



ORIGINAL ARTICLE

The Role of ICT in Entrepreneurship Development from Experts View of Agriculture Organization of Tehran

Faezeh Hosseini, Farhad Lashgaara*, S.Jamal Farajallah Hosseini

Department of Agricultural Extension, Science and Research Branch, Islamic Azad University, Tehran, Iran

*Email: f_lashgarara@srbiau.ac.ir

ABSTRACT

The present research aimed to identify the role of information and communications technology (ICT) on entrepreneurship development regarding experts' views of Agriculture organization in Tehran. The main tool of the current investigation ISA questionnaire and statistical population of this study consisted of 450 experts from agriculture organization WHO 111 of them were selected as a sample size using Cochran formula. In order to identify the capabilities of ICT on entrepreneurship development, factor analysis was performed using SPSS software Version 19. The results based on experts' view showed that the six factors including to improve business performance, improved infrastructure services manufacturing, technology, improve motivation, organizational and information were explained a total of 44.26% of the variance in capabilities of ICT in entrepreneurship development.

KEYWORDS: Entrepreneurship, Entrepreneurship development, Technology, ICT, Employment

Received 23.08.2014

Revised 01.11.2014

Accepted 03.12.2014

INTRODUCTION

Given the key role of entrepreneurship in creating changes in the community, what is felt in today's societies and in difficult circumstances is paying more attention to address the formation of entrepreneurship, of entrepreneurial thinking [1]. The reason is that, entrepreneurship is the engine of changing and transformation of economic, culture and society development and its growth can lead to a transformation of the national economy. But, in certain economic and cultural circumstances of country in recent years and high rates of unemployment and jobseekers, entrepreneurship have been considered as a key component of national plans[2].

According to the latest report by the Iran Statistics Center at the end of 2012, a total number of two millions and 900 thousand people are university unemployed graduates in country (Statistical Center of Iran), out of which the unemployed graduates of the agriculture face with the 50 percent [3].

Therefore, given the high rate of unemployment among youths and graduates of agricultural and their not desiring to create agricultural and entrepreneurial activities, creating a fundamental change in the category of entrepreneurship to increase graduates motivation and interest for doing entrepreneurial activities, is necessary.

Therefore, ICT can reduce costs and time-consuming and have bureaucratic system removal with itself and with creating changes in organizations, creating diversity, provide sufficient incentive for entrepreneurial activities and bring coordination necessary for organizations and individuals with the changes in communities[4].

In fact, the Internet as a largest and most powerful world's communications network is a clear example of entrepreneurship and in recent years many entrepreneurs have been registered on the Internet [5] and via online, interactive has helped to business and job opportunity[6]. In fact, it can be stated that information and communication are two basic tools needed for any entrepreneurial activity. So, it can be concluded that ICT can provide lots of changes in different aspects of entrepreneurship and especially in jobs creating.

Malek *et al* (2009) found in a study that there was a direct access of people to ICT and knowledge of organization staffs about the needs of market and customers, and their entrepreneurial behavior, and

significant correlation existed and ICT has high potential for the development of different factors influencing on the development of organizational entrepreneurship [7].

Baharestan *et al* (2012) found in a study that there was a significant positive relationship between the presence of information technology and intellectual investments and variables of IT and ICT on organizational entrepreneurship. In addition, information can be used as a moderating variable, and increases the positive impact of intellectual investment on organizational entrepreneurship [8].

Yaghoobi (2010) in a survey reached the conclusion that there was a significant positive relationship between entrepreneurship enforcement in higher education and the use of information and communications technology [9]. Rasoulinejad *et al* [10] found in a study that there was a positive and significant relationship between the use of information technology and communications and training for skills employment for job creating.

Litao *et al* [11]) in a research project found that there was a significant positive relationship between regular activities around ICT and improving entrepreneurship speed, economic growth, employment, and job creating . Hiyousung [12] in a research study found that there was a significant and positive relationship between the rate of utilization of information and communications technology and improving educational performance in order to enhance agricultural products [12].

Hyndle *et al* [13] in an investigation have found that there was a positive and significant relationship between the rate of media using such as television, the Internet and creating jobs and businesses for youths . Teodoras *et al*. [14] in their study concluded that there was a significant and positive relationship between the uses of ICT in entrepreneurship cooperation with improving the product sales process [14].

According to what was discussed, the main aims of the current study were to investigate the role of information and communications technology (ICT) in entrepreneurs 'development regarding Jihad Agriculture organization experts' view of the city of Tehran.

MATERIALS AND METHODS

This is an applied research. In terms of data collection, monitoring and the degree of variables control it was descriptive - correlation. In addition, in terms of process, logic and the time it was quantitatively, deductive and retrospective, respectively. Also in terms of location, this research has been carried out in agriculture organization in Tehran and in terms of time intervals; it has been done in 2012-2013.

Sample of the study consisted of 450 agriculture organization experts in Tehran, which were based on statistics obtained from agriculture organization of Tehran. To determine the sample size in this study, the Cochran formula has been used. Due to the size of the statistical population, the sample size was calculated as $n=111$. In order to response to the research question and objectives, a questionnaire was designed as the main tool. All the questions except personal characteristics (age, education level and years of membership) were raised to 5 points by Likert scale and consisted of three distinct parts.

To investigate the views of agriculture organization experts concerning the potential of information and communications technology (ICT) role on the development of entrepreneurship, a 46-item in Likert format was used. For validity, the questionnaire was developed, the required reforms carried out under research committee team and their opinions were collected and the desired corrections were applied. To determine the reliability of the preliminary test, 30 subjects of experts in the agriculture organization were considered and the reliability of the different sections of the questionnaire and Cronbach's alpha coefficient was confirmed at the centroid of 0.85- 0.92.

In this study, in descriptive statistics, measures of central tendency and dispersion, was done and in order to determine prioritize of the features calculating the mean was used. Factor analysis was used in the discussion of inferential statistics. Statistical analysis of the collected data using computer software SPSS Version 19 was performed.

RESULTS AND DISCUSSION

The mean age of the responders' was 34.5 years and the average membership of experts in agriculture organization has been reported 12.53 years. In terms of education level, 44.1% of the experts had bachelor degrees, which were the maximum percentage allocated. The most frequency of history of experts was 32.4%, which was located at the centroid of 13-18 years.

The results showed that 50.5% of the experts are familiar with the category of entrepreneurship at high level

Fifty five percent of the experts have determined the capabilities of information and communication technology and development for entrepreneurship at high level. To determine the experts'views of agriculture organization of Tehran regarding the capabilities of ICT on the development of entrepreneurship, 46 -item in Likert format were used. The results showed that 66.7 % of the experts

accepted the ability of ICT, on development of entrepreneurship at high level. Moreover, 27% of them accepted these capabilities at moderate rate (Table 1).

Rate	Frequency	Percent	Cumulative percentage
Low (83-120)	2	1.8	1.8
Medium (121-158)	30	27	28.8
High (159-196)	74	66.7	95.5
Very high (197-234)	5	4.5	100

Table 1: experts views to capabilities of ICT on entrepreneurship development

Mode= high

Prioritize of the items, based on the average, showed that experts believed that the three potential of ICT with the titles of access to new information, improving the ability of individuals to search and to obtain timely and accurate information and reduce the cost of access to information have the most effectiveness on entrepreneurship development, respectively.

To assess the impact of information and communication technologies (ICTs) in developing entrepreneurship, 18 items were listed. The results showed that 46.8% of the experts believed the impact of information and communication technologies (ICTs) at high level for entrepreneurship development (Table 2).

Table 2: impact of ICT in developing entrepreneurship

Mode= high

Rate	Frequency	Percent	Cumulative percentage
Very low (18-32)	1	0/9	0/9
Low (33-48)	7	6/3	7/2
Medium (49-64)	49	44/1	51/4
High (65-80)	52	46/8	98/2
Very high (81-96)	2	1/8	100

The prioritization of 18 items of information and communication technology, three technologies including educational workshop, internet, exhibition and festivals had the highest level, respectively. Separation of 18 items of technologies into three completely new, old and quite old technologies have been done.

Study of 6 items of completely new technologies showed that 59.5% of the experts believed on the effect of completely new technologies in entrepreneurship development at medium level and the Internet technology with the highest average achieved the grade one. Study on effect of old technology showed that 52.3% of the experts believed on the effects of old technologies in entrepreneurship development at an intermediate level and television technology with the highest rank achieved the rank one. The effect of the quite old technology, showed that 48.6% of the experts, believed on the impact of quite old technology on the development of entrepreneurship at high level and the educational workshop technology achieved the highest rank and mean.

Based on the results of the factor analysis "capabilities of information and communications technology (ICTS) in entrepreneurship development" and to determine the suitability of data for factor analysis, KMO and Bartlett's test were used. The results showed that the data were suitable for factor analysis. In order to enhance the interpretation of factors, Varimax rotation was used and to determine the number of factors criteria of specific amount was performed.

In this regard, a total of six factors were extracted. These factors have explained 44.26% of total variance of the variables that the contribution of each of these factors after the rotation has been determined (Table 3).

The first factor has estimated about 13.42% of the variance of factor analysis. Due to the nature of the variables, was named the "improved job performance". In this factor, sixteen variables with factor loadings were recognized.

The second factor that was included ten variables, has accounted 9.18% of the variance for factor analysis of data. Due to the nature of its variables, this factor was named "infrastructure improvements for production services".

The third factor with explanation of 8.31% of variance of factor analysis has been composed of seven variables. Due to the variations that have been categorized in this factor, this factor has been expressed as the "Information Technology".

The fourth factor with 4.70% of the variance of factor analysis has been consisted of four variables and due to the nature of the factors has expressed as the factor of **"improvement of motivation"**.

The fifth factor with 4.52% of the factor analysis variance has been composed of three variables. Given the variables, this factor has been named as **"organizational"**.

The sixth factor with 4.13% of the factor analysis variance has been formed from five variables that regarding the nature of variables, this factor was named as **"information"**(Table3).

Table 3: Extracted factors of capabilities ICT in developing entrepreneurship

Factors	Eigen value	Percentage of explained variance	The cumulative percentage of explained variance
Improve business performance	6/17	13/42	13/42
Improved infrastructure services manufacturing	4/22	9/18	22/60
Technology	3/82	8/31	30/91
Improving Motivation	2/16	4/70	35/61
Organizational	2/08	4/52	40/13
Information	1/90	4/13	44/26

DISCUSSION AND CONCLUSION

Regarding to the factor of improving the performance of analysis that were aligned with the researches of Karimi *et al* [15] and Haghshenas [16] the following suggestion are proposed [15] [16]:

In order to increase the accuracy level of subjects, it is necessary to increase their ability to use of ICT equipment.

Given the infrastructure improvements of production services that were aligned with the researches results of Bagheri *et al* [17] and Rahmani *et al* [18] the following recommendations are proposed: greater attention to the holding of systematic inspections of successful entrepreneurs projects in various areas to be in organization’s agenda so that to influence educational processes, and to provide increasing efficiency and productivity.

According to the factor of technology that was in the same direction with research results of Baghersad *et al* [19], and Dadgaran *et al* [20], it is recommended that concerned agencies use the combination of information and communication technologies together for the implementation in the field of entrepreneurship, to creating a variety of activities, and new technologies to be introduced to the people . Regarding the factor of improving motivation, results of Majidi *et al* [21], and Alambeigi *et al* [22] were in lined with the current study and it is recommended: to increase interest and motivation in experts and entrepreneurs in using ICT, officials and organizational incentives should be used for improving production situation and employment status.

According to the organization’s factor, results that were aligned with the results of Baharestan *et al* [8] the following suggestions are recommended: non-manipulated computer software, in order to record the process of the agencies and organizations with the aim of reducing corruption in the administration and organizations associated with entrepreneurial activity should be designed and laid out.

Given the information that were aligned with the results of Gholipour *et al* [23], it is recommended that in order to reduce transaction costs and also reduce the costs of access to information, strengthening infrastructures and infrastructure-related to technical issues of information and communication technology, offering cheaper services to patrons and customers and communications network expansion in all areas, in planning system should be considered more than previous.

REFERENCES

1. Rasekh, K and Golkhany, Sh. (2012). Assess the importance of entrepreneurship on employment in the community. National Conference on Entrepreneurship, Cooperation and the Economic Jihad, 165-185, Tehran ,Nain. (In Persian)
2. Moghimi, M. (2008). Stimulating entrepreneurial development. Entrepreneur Magazine.1(2):4-8. (In Persian)
3. Mousavi , F and Reyhani , R.(2012). The role of ICT on entrepreneurship and employment in the agricultural graduates .Congress of Iranian Agricultural Extension and Education and Natural Resources, 85-96 pp, Tehran, Iran. (In Persian)
4. Nami , K. (2010). Impact of ICT on entrepreneurship. First International Conference on Management, Innovation and Entrepreneurship, 32-45 pp, Garmsar, Iran. (In Persian)
5. Amirkhani, A. and Motamedi, F.(2009). Entrepreneurship and IT. Conference on Technology Management and Innovation PNUBranch,165-176 pp, Tehran, Iran. (In Persian)

6. Ghadamzanjalali, A.(2009). Modern information technologies, developments in entrepreneurship. Proceedings of the Conference on Technology Management and Innovation, 65-73 pp, Garmsar, Iran. (In Persian)
7. Malek Mohammadi, A. Alam Beigi, M and Moghimi, M.(2009). Regression analysis of the role of ICT in the development of CE(A Case Study of Agricultural Extension).Journal of Economics and Agricultural Development.1(1): 1-10. (In Persian)
8. Baharestan, A. Rezaei Dowlatabadi, H and Akbari, C.(2012). Explore the impact of information and communications technology and intellectual capital on corporate entrepreneurship (Case Sobhan Oncology). The second conference of student entrepreneurs, 78-96 pp, Tehran, Iran. (In Persian)
9. [9] Yaghoubi, J. (2010). Factors hindering entrepreneurship in higher education in agriculture and provide mechanisms to strengthen it. Journal of Entrepreneurial Development, 8(2): 121-139.(In Persian).
10. [10]. Rasouli Nejad, A. and Noory, M. (2009). Iran ICT impact on employment. Journal of Economic Research, 89(4): 87-107. (In Persian)
11. [11]. Leito, J and Ferreire, J. (2012). ICT and Entrepreneurship: A comparative analysis between Portugal and Germany, 6(1): 136-152.
12. [12] Heyshong, P. (2004). Factors that affect information technology adoption by teachers, 5(2): 569- 576.
13. [13] Hindle, K and Klyver, K. (2007). Exploring the Relationship Between Media Coverage and participation in Entrepreneurship. International Entrepreneurship Journal, 3(2): 132-156.
14. [14] Theodoros, A. Illias, P. and Panagiotis, K. (2008). ICT Impacts on Greek Entrepreneurship accordingly to governmental programme .Competitive paper for Haicta Conference, 3(1): 76-89.
15. [15] Karimi , A. Assadi , A and Carami , P . (2008). Assess learners ' attitudes towards the use of information technology in science education centers - Agriculture and Natural Resources Entrepreneurial application .Proceedings of the National Conference on Science Education entrepreneurship development in agricultural applications, 5(3): 536-550. (In Persian)
16. Haghshenas, Sh. (2009). Review ways of entrepreneurship development through ICT from the perspective of professionals and entrepreneurs. Master's thesis, Islamic Azad University, Kermanshah, Iran, 132 pp. (In Persian)
17. Bagheri, Z. Shiyasy, F. and Maleki, M.(2012). Explore the role of ICT in developing entrepreneurial opportunities from the perspective of university faculty and message light. National Conference on Entrepreneurship and business management knowledge base, 98-116 pp, Tehran, Iran. (In Persian)
18. [18] Rahmani, T and Hayaty, S.(2007). The effect of ICT on productivity growth and total factor productivity (of the country).Journal of the Iranian economy. Ninth year, 33(2): 25-51. (In Persian)
19. [19] Baqrsad, and. Alizadeh, M. and Bonadaky, SA. (2012). Identify key success factors of e-learning entrepreneurial public universities in Tehran. Journal of Entrepreneurial Development. 3(2):85-104. (In Persian)
20. [20] Dadgaran, M and Aboutalebi, J. (2011). TV, entrepreneurial culture, community. Journal of Work and Society, 135(1): 11-30.
21. [21] Majidi, V. Kadkhodaei, P. Ali Mohammadi, M and Rohani, K. (2012). Effect of ICT on the entrepreneurial spirit, creativity, Tehran University Award. Student Entrepreneurship Conference, 114-129 pp, Teran, Iran. (In Persian)
22. Alambeigi, A. Malek Mohammadi, E. and Moghimi, M. (2009). Components factor analysis of information and communication technology (ICT) related to the development of entrepreneurship in agricultural extension organizations in Iran. Mjl Agricultural Economics and Development, 1(3):1-10.(In Persian)
23. Gholipour, R. Aqajani, H. and Karimi, M.(2009). Factors affecting recognize entrepreneurial opportunities in the field of IT. Journal of Entrepreneurial Development. 3(2):123-158.

ITATION OF THIS ARTICLE

Faezeh H, Farhad L, S.Jamal Farajallah H. The Role of ICT in Entrepreneurship Development from Experts View of Agriculture Organization of Tehran. Bull. Env. Pharmacol. Life Sci., Vol 4[1] December 2014: 152-156