

Organizational learning As the Requirement of forming Enviropreneurship in Environmental Non-governmental Organizations (NGOs) in Iran

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Received 12 Sep. 2010;

Revised 19 Aug. 2011;

Accepted 20 Dec. 2011

ABSTRACT: The current research was carried out with the aim of the investigation of organizational learning dimensions role in the development of enviropreneurship in environmental Non-governmental organizations (NGOs) in Iran by descriptive correlation method. Statistical population of this research was including all environmental NGOs of industries in all over the country and statistical samples were extracted by random sampling and sampling formula. Finally, 51 environmental NGOs were selected among active environmental NGOs as the studied sample. The main instrument of data collection in this research was questionnaire used for measuring enviropreneurship and organizational learning. To determine the validity of questionnaire, face validity method and opinion poll from experts were used. The designed instrument was at first used in the population out of pre-test statistical sample and Cronbach's alpha was applied to determine reliability. Cronbach's alpha for enviropreneurship was 0.76 and 0.97 for organizational learning. The main technique of data processing was logistic regression and SPSS software version 18 was used in this regard. Generally, the results of logit function showed that among organizational learning dimensions, organization connection with environment, encouraging co-workers and team learning and continuous learning opportunities were the most important variables determining the condition of enviropreneurship in environmental NGOs.

Key words: Environmental entrepreneurship, Organizational learning and environmental NGOs

INTRODUCTION

Today, air pollution, degradation and bad quality of surface water, toxic sewage in underground water and most of the problems at macro level such as climate changes, ozone layer problems, oceans water threatening factors etc are serious threats of environment. Thus, despite economical development and improving life quality in the previous century, industrialization had adverse effects on environment and natural resources as the sustainability of economical systems are being threatened (Dean and McMullen, 2007). So, global knowledge should be increased about the need to fundamental changes in consuming natural sources and producing energy with the aim of reducing environment destruction and achieving sustainable development (Gherib, 2009). In this regard enviropreneurship issue is raised in academic circles. Innovative approaches in environmental management of businesses related to environment are varied. The specifications referring to innovative

businesses along with sustainability of environment are taken into attention in a field of entrepreneurship called as environmental entrepreneurship, ecological entrepreneurship and green entrepreneurship (Allen and Malin, 2008). One of the development goals especially sustainable developments is focusing on environment protection and sustainable development is important as a challenging and overwhelming concept in business and policy making during two decades (Hall *et al.*, 2010). NGOs had effective role in sustainable development by their considerable social investments. Environmental NGOs are established with the aim of attracting people participation and increasing environmental knowledge in the society and creating a public commitment for environmental sustainability and as people have critical role in achieving sustainable development, the role of NGOs are very important in attracting people participation. Each society with sustainable development aim cannot

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ignore the activity of NGOs and in no society we cannot achieve sustainable development without providing a good background for the activity of NGOs. And if social, humanistic and scientific sustainable development is based on its main components-empowerment, increasing social capital, science production, reducing poverty and increasing public welfare, we cannot and should not ignore NGOs. Environment protection organization defines Environmental NGOs as: "Environmental NGOs are all non-governmental, non-profit and non-political organizations organized by natural persons gathering as voluntarily. These people work by arranging chart since registration date in official office as a legal person. While, in critical economical and social conditions, entrepreneurship is regarded as an effective element of environmental management. Entrepreneurships and sustainable development are the main issues in social and economical development all over the world. The role of entrepreneurship in this process is creating a kind of innovative attitude toward using environment to protect it and reduce social and environmental concerns (Hall *et al.*, 2010). The term "entrepreneur" reminds us a hardworking and enthusiastic person, a person who creates value by facing challenges and creating innovations. Currently, by increasing threats and environmental pollutions, environmental orientation with entrepreneurial approach is considered by various researchers (Allen and Malin, 2008). Enviropreneurship is new field in entrepreneurship studies. Different definitions of enviropreneurship are coined. Some people regard sustainable entrepreneurship equal to enviropreneurship (Roggers, 2010), the others regard it entrepreneurship from environmental view (Schaltegger, 2002) and the remaining regard achieving sustainable society by innovation equal to enviropreneurship (Cohen, 2006). A new concept of enviropreneurship raised as preventing pollution is similar to other kinds of enviropreneurship by which in addition to having reaction to market opportunity, negative effects are reduced on natural environment. This kind of entrepreneurship reduces the costs instead of increasing incomes (Moghimi, 2005). Gerlach (2002) believes that environmental entrepreneurs are creative people who view their business from the point of values mixed with the environment, as in this way competitive advantages are formed for them in the market. In other words, competitive advantages view beside protective-oriented view to environment forms the basis of environmental entrepreneurship. He believes that environmental entrepreneurs are catalysts of development and change in economy and environment. Pastakia (1998) reveals that environmental entrepreneurs are a new generation of agents informed

of ecological agriculture changes. Arguably, entrepreneurship is one of the principle factors for economical development and prosperity and as such plays a critical role in individual and organizational activities. Since NGOs have wide influence in all economical, social and cultural grounds, reforming organizations from the traditional and bureaucratic form to a more entrepreneurial form is deemed particularly important (Analoui, *et al.*, 2009).

As it is shown in review of literature, people or groups such as NGOs presenting ideas and innovations compatible with environment protection in both market or non-market, are called environmental entrepreneurs (Camison, 2008) and the process to which people or a group of people enter in the form of agents to create sustainable innovations in businesses related to environment, is called environmental entrepreneurs. Enviropreneurship is raised to meet the requirements of creating balance between social needs and protection of ecological agriculture in the present and future (Issak, 2002). Environmental entrepreneurs by optimal use of environmental resources for production on one hand and on the other by creating innovation in production, protection and alternative activities prevent environmental damages (Camison, 2008). So, sustainable management of natural resources, optimal use of the environment in production activities, environmental risks reduction, guaranteeing a good eco-system and increasing living variety are the results of environmental entrepreneurship. Entrepreneurship refers to renovating innovation and organizational structural risk taking and concept and pursuing new opportunities and the basis of active and strategic reaction is on surrounding changes and creating such environment requires the development of organizational learning. By developing organizational learning entrepreneurship is developed (Brundin *et al.*, 2008). Today, it is proved that there is reciprocal relationship between entrepreneurship and learning degree. Organizational learning is used as a solution for filling the information gap. The unique characteristics of the organizations in which organizational learning is supported, is that they can react rapidly to peripheral demands (Jaw and Liu, 2003). On the other hand, McGrath (2001) believes that entrepreneurship in an organization is depending upon learning ability via searching new knowledge and using the existing knowledge of the organization (Guth & Ginsberg, 1990).

Patzelt and Shepherd (2011) believes that forming new opportunities for sustainable development in the form of enviropreneurship is depending upon some factors such as the knowledge about natural

environment and environment, perception of environmental threats and altruism attitude. So, the knowledge-based enviropreneurship is being reviewed from this aspect. On the other hand, learning is necessary for creating and using knowledge for production, process and organizational innovation. Organizational learning theory proposes that when organizations are exposed to various incentives, a new set is formed for review in the existing assumptions and beliefs. This process for people provides testing by which learning is done via practice. Learning in its extensive concept is meant to achieve new information and knowledge (Dess *et al.*, 2003).

Tushman and Nadler (1986) stated that in each organization, innovation is occurred in creating or accepting innovative ideas. So, any kind of products, service, technology, operation and new management strategies are connected to innovation and entrepreneurship process in an organization and any innovation here requires using knowledge in a special field. Tsang (1997) believes that the important point here is providing the opportunity and promulgating individual learning among the members of the organization. Organizational learning is considered as one of the required strategies to improve environmental NGOs in enviropreneurship in this research. Creating opportunities for continuous learning, enquiry, encouraging collaboration and team learning, establishing supporting systems for learning, empowering people to mass vision, connection of the organization with environment and leaders support model are the main factors determining the condition of organizational learning in an organization. By reviewing the literature, there is no research about the study of organizational learning role in environmental entrepreneurship. But some studies investigated about the role of organizational learning in innovative actions of the organization.

MATERIALS & METHODS

This research is applied one carried out by descriptive correlation method and data is collected by survey method. Statistical population of this research is including all environmental NGOs of industries in all over the country and statistical samples were extracted by random sampling and sampling formula. Finally, 51 environmental NGOs were selected among active environmental NGOs as the studied sample. The main instrument of data collection in this research is a questionnaire consisting of 3 sections as demographic characteristics; the condition of enviropreneurship with 20-item in ten-item Likert scale and organizational learning was 17 items in the form of ten points Likert scale. To determine the validity of questionnaire, content validity method and opinion

poll from experts were used. The designed instrument was at first used in the population out of pre-test statistical sample and Cronbach's alpha was applied to determine reliability and considering the acceptable values and validity of research instruments, the required data was collected. The value of Cronbach's alpha for enviropreneurship with 18 items was 0.76 and for organizational learning with 17 items was 0.97. Spearman correlation coefficient techniques were used for data processing to study the correlation relationships and logistic regression was used to study the predictive role of organizational learning variables in the development of environmental entrepreneurship. In fact according to enviropreneurship score, sample was divided to tow group with desired level of enviropreneurship and low desired level of it. Therefore logistic regression as used to identify predictor variables for distinguishing these dimensions. Binary logistic regression is a form of regression which is used when the dependent is a dichotomy and the independents are of any type. Logistic regression can be used to predict a dependent variable on the basis of continuous and/or categorical independents and to determine the percent of variance in the dependent variable explained by the independents; to rank the relative importance of independents; to assess interaction effects; and to understand the impact of covariate control variables. The impact of predictor variables is usually explained in terms of odds ratios.

RESULTS & DISCUSSION

According to the results of descriptive statistics of the main branch, most of the studied environmental NGOs were located in Tehran with the frequency of 39.22 %. Regarding the activity level variable, activity level in the country (47.06%), in province (45.10%) have the highest frequency and international activity level (5.88%) and township (9.80%) had the lowest frequency in the studied sample. From the point of the number of members, 18 organizations with 35.29 % of the studied sample had fewer than 50 members and dedicated the highest frequency to themselves. The members of the organization were averagely 253 persons. From the point of the number of branches, 35 organizations with 68.63 % of the studied sample did not have any branch. The average of the number of branches in the studied organizations was 1.73 branches. According to the variable of the number of activity years, 22 cases with 43.14% of the studied sample had above 9 years experience and the average of experience was 7.32 years that indicated the acceptable experience of the studied organizations. In Table (1), the other fields of the studied organizations other than environment are shown. Here cultural and art with 45.10 % are having the highest number of fields in the studied sample.

Table 1. Activity field of the studied environmental NGOs (n=51)

Activity	Frequency	Frequency percent
Health	9	17.65
Women issues	15	29.41
Youth issues	19	37.25
Children issues	10	19.61
Human rights	6	11.76
Religious	3	5.88
family planning	4	7.84
Cultural and art	23	45.10
Legal issues	4	7.84
Employment and eliminating unemployment	9	17.65
Without activity in another activity	9	17.65
Total	51	100

According to the review of literature, to measure the concept of environmental entrepreneurship, six main structures were used. Gathering resources for environmental activities, the activities related to improve green operation, active participation in environmental policy making, environmental collaborations, coping with environment destructive projects and environmental innovations as the main six structures were taken into attention to measure entrepreneurship.

The results of descriptive statistics show that according to CV, collaboration with other environmental NGOs of environmental collaborations dimensions were in the priority list of respondents. The activities related to improving green operation and coping with environment destructive projects were in the second and third ranks and it shows that in Iranian environmental NGOs, these entrepreneurship activities are considered more. In the final ranks we can see that collaboration with government about environmental issues were in the last rank and gathering financial resources for environmental activities and gathering human resources for environmental activities as two dimensions of resources gathering were in the last ranks. Regarding the organizational learning dimensions, some dimensions such as empowering people to mass vision, organization connection with environment and improving enquiry are in the first ranks and some dimensions such as opportunities of continuous learning, establishment of systems to achieve and shared learning and encouraging collaboration and team working were in the last priorities.

To investigate the correlation relations between organizational learning variables and environmental entrepreneurship, spearman correlation coefficient was used. The results of correlation coefficients indicate that there is significant association between

organizational learning dimensions and environmental entrepreneurship. There is significant association between opportunities of continuous learning, encouraging collaboration and team learning, establishment of systems to achieve and shared learning, empowering people to mass vision, organization connection with environment and leader's model and supporting learning and entrepreneurship at 1 % alpha type error. Also there is significant association between improving enquiry and entrepreneurship at 5% level.

By calculating the mean of entrepreneurship designed based on Likert 2-section scale, statistical sample was divided according to this score to two parts. Thus, the organizations with the mean of less than 5 were in weak condition of entrepreneurship and the organizations above mean 5 were assessed in acceptable level of environmental entrepreneurship. By creating this discrete dependent variable, logit function was used to predict the role of organizational learning variables in improving entrepreneurship condition.

Chi-square of Omnibus test of the model is calculated as 31.82 that are with significance level of 0.000 and freedom degree of 7 and it indicates that among independent variables, at least one of them is predictable. Also, Hosmer and Lemeshow using for fit-of goodness of logit function is having chi-square of 15.42, freedom degree of 8 and significance level of above 0.05. So, null hypothesis of this test is provided according to the conformation of the collected data to separate two conditions. According to the results, the estimated logit function for separation correctness is 86.3% and only 3 cases of NGOs being non-entrepreneurship in the observed condition are with entrepreneurship condition and 4 NGOs which are predicted as entrepreneurship are not indeed in entrepreneurship condition. The remaining of the

Table 2. Coefficient of the changes in the constituent variables of enviropreneurship to rank dimensions

Variable	Mean	Standard deviation	C.V.	Rank
Gathering financial sources for environmental activities	4.83	2.07	0.428	6
Gathering human resources for environmental activities	4.45	1.93	0.433	7
The activities related to improving green operation	5.43	1.73	0.318	2
Active participation in environmental policy making	4.64	1.67	0.359	5
Environmental international collaborations	4.78	2.48	0.5188	8
Collaborating with government about environmental issues	3.94	2.52	0.639	9
Collaborating with other environmental NGOs	5.24	1.44	0.274	1
Coping with environment destructive projects	4.75	1.74	0.332	3
Environmental innovations	5.52	1.92	0.347	4

Table 3. Coefficient of the changes in the constituent variables of enviropreneurship to rank dimensions

Variable	Mean	Standard Deviation	C.V.	Rank
Continuous learning opportunities	6.52	4.24	0.650	7
Improving enquiry	6.79	2.28	0.335	3
Encouraging collaboration and team learning	7.01	2.38	0.339	5
Establishment of system to achieve and shared learning	5.90	2.19	0.371	6
Empowering people to mass vision	6.65	2.12	0.318	1
Organization connection with environment	6.71	2.21	0.329	2
Leaders model and supporting learning	7.07	2.38	0.336	4

Table 4. Spearman correlation coefficient between organizational learning and enviropreneurship of environmental NGOs

Organizational learning dimensions	Correlation coefficient	Significance level	N
Continuous learning opportunities	0.465**	0.001	51
Improving enquiry	0.345*	0.013	51
Encouraging collaboration and team learning	0.453**	0.001	51
Establishment of system to achieve and shared learning	0.450**	0.001	51
Empowering people to mass vision	0.423**	0.002	51
Organization connection with environment	0.524**	0.000	51
Leaders model and supporting learning	0.558**	0.000	51

**Significance at 1% error, * at 5% error and ^{ns} no significance

Table 5. The coefficients of predictive independent variables of logit function of enviropreneurship with Wald statistics

Organizational learning dimensions	B	S.E.	Wald	df	Sig.	Exp(B)
Continuous learning opportunities	1.42**	0.537	7.05	1	0.008	4.159
Improving enquiry	-3.33**	1.175	8.05	1	0.005	0.036
Encouraging collaboration and team learning	1.51*	0.802	3.56	1	0.050	4.543
Establishment of system to achieve and shared learning	-0.259	0.309	0.700	1	0.403	0.772
Empowering people to mass vision	-1.03	0.610	2.86	1	0.090	0.356
Organization connection with environment	1.63**	0.678	5.82	1	0.016	5.130
Leaders model and supporting learning	0.767	0.419	3.35	1	0.067	2.153
Constant value of logic function	-5.05*	2.08	5.88	1	0.015	0.006

**Significance at 1% error and * at 5% error level

studied organizations are 44 cases separated according to this equation and it shows that logit function is highly precise.

According to this table it is shown that among organizational learning dimensions, continuous learning opportunities, improving enquiry, encouraging collaboration and team learning and organization connection with environment are with significance level of less than 0.05, so they enter in logit function. But systems establishment to achieve and shared learning variables, empowering people to mass vision and leader’s model and supporting learning didn’t enter logit function, because Wald statistics for these variables are with significance level of more than 0.05. According to table (5), logit function can be defined as the followings:

$$(X4)1.63+(X3) 1.51+(X2) 3.33-(X1)1.42+-5.05= \text{Ln}(p/ (1-p))$$

Where P is probability of success in environmental entrepreneurship, X1 continuous learning opportunities, X2 is improving enquiry, X3 encouraging collaboration and team learning and X4 is organization connection with the environment. As β value is not interpreted alone in logit function and we should get logarithm from the function, so exponential is used to interpret the coefficients. β Value for continuous learning opportunities is having the exponential of 4.159, for which Wald statistics is significant. This means that by one unit increase in continuous learning opportunities, the chance of enviropreneurship in environmental NGOs are increased 4 times and it indicates that among organizational learning this dimension- continuous learning opportunities is having the third role in increasing the chance that these NGOs become entrepreneurs. This value for improving enquiry is 0.036 and of its negative coefficient it can

be found that this dimension weakens the chance of being entrepreneurs in these NGOs. But this amount is very little and it can be ignored. For encouraging collaboration and team learning dimension, coefficient is 1.51 with Wald statistics of 3.56 that is significant at level 5%. So, its superiority here is valuable. This amount displayed as Exp (B) equals 4.54 and it is a considerable value and it indicates that by 1 unit increase in measurement scale of encouraging collaboration and team learning dimension, the probability that an environmental NGO is directed to being an entrepreneur, increase four times and this variable is the second variable determining the condition of enviropreneurship among organizational learning dimensions.

For organization connection with environment dimension, coefficient is 1.63 with Wald statistics of 5.82 that is significant at level 5%. So, its superiority here is valuable. This amount displayed as Exp (B) equals 5.13 and it is a considerable value and it indicates that by 1 unit increase in measurement scale of organization connection with environment dimension, the probability that an environmental NGO is directed to being an entrepreneur, increase five times and this variable is the most important variable determining the condition of enviropreneurship among organizational learning dimensions.

For leaders model and supporting learning dimension, Wald statistics of is significant at level 0.06, that is rather near significance level. This amount displayed as Exp (B) equals 2.15 it shows that by optimizing the condition of leader’s model and supporting learning dimension, the chance of achieving good indices of enviropreneurship in environmental NGOs are increased as more than double. The results of logit function indicate that organization connection with environment, encouraging collaboration and team learning and continuous learning opportunities are the most important variables determining the condition of

enviropreneurship in environmental NGOs. Indeed, leader's model and supporting learning are rather significant in increasing the chance of being an entrepreneur. Two variables of empowering people to mass vision and establishing systems to achieve and shared learning didn't show significant role in separating NGOs with higher than average entrepreneurship amount and lower than average amount and the effect of improving enquiry was very weak, but it was significant and negative. This function showed separation of 86.3 % on the studied sample and its unreal determining coefficient as used especially in logit functions, is 62% and it shows that predictability of this function in the studied population predicted 62% of enviropreneurship variance.

CONCLUSION

The mean of enviropreneurship variables showed that in the studied sample, collaboration with government about environmental issues is in the last rank and gathering financial resources for environmental activities and gathering human resources for environmental activities as two dimensions of gathering resourced among enviropreneurship dimensions are having the lowest mean. Thus, it seems that to develop the conditions of enviropreneurship in environmental NGOs, collaboration with government should be increased and this shows that government supports the organizations less in the current condition. The results indicated that 3 dimensions of organizational learning such as organization connection with environment, encouraging collaboration and team learning and continuous learning opportunities have the highest role in increasing entrepreneurship change in environmental NGOs.

So, some mechanisms that help us to achieve this level can determine the condition of enviropreneurship from the point of organizational learning. According to the mean organizational learning variables condition, it was shown that continuous learning opportunities and encouraging collaboration and team learning are in the last rank of priority. According to the results of this research in Iranian environmental NGOs, the recommendations are as the followings:

Considering the significant role of organization connection with environment that is a bilateral relationship between organization and environment, in forming enviropreneurship dimensions, it is recommended to start facilitating for members to search the environment to get the required information for entrepreneurial behaviors in the organization. Asking for the opinions of members by management is good to achieve that choice. Also, improving the relationship

between organization and the surrounding environment, especially in terms of connection with government was low that can play a critical role in forming enviropreneurship in these organizations.

Considering the significant role of encouraging collaboration and team learning dimension, this dimension should be improved. Designing the mechanisms encouraging learning between members including the value of giving information to other members, promulgating collaboration culture in the organization in the form of the definition of joint projects etc can form enviropreneurship in these organizations.

Also, considering the significant role of continuous learning opportunities in forming environmental entrepreneurship, it is recommended that by holding regular meetings with the members about encouraging learning, the required motivations will be created. Introducing the members show are continuously searching for giving ideas for more learning of other members can be a good solution. In a separate research, the role of organizational learning variables in each of the studied dimensions of enviropreneurship can be studied.

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