SOCIO-CULTURAL CHARACTERISTICS OF RICE E-MARKETING USERS (CASE OF RASHT TOWNSHIP, IRAN)

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ABSTRACT

The main purpose of this research was to study the socio-cultural index of rice electronic marketing users in Rasht Township, Iran. This study used a survey design and was conducted with a random sample of 367 paddy farmers in Rasht Township. To identify the socio-cultural characteristics of rice e-marketing users, a self-designed questionnaire was developed to gather data. For determining the validity of the questionnaire, the face and content validity were used. Reliability for the instrument was estimated at 0.81. The "Kurskal-Wallis" and "U Mann-Whitney" test have been used to identify the effective factors on e-marketing. The result revealed that almost 68% of farmers had high tendency to adoption of electronic marketing and more than 70% of respondents chose rural ICT offices for rice e-marketing. Experience in using the internet services and internet skill had significant effects on e-marketing adoption. Finally, the result of this research presents a brokerage model. The nature of this model is (B2C) which means truck between business (ICT office) and customers. In this model, rural ICT offices have a role as buy/sell fulfillment.

KEYWORDS: Socio-cultural index, paddy farmers, e-marketing, ICT, Rasht Township

INTRODUCTION

Marketing has many types, such as transaction marketing, database marketing, interaction marketing and network marketing. With the emergence of E-business and the internet, the fifth aspect of marketing has been introduced. E-Marketing (EM) is defined as using the Internet and other interactive technologies to create and mediate dialogue between the firm and identified customers (Brodie, et al. 2007). Every year, for more than a decade, the Economist Intelligence Unit has closely examined the development of information and communications technology (ICT) in over 60 of the world's major economies, and evaluated and ranked their relative digital progress. Digital economy is composed of six indexes including: connectivity, business environment, social and

cultural environment, legal environment, government policy and vision, consumer and business adoption. Social and cultural index has five sub indexes: literacy, experience using internet and its receptivity, technical skills, entrepreneurship and innovation. Iran got the score of 4.90 out of 10 in the social and cultural index in 2010 (Economist Intelligence Unit, 2010). Rasht Township is located in the north of Iran (37 $^{\circ}$ 16' North & 49 $^{\circ}$ 36' East). According to the statistics of the year 2010, the land area under cultivation for rice in Rasht was 64250 hectares, which includes 90% of the land area under cultivation and has allocated the most employment to itself. 90000 families directly have to do with rice farming with supposing 4 members in each family, (total 360000), account for approximately 35% of the whole population of Rasht (Iran statistics center, 2010) . Currently, the most important concern of the rice farmers is the lack of the ability to sell their products. One of the most important reasons is the supply of imported rice and the rice market saturation. For example, in the past few years, the main concern of farmers from planting this number about hybrid rice was lack of confidence of market and inability to sell their products. At the end, the cultivation was stopped and finally we reach to this weakness that an integrated system with legal aspects has not formed yet in the field of agricultural marketing (Alavioon, 2011).

Kumar (2010) found 3 major gaps when studying barriers for E-agriculture in India's rural areas. This research was studied on 200 farmers in 40 villages. The major gaps were: spatial gap, literacy gap and income gap and the major barriers for using ICT at the agricultural level were the lack of knowledge about appropriate technology, uncertainty about market for agricultural produces, lack of storage facilities (Kumar et al., 2010). Wen (2007) studied electronic commerce system for selling agricultural products with three subsystems: financial subsystem, ordering subsystem to collect information of products/status analysis and administration subsystem which supervise selling and buying process. Also there is a section called data base which includes information such as Sales Amount, Sales Cost, Profits, Orders Amount, Net Operating Capital, Current Assets, Current Liabilities, Other Operating Assets, Short term Investment, market price, debt ratio, etc.

 Hawaii Department of Agriculture (2006), in "feasibility of a farmer – based E-commerce market" studied factors like farmers' computer skills, internet structure and the way of delivering the product to the market and then a website was designed. A farmer delivers his product to farm businesses and a center company would deliver the products to the customer. Also, Shehata et al. (2006) interviewed 147 managers of cooperatives in study of feasibility assessment for cooperative e-commerce. Conclusions of polls showed that approximately 46% are interested to e-commerce. In the article "Electronic commerce, marketing channels and logistics platform" Aldin (2003) describes different logistics platforms and models which directly perform from producer to consumer. In the following, horizontal and vertical electronic markets will be explained.

The main purpose of this study was to identify and describe the socio-cultural characteristics of rice electronic marketing users in Rasht Township, Iran. To achieve this purpose the following objectives served as guidelines:

1- Identifying the sub-indexes of farmers in social and cultural indexes
2- Identifying the effective factors on adoption of e-marketing
3- Identifying the viewpoints of rice farmers about the rice e-marketing network

MATERIALS AND METHODES

This study used a descriptive survey research design. The instrument used in this study was self-designed questionnaire. Distributing 367 questionnaires related to farmers was done in the form of simple classification and with the help of rural ICT offices. Rural ICT offices were divided into six groups. There were at least five offices in each group, and 50 questionnaires were sent to each office by post. Thus, 38 villages were selected (Table 1). To determine the validity of the questionnaire, ICT experts' comments were used. A pilot study for reliability analysis of the instrument was performed to determine if the instrument had an acceptable reliability value. A Cronbach's alpha value of 0.81 was obtained. Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 14.0 for Windows. Descriptive statistics (frequencies, means, and standard deviations) were utilized to analyze the data. The" Kurskal-Wallis Test" and "Mann-Whitney U Test" have been used to identify the effective factors on e-marketing.

TABLE 1, Distribute questionnaires

Division	Division's name	Number of rice farmers	Number of villages (rural ICT offices)
1	Central	65	7
2	Khomam	75	8
3	Lashtenesha	50	5
4	Sangar	60	6
5	Khoshkbijar	65	7
6	Kuchesfahan	52	5
Total		**367**	**38**

Source: Author's own study

RESULTS

According table 2, 32.7 % of paddy farmers were under 40 years of age, and 67.3% were above 40 years of age. In the case of ownership of fields, 45.6% own less than one hectare, 41.2% own between 1 to 2 hectares and 13.2% own more than 2 hectares.

Table 2, Personal characteristics in paddy farmers

Age	frequencies	percent
20 – 30	22	6.4
31 – 40	90	26.3
41 – 50	103	30
51 – 60	95	27.7
60>	33	9.6
Total	343	100
Ownership of field		
Less than 1 hectare	159	45.6
Between 1 to 2 hectares	144	41.2
More than 2 hectares	46	13.2
Total	349	100

Source: Author's own analysis

Sub-indexes of users in social and cultural index

In the case of adoption of electronic marketing, the most frequency is related to category of "very good" (40.8%), and the most frequency is related to category of "good" (39.9%) for the experience using the internet services. In the case of skill index, 27.2% of rice farmers can work with a computer and 72.8% cannot. Based on the table 3, 13.7% of rice farmers are illiterate, 51% are lower diploma and 3% have a bachelor's degree. About the sub-index of entrepreneurship, 72% of rural ICT offices belong to farmers' families and 28% belong to rural people, whose jobs are not in farming.

Table 3, Social and cultural indexes in rice farmers

Receptivity to electronic marketing	frequencies	percent
Very weak	20	5.5
Weak	16	4.4
Average	79	21.6
Good	101	27.7
Very good	149	40.8
	365	100
Experience using the internet services		
Very weak	22	6.1
Weak	22	6.1
Average	99	27.3
Good	112	30.9
Very good	107	29.6
	362	100
Internet skill		
Very weak	15	15.5
Weak	20	20.6
Average	30	30.9
Good	16	16.5
Very good	16	16.5
	97	100
Level of education		
Illiterate	50	13.7
Lower diploma	188	51.4
High school diploma	101	27.6
Associate's degree (2 years college)	16	4.3
Bachelor's degree	11	3.0
	366	100
Entrepreneurship (Establishing rural ICT office)		
in farmer family	49	72.1
in non-farmer family	19	27.9
	68	100

Source: Author's own analysis

Effective factors on adoption of electronic marketing

Age, the amount of ownership, level of education and entrepreneurship had no effect on their adoption of e-marketing, but two factors had effects on receptivity. They were experienced in using the internet services (Chi-Square=72.67, p=0.000) and internet skill (Chi-Square=10.30, p=0.030) (table 4). Despite not having an adequate and appropriate skill, farmers are really eager for receptivity to e-marketing, because they

have a positive background by previous reference to the rural ICT offices, and that is why they trust the rural ICT office managers.

Table 4, Kurskal Wallis Test, Effective factors in Receptivity to electronic marketing

factors	Chi-Square	df	Sig
Age	3.56	4	0.46
The ownership of field	0.37	2	0.83
Literacy	7.10	5	0.21
Experience using the internet services	72.67	4	0.00*
Internet skill	10.30	4	0.03*

Source: Author's own analysis

Table 5, Mann-Whitney U Test, effective factor in receptivity to electronic marketing

Entrepreneurship (Establishing rural ICT office)	N	Mean Rank	Z	Sig
In farmer family	49	34.40	-0.07	0.94
In non-farmer family	19	34.76		

Source: Author's own analysis

Viewpoints of paddy farmers (users) about the rice e-marketing network

According to table 6, 72.1% of paddy farmers chose the rural ICT offices network as the best option in rice e-marketing to answer this question if a system is provided in the form of a network, and it has an independent site in which paddy farmers can record the details of their product by referring to the operating staff, and customers can buy the product by paying electronically, in advance.

Table 6, Rice e-marketing network

Network	frequency	percent
Public offices network	48	13.4
Rural ICT offices network	259	72.1
Rural cooperatives network	52	14.5
Total	359	100

Source: Author's own analysis

DISCUSSION AND CONCLUSION

Results revealed that farmers' literacy was not effective in receptivity to e-marketing but, Kumar (2010) believes that literacy is effective in receptivity to ICT and the reason for these opposite viewpoints involves the different areas of study. In Kumar's research, villages had a difficult digital divide, but farmers were informed from ICT in our research. Positive viewpoints of farmers to rice e-marketing show that an action should be taken seriously for performance agriculture market. Different experiences of e-marketing represent government support of these projects. For example, Hawaii's e-marketing model (2006) started working by the support of the U.S. agricultural department, and agricultural marketing information network (AGMARKNET) started with the help of the ICT ministry and agriculture ministry.

 In the current situation, the ICT offices and the brokerage model are recommended as the best choices for rice e-marketing because of the following reasons:

Most farmers are not able to work with a computer and there should be interfaces to perform the internet selling. 72% ICT offices belong to rice farmers' families. ICT offices have a good distribution in rural areas.

Recommended model

The nature of this model is B2C (truck between business, ICT office) and customers. This website is a "pure-play e-tailor" that sells only local rice. The income model for rice farmers is the selling of rice and the price which would be paid by customers. In summary, a website will be designed that will have user links according to the number of ICT offices volunteers. Rice farmers go to the nearest rural ICT office where they live, and announce the features of their products to the office clerk, such as the type of rice, the amount and the price. They also should pay for that service. The office clerk enters his profile through the password he has and registers the farmer's name, phone number, account number and the product features on the website. On the other hand, after visiting the website and selecting the product, the customer pays the price of the rice, electronically, as well as the postage, and announces his address on the website and, after paying the money, a message will be sent to the farmer's mobile through the website. The farmer gives the rice bag to the office in order to send it to the address. He also gives a written promise to the office so as to formally give the rice bag to the customer after the customer deposits the money into his post bank account, otherwise, the money will be bounced back to the customer by the office clerk.
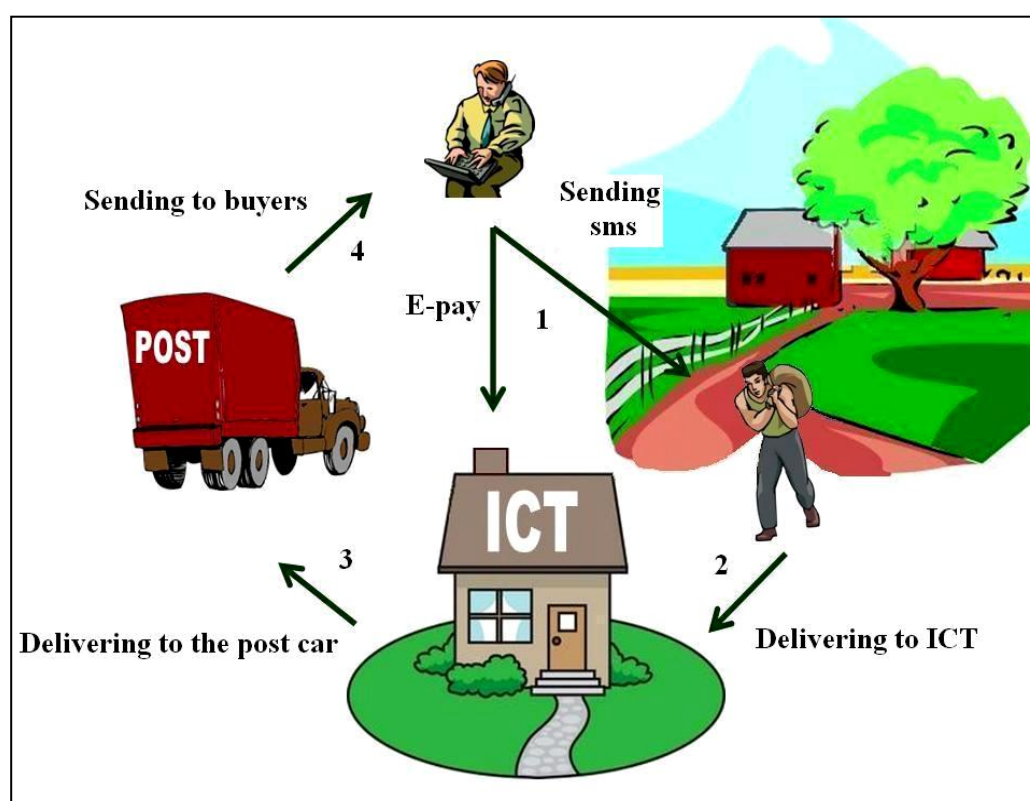

Figure 1, Brokerage model in rice e-marketing

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