan, Md. Ariful Islam, Noor- E- Zannath
Dhaka-1207, Bangladesh.
E-mail: smsohelahmed@gmail.com

Abstract
The main objective of this research is to find out attitude of users only towards agro based benefits provided by telecommunication operators in Bangladesh. Agriculture is the most important sector of the economy of Bangladesh which provides 63% employment and contributing 18.6% to the national GDP. But unfortunately the farmer's community is one of the most deprived ones in the country and frequent access to information remains one of the crying needs for a long time period. It can enable them to enhance their quality of life. It has been argued that telecommunication operators can come to aid in this respect. Telecommunications operators have already expanded their services and provided specialized agro-based services to the farmers. It also explored the characteristics of the user's and their perception. Data were collected from 120 respondents who were the users of telecommunication operators in Bangladesh. The data were collected through a structured interview schedule. Evidence from interviews suggests that most of the users were young, had little farming experience with small farm size and from small to medium families. These services were treated helpful to overcome their obstacles to information collection but still not efficient like the means they use to collect information traditionally. They want information in various fields of agriculture especially in the area of price, weather information, cultivation technique, disease treatment, fertilizer dose etc. Small farmers found it as a very effective any of information service especially in case of emergency situation and due to its cost effectiveness. But the mechanism need to use this services found sometimes difficult especially for the illiterate farmers. From this research, students other researchers and policy makers will get an insight about the 'Users attitude towards agro based services provide by the telecommunication operators in Bangladesh.
Key Words: Attitude, Agro, Services, Telecommunication, Bangladesh.

1. Introduction

The farmers' community in Bangladesh is one of the most deprived ones in terms of economy and access to social facilities. In a country like Bangladesh farms are extremely small, cultivation is dependent on the uncertainties of variable rainfall and average output is generally low. Value addition in agriculture requires technological, institutional and price incentive changes designed to raise the productivity of the small farms (Todaro, 2000). The structure of the agrarian system in Bangladesh is considered as a major impediment for balanced rural development (Rogaly and Bose, 1999). Small farmers are entangled within a vicious cycle because of sharecropping, tenancy, money lending and other structural and financial relationships with owners and traders (Crow, 1999). The situation of the vulnerable farmers is exacerbated by the land erosion, drought, flood, deforestation and other natural calamities. These together with lack of access to finance reduce farmers' propensity to take risks. The bargaining power of farmers in the input market is not very strong with the result that farmers pay high prices for inputs thereby reducing their net earnings**.** Lack of bargaining power also impacts adversely on the prices farmers receive for their produce. Low net earnings in turn reduce the capacity and incentive to make productivity improving investment. Information is not always obtainable and may not always be reliable, so there is increased risk of poor market

performance and failures. Imperfect Information and high transaction costs can constitute major impediments in the agricultural marketing process (Dao, 2004). Proper dissemination of information for agricultural and rural communities is a crucial tool in the fight against poverty and deprivation. Information helps the poor to avail of the opportunities and also reduce their vulnerability (Kizilaslan, 2006). Postulates that dissemination of relevant information to the farming communities can facilitate the effective adoption of agricultural inputs, decision making on markets and adoption of scientific methods. However, lack of dissemination of information across the agricultural supply chain is a major concern in the developing world (Kiplang'at, 1999).The "Information Age" has arrived, and institutions and individuals everywhere are striving to understand and cope with it. The technologies are now being used operationally to disseminate information to more remote areas. Telecommunication operators are done this job very efficiently. Agricultural sector can also be facilities through these technologies and mobile telephone can be the most effective tool. In Bangladesh a large majority of the population have access to mobile phones (Islam & Grönlund, 2008). In Bangladesh only two telecommunication operators provide specialized services for the farmers along with their regular services among the six telecommunication operators. They are Grameen Phone Ltd. and Banglalink. Benefits provided by these operators are: Buyers &sellers can search the details of the desired agro product, Price related information, Buyer's location & contact information, Information about cultivation technique, Information of planting, irrigation, Information about new Varity, Disease treatment, Fertilizer dose, Input related issue, Information about feed, antibiotics medicine of poultry, dairy & fishery, Weather related information (www.grameenphone.com and www.banglalink.com).

2. Review of literature

Modernization of rural telecommunication in Bangladesh: Problems & Prospects. This paper highlights some major problem areas which discoverer considerable attention for both short term & long term planning & suggests some possible options. The discussion covers the rural telecommunication determining a forecasting technique for demand growth; socio economic benefit; digital technique and network model; and transmission and switching system maintenance (Islam, 2002). Another study was conducted on 'Use & Appropriation of mobile Telephony Technology by the Rural Bangladeshi Farmers'. This research paper investigates the use & appropriation of mobile telephony as the means for achieving agricultural development in Bangladesh. It examines how the farmers make use of the mobile telephony technology, how the technology integrated with their lifestyle and what impact results from the interaction (Dev, 2009). The research was conducted on 'Information Communication Technologies in Rural Development of Bangladesh'. They represent an overview of the role of in rural development and offer a vision for its development as a thrust area for intervention. They highlight the need for ICT policy status ICT infrastructure as well as service delivery through ICT in Bangladesh (Islam and sultana, 2007). Other study was conducted on Consumer Perception & Attitude toward Mobile Communication. This paper investigate the demand of the consumer from the telecommunication service providers, their reaction and consumption behavior. A survey was conducted to understand consumer attitude toward mobile communication & factor that could contribute to adoption& success of this sector (Masud & Gupta, 2003). The predominant assumption in the literature is that for environmental decision making diffusion of more useful information along with production is very essential. By concentrating efforts on increasing the supply of scientific information, scientist may not be producing information relevant and useful by users. Users may have specific information needs that go unmeet or may not aware of the existence of potentially useful information. This paper defines the practical problem of reconciling the supply of scientific into. With users, explain the goods of reconciling the

supply and demand for scientific information and define what constitutes useful information (Macnine, 20007). Informatics: in Agricultural Resources for Development. This paper offers the information landscape in agricultural sector, enabling technology, Qualify and quantity of information their capacity to meet the need and associated complexity. It tries to reveal the problems of disseminating information to farmers. It assumes innovative strategies for combining internet, telecommunication video, and print technologies at appropriate levels are bridging the gap and empowering farmers to make better production and market decisions (Laren, 2009). Another study on: Policy recommendations to improve the competitiveness of small scale farmers in Columbia through into and communication studies. They provide some policy recommendations as to how ICT could effectively stimulate the development of small scale agriculture. They analyzed the food market supply chain and argued that systematic food supply chain is needed to overcome same of the challenges of small scale agriculture. This paper describes the multiple actors and stakeholders of small scale agricultural chain, alongside with learning of successful (and filed) ICT strategies. Specific policy recommendations are made that aim through the use as mobile technologies to improve the condition among different supply chain (Natalla, 2010). Catalyst supports pro-poor growth in a wide range of value chains through facilitation of market mechanism in Bangladesh. It assumes that with the emergence of new information and communication technologies such as the internet and mobile phones at the same time new opportunities also arrange to reach small producers in areas remote from the economic centers. In this paper experience of the farmers with the different scheme conducted by different telecommunication systems are presented. At the same time problem faced by the users and possible solutions are also placed in this paper (Dietschi, 2008). How can ICTs be used and appropriated to address agricultural information needs of Bangladeshi farmers? This paper attempts to analyze the use of the ICTs from the perspective of the farmers. They found that different services provided by the existing telecommunication system can enable farmers to obtain information on input and output prices, the weather and so forth (Dev & Newman, 2003). Community Radio as an Effective tool for Agricultural Development .In this paper community radio is highlighted as an effective communication tool .Scenarios of several African countries are mentioned here farmers of which countries are adopt this communication technology . The concept of community radio, area of services, how farmers are benefited from this technology and demand of the farmers regarding this service is the main focal point of this research paper (Sharma, 2011). Multipurpose Community Tele centers in Bangladesh: Problems & Prospects. The purpose of this paper is to discuss multipurpose community information and knowledge centers (MCTs) and then describes and assesses the telecommunication facilities (and hence information access and provision) of such tale centers in Bangladesh including radio, television, telephone and internet facilities. The paper then highlights problems and prospects, in rural areas of Bangladesh, of information access through the tale centers (Islam, 2009). An Agricultural Market Information Services (AMIS) in Bangladesh: Evaluation & Mobile Phone Based e-Services. An agricultural market information service (AMIS) can be one of the important tools for reducing such social inequality by integrating the farmers with their markets more efficiently. Following the failure of a web-based AMIS initiated by the Government of Bangladesh and considering the wide availability of cellular networks, a mobile phone based AMIS was implemented on a pilot basis in some remote villages for the farmers of Bangladesh. This paper evaluates the efficiency and effectiveness of this mobile service in terms of users, technology, process and facilitating conditions in a rural context. In general this is an interpretive case study as well as an evaluation research which is based on two small scale surveys and observations. Based on a literature review, a conceptual model is also applied for a systematic evaluation. Findings show that effectiveness of a rural e-service depends on

the design and delivery of the service in accordance with the individual's information needs, adaptive technologies with easy accessibility within a given infrastructure, affordable services with a rational business model, adequate awareness and efficient communication with the respective community (Islam, 2010). Agro Based Industries, Mobile phone, & Youth. This paper tends to know the perception of Malaysian young agro based entrepreneur regarding the contribution of mobile phone in their agribusiness. Results indicated that majority of respondents used mobile phone frequently while majority of the respondents had high perception on the contribution of mobile phone in their agro-business productivity. Results also indicated that majority of Malaysian agro-based entrepreneurs believed that mobile phone can help them in getting information on agriculture every time they need it. Pearson Correlation employed proved that age has negative and significant correlation with perception on mobile phone contribution (Shafiul, 2006). Market Information Service: A Guide Line to Developing Agricultural Markets & Agro enterprises. This paper attempts to find reason to fail to meet the need the farmer's need. The author distills experiences and lessons from other studies and individual experts in the field on the reasons for such common failures and what can be done to avoid them. Critical topics such as institutional structure, dissemination methods, and funding are outlined to guide the reader through the basic issues that must be addressed in order to create a successful Market Information Service (**Giovannuul**, 2001).

3.Problem Statement

The research paper aims to find out the real scenario of the benefits provided by different telecommunication operators for the agricultural sector and the users' interaction with the services. Here the consideration mainly on the "Customers Attitude Towered Agro based benefits provided by the Telecommunication Operators in Bangladesh."

4. Objectives of the study

- To find out the demographic profile of the users.
- To find out the agro based benefits provided by the telecommunication operators.
- To find out users satisfaction towards services
- To give solutions on the basis of findings

5. Methodology

Necessary data were collected from the operating farmers of the selected areas analyzed in terms of the objectives set for the study. The study was based on the primary data. The areas of the study were 7 villages under Homna thana of Comilla district which are Monipur, kolagasia, Chanderchar, Kalipur, Gharmora, dorikandi , Purbahat. Few areas of Mirpur thana of Dhaka district and few areas of Savar. The main reasons for selecting these areas as the study area are: Availability of the service users, No study was conducted previously in the study area, Easy accessibility and good communication facilities, it was familiar with the area. The anticipated cooperation was high which indicated the likelihood of obtaining a reasonably accurate set of data. The schedule was designed in accordance with the objectives of the research. Data were collected from the farmers by survey methods through personal interview with the farmers for which necessary schedule were prepared. Sampling was done to select representative farmers or service users to minimize time and cost because it is not possible to collect data from all the users. 120 farmers were selected who were using different agro based services provided by the telecommunication operators. Collected data were classified, tabulated and analyzed in terms of the objectives set for the study. Both tabular and statistical techniques were used to find important relationships among the relevant variables. Appropriate procedures were followed for measuring the personal characteristics of the respondent, like age, education, family size, farm size and experience in farming. A five-point Likert scale was used to measure farmers' attitude towards telecommunication

operator's agro based services. The scale contained thirteen statements in relation to various benefits provided by the telecommunication operators in agricultural sector. The statement was expressed either in positive view or in negative view. A statement was considered positive if it indicated favorable attitude towards the benefits. If the case was reverse, it was considered as a negative statement. The respondents expressed their opinion on each statement as 'strongly satisfied' satisfied ' 'no answer' dissatisfied' 'strongly dissatisfied. Scores assigned to the above five responses were 5,4,3,2 & 1 respectively for positive statements and a reverse score was given for the negative statements. The statistical technique used for the analysis was range, and percentage.

6. Analysis and findings

The findings in connection with the selected characteristics of the respondents are presented in the following:

6.1 Age

The majority of the respondents were in younger age. 61% respondents were young, aged were 21-35, 45% of the respondents were middle aged 36 to 50 years old. Only 1% respondents were above 50% years old. The average age was 33.7 which reflect that users were mostly younger.

6.2Education

The educational status of the selected respondents in terms of percentage of literacy varying level was 32% had secondary level education, 26% had higher secondary level education, 24% had primary level education and 18% who had no formal education. That means educated people used these services more than the illiterate people.

6.3Family size

Most of the people used the services were from medium to small size family. 50% of the respondents were from medium sized family and 32% were from small sized family. Only 18% had large family.

6.4Farm size

The size of the most farm of the service user was small to very small. 44% of the users had the farm size ranged 0.206 to 1 hector. The farm size of 36% of the respondents was up to 0.205 hector. 17% of the respondent had a farm size ranged 1.01to 3 hector and only 3% of the respondent had a farm above 3 hector. The average size of the farm was .0543.

6.5Experience in farming

Farmers with little experience use the service more (50%) who had 1 to 5 years experience in farming, 28% of the farmers had experience from 6years to 15 years and only 22% had the experience the farming above 15 years.

6.6Perception of the Respondent's about the service

Farmer's interaction with the telecommunication operator's provided benefits and what perceptions grow about the service in their mind has been discussed according to the information gathered from the survey.

Farmer's information need

Farmer's have information need in several fields. Like information about the market price of their output, price of the input need to produce the output. Location of buyer and seller of agricultural product is also an area in which farmers want information. They need information to solve the problem of disease attack in their farm. They need information about the up-to-date cultivation technique, new variety. They also want accurate weather related information. Information about disease treatment and fertilizer dose is most demanding field for the information by the users. 68% of the farmers want the information for treatment of the disease as well as about the fertilizer dose. Query for the other information was 32% for the cultivation technique, 28% for the price related

information, 22% for the buyer's and seller's location, 14% for the input, and only 8% for the weather related information.

Problem faced by the farmers

The technologies telecommunication operators use to provide information to the farmers is quite new for them and they face many problems to use this technology. The problems discovered from the survey were high cost of the service availability and accessibility of the service non-flexibility. Users of one operator don't able to enjoy the benefits provided by other operators with the same SIM card. Language barrier is one of the major problems faced by the farmers when using this service. Network is also a problem to get information through mobile phone in rural area of Bangladesh.

Compare with traditional information source

Survey showed that 58% of the user thought traditional source of information provide better service than telecommunication operators that means majority of the respondents thought traditional source is more efficient. Other 42% thought telecommunication operators provide better service than traditional source of information. But most of them thought services provided by telecommunication operators are helpful to overcome the obstacles to get information.

User's satisfaction level

30% users were dissatiesfied and 12% were highly dissatiesfied with the service compared to 27% satiesfied and 10% highly satiesfied respondent. 21% respondent had neutral attitude.

Accessibility

The most of the respondents were dissatisfied about accessibility of the service. 41% of the respondents were dissatisfied and 21% of the respondents were highly dissatisfied where 12% of the respondents were satisfied and only 3% were highly satisfied in this respect. 23 % of the respondents show neutral attitude.

Reliability

42% of the respondents were dissatisfied with the reliability of the information and 5% were highly dissatisfied. Here 24% of the respondents were satisfied with the reliability of the information and only 1% was highly satisfied. 28% of the respondents stayed neutral about the reliability of the source of information. That means majority of the users thought the provided information are not reliable.

Cost of the service

Cost of collecting information is one of the concerns for the farmers. 46% of the respondents were satisfied and 34% of the respondents were highly satisfied about the cost of the service, where 8% of the respondents were dissatisfied and only 6% were highly dissatisfied in this respect. 6 % of the respondents show neutral attitude.

Time

Farmers thought it is a time saving way to collect information. 42% of the respondents were highly satisfied and 38% of the respondents were satisfied. Only 7% were dissatisfied and 3% were highly dissatisfied. 10 % of the respondents remained neutral towered this respect.

Adequacy of the information

It shows a varying degree of satisfaction among the respondents. 39% of the respondents were dissatisfied and 20% of the respondents were highly dissatisfied where 23% of the respondents were satisfied and only 8% were highly satisfied in this respect. 10 % of the respondents show neutral attitude.

Mechanism to use the service

Most of the respondents were satisfied about Mechanism to use the service. 50% of the respondents were dissatisfied, 3% of the respondents were highly dissatisfied. 25% were

satisfied and only 5% were highly satisfied in this respect. 17 % of the respondents remained neutral.

Customer care service

Most of the respondents were satisfied about Customer care service. 45% of the respondents were satisfied with the customer care service of the operator, 5% of the respondents were highly satisfied. 28% were dissatisfied and only 3% were highly dissatisfied in this respect. The neutral attitude was 18 % of the respondents.

Weather related information

In case of weather related information most of the farmer's showed neutral attitude. 36% of the farmers were neutral. 17% of the respondents were satisfied, 1% of the respondents were highly satisfied. Where 33% were dissatisfied and 13% were highly dissatisfied in this respect.

Information about treatment of disease

47% of the respondents were dissatisfied, 3% of the respondents were highly dissatisfied. 20% were satisfied and only 5% were highly satisfied in this respect. 25 % of the respondents show neutral attitude.

Information related to fertilizer dose

55% of the respondents were satisfied, 21% of the respondents were highly satisfied. 8% were dissatisfied and only 5% were highly dissatisfied in this respect. 10 % of the respondents show neutral attitude.

Information related to cultivation technique

In case of cultivation related information most of the farmer's showed neutral attitude. 57% of the farmers were neutral. 17% of the respondents were satisfied, 1% of the respondents were highly satisfied. 10% were dissatisfied and 15% were highly dissatisfied in this respect.

Input related information

Majority of the respondents were highly dissatisfied with the input related information. 50% of the total respondents were highly dissatisfied, 20% were dissatisfied, 13% were satisfied and 17% remained neutral toward the benefit.

Price related information

37% of the respondents were highly dissatisfied, 25% of the respondents were dissatisfied, 16% of the respondents were satisfied, and 18% of the respondents were highly satisfied. 20 % of the respondents show neutral attitude.

7. Conclusion

Agricultural sector can be treated as the backbone of Bangladesh economy. It is the means of livelihood for most of the rural population but sustainable agricultural growth is critical to uplifting the living standard of the people as well as generating rapid economic growth. To achieve such sustained growth ensuring smooth and frequent access to info is inevitable. Both Government and private sectors are working to ensure enough access of information for the farmers. It is argued that telecommunication operators can play a vital role in this case. Telecommunication operators provide a wide range of benefits to the farmers. Farmers as well come to contact with these activities. The intention of this paper was to find out the actual scenario of these benefits, farmer's thinking about the service and their attitude. The user's are mostly young have small farm size and little experience in farming. A significant proportion of the user thought that the services telecommunications operators provide to the farmers are helpful to overcome the obstacles to collect the information but still not efficient like their traditional way of collecting information. Telecommunications operators provide solution to some preliminary level of problems only. They are unable to provide solution of any complex problem of farm. Users are mostly satisfied with the cost of the service, time saving

characteristics, fertilizer dose and disease treatment related information of the service. Accessibility, mechanism of the service and reliability of the information made most of the user dissatisfied. They wanted government intervention to make these services more affordable to them.

8. Recommendations

Telecommunication industry is one of the fastest growing sectors not only in Bangladesh but also in the whole world playing the crucial role in communication. Like other countries these sector can be proved as a key player in agricultural sector. Farmers have a wide range of information thrust and telecommunication operators can be appeared as the most significant supplier of such agro based information to the farmers. Though telecom operators in Bangladesh have already started their journey in this way, there needs a lot of changes and improvements to be an agro friendly actor. The benefits provided by the telecom operators are not yet much popular or known to the farmers. So initiatives need to be taken to become aware the farmers about the given benefits. Though weak network is one of the concerning problem which make the services in accessible to the users so infrastructural improvement should be done to make the service accessible even the rural area of Bangladesh. Tele communication operator should make their services reachable to the farmers as quickly as possible because delay in getting respond make the farmer skeptical about the effectiveness and efficiency about the process. Most of the time farmers get only the solution of some preliminary problems. They fail to acquire solution of complicated problems. So the telecom operators may recruit more expertise to provide the proper solution. When assessing “information and service needs” of the target market it should be demand driven not supply driven, and always focus should be on local knowledge dissemination; Not only the telecommunication operators but also the farmers have something to do. Farmers need to have the belief that this service can satisfy their information need that means it is going to be useful for them. Public-private partnership-based program should be considered. Government may involve in this process and make this service more affordable to the users and only two telecommunication operators provide specialized services to the farmers. Govt. may take initiatives to involve other operators in agricultural sectors. Users of one operator cannot enjoy the benefits provided by the other operators .So a collaborative strategy may be taken by the operators to cover more people. Providing education about the various beneficial uses of mobile phones

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Appendix 1:
Table-1: Descriptive statistics of the selected characteristics of the farmers

Characteristics	Categories	Respondents	% of respondents
Age	Young (21-35)	73	61%
	Middle (36-50)	45	37%
	Old (51-65)	2	1%
Education	Illiterate (0)	22	18%
	Primary (1-5)	28	24%
	Secondary (6-10)	38	32%
	Higher (above 10)	32	26%
Family Size	Small (1- 3)	38	32%
	Medium (4-6)	60	50%
	Big (above 6)	22	18%
Farm Size	Very small (up to 0.205)	44	36%
	Small (0.206-1.0)	52	44%
	Medium (1.01-3.0)	20	17%
	Big (above 3)	4	3%
Experience in Farming	Little (1-5)	60	50%
	Medium (6-15)	34	28%
	Long (above 15)	26	22%

Source: field study.

Table-2: Responses concerning farmer's attitude towards agro based services provided by telecommunication operators

Statement	1	2	3	4	5
Identify the satisfaction level about the accessibility of the service	24	50	28	14	4
	21%	41%	23%	12%	3%
Identify the satisfaction level about the cost of the service	8	10	8	56	38
	6%	8%	6%	46%	34%
What do You think about the reliability of the services	6	50	34	28	2
	5%	42%	28%	24%	1%
It is provide adequate information you need	24	46	12	28	10
	20%	39%	10%	23%	8%
It is a times saving way of acquiring information	4	8	12	46	50
	3%	7%	10%	38%	42%
The mechanism to use this services are more complex	4	60	20	30	6
	3%	50%	17%	25%	5%
What do you think about customers care services of the telecommunication operators?	4	34	22	54	6
	3%	28%	18%	45%	5%
How much happy about the weather related information	16	39	43	20	2
	13%	33%	36%	17%	1%
How much happy about the information related to cultivation technique	18	12	68	20	2
	15%	10%	57%	17%	1%
How much happy about the information related to disease treatment	4	56	30	24	6
	3%	47%	25%	20%	5%
How much happy about the information related to fertilizer dose	6	10	12	66	26
	5%	8%	10%	55%	21%
How much happy about the input related information	24	60	20	16	0
	20%	50%	17%	13%	0%
How much happy about the price related information	44	30	24	10	12
	37%	25%	20%	8%	10%

Source: field study.

The score for each statement could range from 1 to 5. For the positive statement & where

1= highly dissatisfied/disagree
2= dissatisfied/disagree
3= neutral
4= Satisfied/agree

5= highly satisfied /agree

In case of negative statement scoring is done as

5= highly dissatisfied
4= dissatisfied
3= neutral
2= Satisfied
1= highly satisfied

Customer satisfaction level