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Analyzing Knowledge of Rural Cooperatives Managers in Khouzestan Province toward Electronic Commerce

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Abstract

The purpose of this research was analyzing knowledge of rural cooperatives managers in Khouzestan province toward electronic commerce, Iran. The research method was correlative descriptive. The population of this study included rural cooperatives managers in Khuzestan province. The total number of members was 101 people. Due to the limited population, census method was used. Questionnaire reliability was estimated by calculating Cronbach's alpha and it was appropriate for this study. There was between 0.771 to 0.842. Data were analyzed using the Statistical Package for the Social Sciences (SPSS). To reach the research objectives, appropriate statistical procedures for description were used. Data analysis was carried out through data description and data inferential analysis. Based on the results 65% of managers had low and very low knowledge toward electronic commerce in rural cooperatives. The results of research showed the correlation between level of education, creativity, technical requirements, social requirements, educational requirements, managerial requirements, economical requirements, political requirements with knowledge of electronic commerce in rural cooperatives was significant. Also the result of regression analysis by stepwise method indicated level of education, creativity, attitude to technical requirements, social requirements, educational requirements, managerial requirements, economical requirements and political requirements may well explain for 78.9% changes ($R^2 = 0.789$) in knowledge of managers.

Keywords: Knowledge, Rural Cooperatives, Managers, Khouzestan Province

1. Introduction

Agricultural cooperative, based on the rural household contract, is a mutual economic organization that producers with similar agricultural product or suppliers and users with similar farmers' production service unite in terms of voluntary association and democratic management (Shanqing and Zhengyu, 2016). Agricultural cooperatives in developing countries are being hit from all sides. They are receiving far less support from government than they have in the past, and with the liberalization of agricultural markets, many of them are struggling to survive in an increasingly competitive business environment. Member services are declining and farmers are leaving. The world is changing and these changes tend to favour small, decentralized organizations that are able to respond rapidly to the ever-shifting demands of the market (Kiani and Noorivandi, 2016). Applications of electronic commerce in support of agricultural cooperatives fall into five main areas, as outlined by Don Richardson (FAO, 1996): economic development of agricultural producers; community development; research and education; small and medium enterprises development; and media networks. In developed countries agricultural e-commerce is well developed and farmers benefit greatly from easy access to market information and vertical market integration. Information and Communication Technology (ICT) is widely used and the knowledge of ICT in farmers is considerable with timely distribution of agriculture information, consultation and monitoring, training and education, response from experts, early forecasting of price, early warning and improvement measures, information about marketing of various commodities, farm business and management, and expansion of the use of ecommerce (Nadarajan and Ismail, 2011). In recent years, more and more smallholders in developing countries have begun to

sell agricultural products directly to consumers via online shops in a third party trade platform (Shanqing and Zhengyu, 2016).

It is increasingly clear that e-commerce has become a new and effective way of helping smallholders to gain access to the market. By adopting e-commerce, smallholders can sell most of their products at a higher price than before because of the elimination of the price squeeze from intermediaries and the marketing constraints of information asymmetry (Zeng et al., 2016). The advantages of Electronic Commerce (e-Commerce) for the company are (Maman and Sugiarti, 2016): 1. Shorten the distance Companies can get closer to the consumer. 2. Market expansion. The market distance of the company becomes unlimited by geographic area where the company is located. 4. Expansion of the network of business partners.

Avoid the problem of lack information in the geographical position of a corporate partner. 5. Efficiency Reducing operational expenses such as papers for the transaction, advertising and recording. Based on the Chan and Swatman (1999) the components of e commerce are:

Internet and value-added networks (VANs), guided- and wireless-media networks, world wide web with Java, EDI, E-mail, EFT, electronic catalogs/directories, smart agents, digital libraries, copyright-protection services, e-money, smart-card systems, intranet- and extranet-based collaboration, infotainment-on-demand (fee-based content sites, educational offerings), remote consumer services (retailing, banking, stock brokerage), electronic auctions, brokerage, dealerships, and direct search markets and interorganizational supply-chain management. Shanqing and Zhengyu (2016) explained proposals on accelerating the development of e-commerce of agricultural cooperatives as follows :

The Government must attach great importance to e-commerce of agricultural cooperatives and increase relevant investment.

To improve Internet penetration in rural areas, and strengthen farmers' consciousness of e-commerce in agricultural cooperatives must be programmed.

To expand in an all-round way on the market of e-commerce must be programmed.

To promote the information disclosure of agricultural e-commerce market and to establish a traceability system of its quality the appropriate channels must be considered .

To focus on training relevant professionals, and to guarantee the effectiveness and sustainability of e-commerce of agricultural cooperatives must be programmed.

2. Materials and methods

The research method was correlative descriptive. The population of this study included rural cooperatives managers in Khuzestan province. The total number of members was 101 people. Due to the limited population, census method was used. Questionnaire reliability was estimated by calculating Cronbach's alpha and it was appropriate for this study. There was between 0.771 to 0.842. Data were analyzed using the Statistical Package for the Social Sciences (SPSS). To reach the research objectives, appropriate statistical procedures for description were used. Data analysis was carried out through data description and data inferential analysis. A five-point Likert-type scale was used as the instrument to gather data in order to measure knowledge of rural cooperatives managers toward electronic commerce.

3. Results and discussion

3.1 Demographic profile

Table 1 shows the demographic profile and the descriptive statistics for some characteristics of the rural cooperatives managers. The results of the demographic information of the participant rural cooperatives managers indicated that the age of 44.6% of managers was between 30-40 years. The minimum age of participant was 22 years and the maximum age was 59 years. Based on educational levels, a greater proportion (62.4%) of them had BSc educational level. Based on the participation on extension classes about e-commerce in cooperatives, 55.4% of them had not participated.

3.2 Knowledge of rural cooperatives managers toward electronic commerce

In this study, for analyzing knowledge of rural cooperatives managers toward electronic commerce, the Likert scale was used. The ratings on the Likert scale were from one to five (1. Very low, 2. Low, 3. Moderate, 4. High, 5. Very high). The final computed score represented the overall level of knowledge. The table 2 revealed the answer of managers to each item of knowledge toward electronic commerce and table 3 identified the level of overall knowledge toward electronic commerce after computing 12 items of knowledge. Based on the results 65% of managers had low and very low knowledge toward electronic commerce in rural cooperatives.

3.3 Correlation study

Spearman correlation coefficients to test hypotheses was used, the results of this test are as follows (Table 4):

The results of table 4 showed the correlation (r=0.612) between level of education and knowledge toward electronic commerce in rural cooperatives at the level of 0.01 was significant. Therefore, the null hypothesis is rejected. It means that with 99% of confidence, we can conclude that managers with high education level had high knowledge.

Also the results of table 4 showed, the correlation (r=0.324) between creativity and knowledge toward electronic commerce in rural cooperatives at 0.01 was significant. Therefore, the null hypothesis is rejected. It means that with 99% of confidence, we can conclude that managers with high creativity level had high knowledge.

The results of table 4 showed, the correlation (r=0.512) between technical requirements and knowledge toward electronic commerce in rural cooperatives at 0.01 was significant. Therefore, the null hypothesis is rejected. It means that with 99% of confidence, we can conclude that managers with high technical requirements had high knowledge.

In addition the results of table 4 showed, the correlation (r=0.427) between social requirements and knowledge toward electronic commerce in rural cooperatives at 0.01 was significant. Therefore, the null hypothesis is rejected. It means that with 99% of confidence, we can conclude that managers with high social requirements had high knowledge.

Also the results of table 4 showed, the correlation (r=0.519) between educational requirements and knowledge toward electronic commerce in rural cooperatives at 0.01 was significant. Therefore, the null hypothesis is rejected. It means that with 99% of confidence, we can conclude that managers with high educational requirements had high knowledge.

As well as the results of table 4 showed, the correlation (r=0.614) between managerial requirements and knowledge toward electronic commerce in rural cooperatives at 0.01 was significant. Therefore, the null hypothesis is rejected. It means that with 99% of confidence, we can conclude that managers with high managerial requirements had high knowledge.

Also the results of table 4 showed, the correlation (r=0.428) between economical requirements and knowledge toward electronic commerce in rural cooperatives at 0.01 was significant. Therefore, the null hypothesis is rejected. It means that with 99% of confidence, we can conclude that managers with high educational requirements had high knowledge.

Also the results of table 4 showed, the correlation (r=0.581) between political requirements and knowledge toward electronic commerce in rural cooperatives at 0.01 was significant. Therefore, the null hypothesis is rejected. It means that with 99% of confidence, we can conclude that managers with high political requirements had high knowledge.

In addition the results of table 4 showed, the correlation (r=-0.504) between age and knowledge toward electronic commerce in rural cooperatives at 0.01 was significant. Therefore, the null hypothesis is rejected. It means that with 99% of confidence, we can conclude that managers with high age had low knowledge.

Table 1. Demographic profile of rural cooperatives managers.

Variables	Frequency	Percentage	Cumulative Percentage	
Age				
22-30	9	8.9	8.9	Mean=39.87
30-40	45	44.6	53.5	Sd= 7.436
40-50	40	39.6	93.1	Min=22
50-59	7	6.9	100	Max=59
Educational level				
Diploma and lower	12	11.9	11.9	
Technician	10	9.9	21.8	
BSc	63	62.4	84.2	
MSc and upper	16	15.8	100	
E-commerce class				
yes	45	44.6	44.6	
no	56	55.4	100	

Table 2. Frequency of managers to each item of knowledge toward electronic commerce in rural cooperatives.

Items	Mean	SD	CV
Internet and value-added networks (VANs)	3.215	1.023	0.318
Guided- and wireless-media networks	3.065	1.052	0.343
World Wide Web with Java	2.946	0.954	0.324
EDI, E-mail, EFT	2.094	0.864	0.413
Electronic catalogs/directories, smart agents	2.198	10.23	4.654
Digital libraries, copyright-protection services	2.513	1.124	0.447
E-money, smart-card systems	2.648	1.165	0.440
Intranet- and extranet-based collaboration	3.055	1.095	0.358
Infotainment-on-demand (fee-based content sites, educational offerings)	2.068	1.038	0.502
Remote consumer services (retailing, banking, stock brokerage)	2.958	0.982	0.332
Electronic auctions, brokerage, dealerships, and direct search markets	3.065	0.954	0.311
Inter-organizational supply-chain management	0.288	0.891	0.288

1.Very low, 2. Low, 3. Moderate, 4. High, 5. Very high

Table 3. Level of overall knowledge toward electronic commerce in rural cooperatives.

Knowledge	Frequency	Percent	Cumulative percent
Very high	5	4.950	4.950
High	15	14.851	19.802
Moderate	25	24.752	44.554
Low	35	34.653	79.208
Very low	21	20.792	100.000
Total	101	100.00	

Table 4. Relationship between knowledge toward electronic commerce in rural cooperatives and independent variables.

Independent variable	Dependent variable	r	p
Level of education	knowledge toward electronic commerce in rural cooperatives	0.612	0.000
Creativity		0.324	0.000
Technical Requirements		0.512	0.000
Social Requirements		0.427	0.000
Educational Requirements		0.519	0.000
Managerial Requirements		0.614	0.000
Economical Requirements		0.428	000
Political Requirements		0.581	000
Age		-0.504	0.000

Table 5. Multivariate regression analysis

Independent variable	B	Beta	T	Sig
Level of education	0.597	0.471	2.845	0.000
Creativity	0.372	0.569	3.549	0.000
Technical Requirements	0.451	0.219	3.854	0.000
Social Requirements	0.642	0.572	3.512	0.000
Educational Requirements	0.491	0.346	3.645	0.000
Managerial Requirements	0.512	0.524	2.958	0.000
Economical Requirements	0.446	0.550	2.654	0.000
Political Requirements	0.511	0.657	2.651	0.000
Age	-0.335	0.349	4.598	0.000
Constant	9.945	----	5.124	0.000

R^2=0.789 F=5.648, Sig= 0.000

3.4 Regression analysis

Table 5 shows the result for regression analysis by stepwise method. Liner regression was used to predict changes in knowledge by different variables. Level of education, creativity, technical requirements, social requirements, educational requirements, managerial requirements, economical requirements, political requirements and age may well explain for 78.9% changes (R2 = 0.789) in Knowledge of managers.

Y=9.945+0.597x1+0.372x2+0.451x3+0.642x4+0.491 x5+0.512x6+0.446x7+0.511x8-0.335x9

4. Conclusions and recommendations

Electronic Commerce essentially means the undertaking of normal commercial, government and personal activities by means of computers and telecommunications networks and includes a wide variety of activities involving the exchange of information, data or value-based exchanges between two or more parties. It is increasingly clear that e-commerce has become a new and effective way of helping smallholders to gain access to the market. By adopting e-commerce, smallholders can sell most of their products at a higher price than before because of the elimination of the price squeeze from intermediaries and the marketing constraints of information asymmetry. The results of research showed the correlation between level of education, creativity, technical requirements, social requirements, educational requirements, managerial requirements, economical requirements, political requirements, age and knowledge toward electronic commerce in rural cooperatives was significant. Therefore, we can conclude that managers with high level of education, creativity, attitude to technical requirements, social requirements, educational requirements, managerial requirements, economical requirements, and political requirements had high knowledge toward electronic commerce in rural cooperatives. The result of regression analysis by stepwise method indicated level of education, creativity, attitude to technical requirements, social requirements, educational requirements, managerial requirements, economical requirements, political requirements and age may well explain for 61.9% changes (R2 = 0.789) in knowledge of managers.

Therefore, to development of the knowledge of managers toward electronic commerce in rural cooperatives, considering variables of level of education, creativity, technical requirements, social requirements, educational requirements, managerial requirements, economical requirements, political requirements, age essential. This should be considered by policy makers and planners.

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