Examining and suggesting guidelines for improving Innovation – based Entrepreneurship in Iran

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Abstract: Supporting Innovation is one of the effective factors in rapid development of Entrepreneurship in developed countries. In an innovative Organization, presenting new products, and new production methods, accessing to new markets, and to new sources for providing raw material or other inputs, will happen. Besides, new structures for industry and developing entrepreneurship will be provided. In the First stage of the present study, library and internet research is done on economic organizations and on the developments. In the second stage a series of interviews are done according to a number of designed questionnaires. The entrepreneurs, official executives on different levels who were related to National Innovation system participated in the interviews. Consequently, by examining the existing innovation entrepreneurship in Iran and by considering the legal conditions of Innovative support based on the four foundations that are accepted by developed countries, the Guidelines for improving innovation – based entrepreneurship are proposed.

Keywords: Innovation, Entrepreneurship, Academic Learning, Industry

INTRODUCTION

Supporting Innovation is one of the effective factors in rapid development of entrepreneurship in developed countries. In an innovative Organization, presenting new products and new production methods, accessing to new markets and to new sources for providing new material or other inputs, will happen. Besides, new structures for industry and developing entrepreneurship will be provided. by examining the existing innovation entrepreneurship in Iran and by considering the legal conditions of Innovative support based on the four foundations that are accepted by developed countries, the Guidelines for improving innovation – based entrepreneurship are proposed.

LITERATURE REVIEW

"Entrepreneurship is a process in which the entrepreneur introduces a new product or a new service with brand new ideas. He creats and identifies new opportunities, or improves the production process by accepting the financial, psychological, social risks that ends to the increase of money sources and personal satisfaction and independency." (Saeedikia 2003) "Innovative activities are scientific, technical, organizational, financial, and commercial steps that are taken to attain innovation. Innovation is of 4 types: Innovation in products, in process, in marketing and organizational." (OECD2005)

Other descriptions about entrepreneurship are:

"Entrepreneurship is of great importance, because it drives the society toward technical and innovative alterations and leads to economic growth, and also converts the new knowledge to new services and products." (Shan, 2003) "Entrepreneurship besides providing occupation, can improve the quality of life, distribute the incomes in a suitable way, lessen the social stresses and increase the use of National sources." (Salazar, 2004) Mc. Land proposes a more extensive description about entrepreneurship. He believes that it is a process beyond occupation and it is a way of life in which innovation and creativity, loving the occupation, frequent effort, being dynamic, accepting risks, planning for the future, creating values, having goals, using the opportunities, looking for development, being positive are the basics of the entrepreneur's life. There is no place for failure in this life. There is always a step to go up; there is an opportunity to learn. An incomplete imagination about the reality, hesitation about the goal, are the cases that were not advantageous. In this method, money is not the main motive for economic activities but it is a criterion for evaluating success. In an entrepreneur's life, the main purpose of engagement in work and activities is satisfying a curiosity. Changing wishes to reality, releasing the mental energies and converting them to executable ideas and consequently it is creating values and every thing is affected by wishes. (Samad Aghaee, 2001)

Improving innovation was first described in 1987 by Freeman in Japan. "It is a network of organizations in public and private sectors that their activities and interactions lead to development, entrance, improvement and expansion of new technologies" (Freeman, 1995)

Another description is given by (OECD): "Innovation is creating a new or a better product or process, new organizational method in occupational trends or relations outside the organization." (OECD 2005)

National Innovation system, NIS is described in 1994 by Lundvall: "Organizations and relations that are involved in production, expansion, and economic application of new knowledge inside the national barriers."

Any National Innovation system is comprised of two parts: Organizations and interactions between them. Organizations are formal structures with a defined goal that are constructed consciously and play roles in NIS.

"Important organizations in NIS are: entrepreneur, universities investment organizations, Governmental organizations related to innovative and competitive policies, laboratories and research centers." (Manteghi 2001)

"Interactions are collections of shared habits, laws and regulations that regulate interactions between people, groups and organizations and they are actually the rules of the game in NIS." (Edquist, 1997)

The followings are involved in NIS:

- Governments as the legislators of innovation policies.
- Connecting Organizations (facilitators) that act as a medium between the government and the research executors.
- Private centers and research institutes (R&D)
- Universities and the related organizations (growth centers & technology parks) as the providers of key knowledge and skills.
- Other private and public Organizations

The subjects are legislative organizations like Islamic parliament, the government, Ministry of Science, Research and Technology – Ministry of industries and mines, functional organizations such as centers that offer material and non material facilities, Research and development centers innovation users like industrial, engineering sectors.

MATERIAL AND METHOD

The present study is classified as an explorative analysis research; the researcher uses questionnaires as a tool to evaluate the efficacy of the performed experience. Therefore, according to data collection it is a peripheral research. Since the results will be generalized, it will be applicable.

The major tools used for data collection are firstly questionnaires end secondly library sources i.e. documents, books, articles, dissertations, internet sources and also organizational documents.

Basic Principles of Entrepreneurship and Innovation: In recent societies, university, Industry and government not only keep their independent structures but also they enter each others zones, therefore some over lap will happen

in their duties and responsibilities. (Etzkowitz, 2000)

In fact universities, industries and Government will experience a change in their responsibilities. For instance besides their instructional and investigational duties, universities will attend more and directly in Technology development and technological innovation. In this regard new university related organizations and networks are being established. According to the capabilities of the universities as centers that produce and expand knowledge, also as an entrepreneur center they play an important role in industrial innovation and technological development. (Gibbons, 1994)

Generally, the expansion of the role of knowledge in society and the development of the role of university in economics. The relation between university, Industry and government is analyzed according to triangle spiral relations.

"When university, Industry and government cooperate in university researches, there will be a network of spirals. By the coordination of these three centers, beyond the ordinary instructional and research duties of the universities, entrepreneur universities will be formed. In this economic development basic knowledge and systematic innovation production will be formed increasingly." (Etckowitz, 2000)
"In this process, if a part of academic innovations is applied by the use of research and development budget and the help of government through the facilities of incubators, one stage in making entrepreneur center will be met." (Klofsten, 1999).

"According to the classification of the NIS performance based on OECD i.e. the basic principles of study of NIS in many countries the major duties of NIS are as follows:

1- Making the policy of innovation
2- Facilitating, leading and providing money sources for research and innovation.
3- Providing the necessary knowledge in innovation and technology process.
4- Promoting technological entrepreneurship.
5- Expanding the technology
6- Developing and promoting human resources.
7- Producing goods and offering services" (Freeman, 1987)

In the present study one hundred interviews were performed based on the designed questionnaires on the aforementioned issues. The interviews were done by the experts in public, private and governmental organizations. To see the statistical sample and getting familiar with the educational and professional backgrounds of the subjects the frequency chart of these variables are presented.

The results of this part can present the personal characteristics of the repliers and if necessary can investigate the effect of each of these characteristics on the view of the repliers based on each variable in this research. Table 1 shows the occupation of the repliers and the educational level of the

repliers of the first questionnaire is shown in table 2.

The occupations of the repliers of the second questionnaire comes in table 3and the level of education of the second questionnaire repliers is shown in table 4.

According to the research, the present situation is as follows:

1- The parliament has approved the law of supporting knowledge- based companies, Commercializing innovations and inventions in 2010. In this law the role of innovation companies, the supreme council of science of science, research and technology banks and innovation centers (which will be inaugurated in 2013) is defined. This law has not mentioned anything about innovation in other companies and private and public centers. (Islamic parliament 2010)
2- According to the law of registering the inventions approved in 2007 by Islamic parliament, the production of new goods or new procedures has been mentioned. (Islamic parliament 2007)
3- The council of science, research, and technology which is supported by the ministry of science, research and technology has the following responsibilities: making the policy, programming, pursuing the law of supporting the knowledge – based companies and commercializing innovations and inventions. It does not cover the other types of innovation classified by Oslo 2005. (Islamic Parliament 2010)
4- The supreme council of science, research and technology has the responsibility of innovative policy making. (Islamic parliament 2010)
5- There is no organization that includes the government, university and industry with the responsibility of creating harmony in the basics of innovation.
6- According to the law of registering the inventions, the office of industrial ownership, covers the registering innovation in production of new products and new procedures. It does not cover the other two types of innovation.
7- The support of regional centers like the office of a governor general and municipalities toward innovation is considered to be average.
8- There are no institutes that officially register and market the ideas and investigated findings.
9- The demand of industry for giving research grants in higher education section is considered to be weak.
10- There are a few centers for transferring technology and anticipating technology with the cooperation of University and Industry. This cooperation is considered to be weak.
11- The potential of Iranian companies for starting production and commerce in global scale is considered to be fairly good.

12- The safe, quick and applicable IT network sub-constructions are considered to be weak.

13- The existence of centers for development and technological localization in small and medium industries like RTO (Research and Technology organization) is considered to be weak.

14- In Iran women tend to enter the universities and go on for higher education more than men. This potential is applicable in laboratories and research centers.

15- The population pyramid is considered to be young in the next 10 years.

16- The information network based on technology information for facilitating access between researches and the people, who seek innovation, is considered to be weak.

17- The way and procedure the industry demands innovators and researchers are considered to be average.

18- The interaction between the people who demand innovation in industry and research and innovation providers in universities and industry is considered to be average.

19- The idea of team work between different scientific, industrial and research groups is considered to be good.

20- The university potential for supporting the innovation and research is considered to be strong.

RESULTS

Result 1: We conclude that the existence of the law of defining the basic principles of the national innovation system and the existence of the supreme council of innovative policy is confirmed, but the law of registering innovation spiritual ownership and the level of effective policy making related to innovation in related organizations and the accordance of the innovation plans with the 20 years future strategy are not confirmed.

Result 2: There are related organizations that offer material and non material facilities for research and development of innovation, but these places are non coordinated and not effective. In other words, the extent of support the municipality and the office of governor general offer, the level of support banks and investment centers offer, the existence of companies that maintain research findings and offering research grants to innovators are considered to be insufficient and not effective.

Result 3: We can conclude that the qualification of Iranian companies for entering the global commerce and the effectiveness of the centers for developing small industries and applying women in expanding innovation and the role of youth in developing innovation are excellent and ideal. But in the following cases they are considered to be weak: the existence of centers for transferring the technical knowledge which is common between university and industry, the practicality level of transforming technology to Iran, the level of ICT substructures in the country, the level of social learning in the country , the role of globalization

in development and research, the level of utilizing the results of R&D centers and also the facility of importing modern technology from other countries.

Result 4: We can conclude that the users and innovation providers can not easily access to data bases through IT network.

CONCLUSION AND DISCUSSION

In order to have a knowledge – based society and according to the present research done on different levels of national innovation system of Iran, and based on a classified study of the economic cooperation organization and development in relation to national innovation system and other cases that are mentioned in this study, there are some suggestions for improving the national innovation system and improving entrepreneurship:

1- Rectifying the law that supports knowledge based companies and commercializing innovations and inventions that was approved in 2010 by Islamic parliament. (In this law the role of innovative companies' supreme council of science, research, and technology, ministry of science, research and technology, banks and innovation centers are defined.) In a way that supports innovation in all private and public companies and centers.

2- Establishing an organization that involves government, university and industry by the purpose of providing coordination between basic principles of innovation and entrepreneurship development.

3- Rectifying the law of registering the inventions, in a sense that it covers the registration of innovation in production on new goods and new procedures and also covers organizational and marketing innovation as it is done in industrial ownership organization.

4- The support of regional and local centers like the offices of the governor general and municipalities from innovation and entrepreneur ship should be enforced.

5- The ground for registering institutes for officially registering and marketing of ideas and research findings should be provided.

6- The demand of industry for offering research grants in higher education sector should be reinforced.

7- There should be centers for transferring technology and anticipating the existence of a strong technology by the cooperation of university and industry

8- The safe, speedy and applicable substructure of IT network should be reinforced.

9- Centers for developing and localizing technology in small and medium size industries like RTD should be developed.

10- An information network based on technological data – bases should be developed to facilitate access between researchers and innovation supporters.

11- The way and the procedure through which industry demands the innovators and researchers should be improved and developed.

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ABBREVIATIONS

OECD: Organization for Economic Co-operation and Development

R&D: Research and Development

ICT: Information and Communication Technology

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Table 1. The frequency of occupations.

Occupation	Frequency	Percent
Governmental and private sector's experts	45	91.8
Members of parliament	4	8.2
Total	49	100

Table 2. The frequency of the participants' level of education.

Level of education	Frequency	Percent
Bachelors degree	16	32.7
Masters degree	27	55.1
PhDs	6	12.2
Total	49	100

Table 3. The frequency of occupations

Occupation	Frequency	Percent
Governmental and private sectors' experts	50	96.2

Table 4. The level of education frequency

Level of education	Frequency	Percent
Bachelor degree	20	38.5
Master's degree	28	53.8
PhDs	3	5.8
No answer	1	1.9
Total	51	100

Members of the parliament	2	3.8
Total	51	100