Evaluation and Feasibility of Establishing Knowledge-Based Companies in the SID (Case Study: SID of Eastern Azerbaijan Province, Iran)

Zainab Rouhani¹, Najaf Gharachorloo²

ABSTRACT: The Present study investigates the creation of knowledge-based companies in the SID (SID Case Study of East Azerbaijan province) at the city of Tabriz. Knowledge-based companies, can be the interface between industry and SID as transforming ideas into technology centers. They also can survey research works with their various professionals and experts and offering advance ideas to the industry of the country. Today increasing of global competition has taken the opportunity of fundamental research for many industries. So many companies have only needed to carry out critical research. Global communication, public knowledge, and effective acquisition knowledge have destroyed the necessity of researching and creating the new ideas and the importance of innovation because of their economic benefits. The main objective of this study is the feasibility of establishing knowledge-based companies in the SID (Case Study: University of East Azerbaijan province). Therefore, after a comprehensive review of the literature on the subject, knowledge-based companies have been used in order to collect any data for measurement tools to assess the feasibility of establishing. The statistical population in this study, include all managers and experts of SID (Case Study: University of East Azerbaijan province) in the city of Tabriz. The sample size include 167 people. The results showed the possibility of establishing knowledge-based companies in the SID (Case Study: University of East Azerbaijan Province) at the city of Tabriz.

KEYWORDS: Feasibility, knowledge-based companies, SID, city of Tabriz

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1. **INTRODUCTION**

Today One of the most important and valuable assets of any organization is its knowledge. Because of rapid changes and developing of knowledge and information, every organization have to survive on its own efforts in knowledge management. Therefore organizations have identified and prepared some factors to create knowledge-management so that they can use the utilization and environment of knowledge on time. In the 17th, with the rapid development of high technologies in the world, especially in the fields of communication and Laptop, the pattern of global growth has been changed fundamentally and since 19th, knowledge has been used as the most important investment Alternative of monetary and physical capital (Chen & Xie, 2004).

"Knowledge-based Companies And Institutions”: they include corporate or private institution and cooperatives with the purpose of synergy between science and wealth, developing knowledge economy, scientific and economic goals (including the development and application of Invention and Innovation), also as the commercialization of research and development (including design and production of goods and services) in the field of high technology and high value added, particularly in productions related to software (Regulations of the competency of knowledge-based companies and institutions, 2013). The feasibility of a study is a rudiment to determine the likely success of the project, before it begins in the real world. (Gunson & Blasis, 2011, 201). Each project must be implemented from different perspectives including financial, time, human resources and technically which is called feasibility of the study. This process is to ensure that organizational capabilities will achieve desired results. It is clear that some factors include: money, time, and resources are required to operate a project well, as the decision will be paramount and the need of feasibility study will be more critical. Because risk factors are high in risky projects and sometimes organizations have financial burden so that the project should lead to its dissolution tolerantly (Ashraqnya et al., 2012, 23).

According to Economic Theory and Economic Growth, knowledge-based companies are as the motor of economic growth, therefore job creation is one of the important Achievements of entrepreneurship. Now, in the global arena, the wheels of economic development has always been driven by the development of entrepreneurship. Of The importance of knowledge-based companies suffice to say that during twenty years (1980 - 1960) in many Third World countries (India) 500 entrepreneurial. Institutions have started working And even much of the corporate of the world solve their problems by switching to knowledge-based companies. (daljoy shahir, 2007). Knowledge based firms, the firms’ knowledge-based economy, and plays key roles in the structure of this type of economy. (jabary pour Harris, 2013, 67). Knowledge based firms, according to their characteristics and the dynamics and adaption to the environment and flexibility, have the capacity to deal with sanctions. As well as more equitable distribution of wealth, based on meritocracy in such companies large influence on economic justice, and on the other hand, due to the stronger of the company, compared to traditional companies, increased productivity and efficiency of state-owned companies will be granted. (Nazaman and Islami Far, 2009, 21) Knowledge based firms have been chosen as a way to replace oil revenues (Speech by Iranian Supreme Leader meets students, August 7, 2012).

The importance of relations between science and technology integration of science and industry, The emergence of science-based industries, using science as a method for the development of competitive advantages on the part of companies and also globalization of economy and the internationalization of technology are some of the common reasons that justify common communication between companies and Research organizations (Myarklayy Samadi et al., 2012, 28). There are strong links between universities and industry which one of the most essential applications is in the field of public knowledge. And one of the most important tools to achieve this, is the creation of knowledge-based companies in the SID. (Shafi Zadeh et al., 2012, 9).

(SID) is a suitable for creating knowledge-based companies in universities. SID can be used as a driving force and pioneer in the field of research results into production and sell. In addition to money, it plays a special role in solving the problems of youth employment and development of the country. SID is a bridge between academia and entrepreneurship.
SID of the great thinker and intellectual capital and faculty. Unfortunately, most faculty members cannot be successful in producing and selling research results appear. Therefore, the creation of knowledge-based companies in the SID can provide the basis for the commercialization of science and technology.

2. LITERATURE REVIEW

Golabi and colleagues (2012) in an article entitled "Conceptualization of marketing in business management process knowledge based on science and technology parks in Arak," studied the concept of marketing management in knowledge-based businesses in Arak Science and Technology Park and in this study qualitative approach, case study strategy and plan consisting of open questions with knowledge-based business owners, in form of Semi-structured and deep interviews in the way of Purposive sampling are used. Although data analysis are used for qualitative content analysis of the findings which suggest that the process of marketing management in businesses surveyed in seven successive stages.

Eid Mohammad Zadeh and colleagues (2007), in an article with title "Evaluation of the knowledge economy by using mathematical programming model", measured the efficiency and ranking of selected countries. The results indicate that with the default efficiency fixed to scale, Turkey, Bahrain, Jordan, Syria and Kuwait among the selected countries from the worst performance and Iran is among inefficient the countries and for increase if the performance of the country it must use turkey as a pattern.

Mousavi et al., (2013) in an article entitled "The impact of intellectual capital on performance of knowledge-based companies" focused on examining the impact of intellectual capital on performance of knowledge-based companies of the Science and Technology Park at the city of Bushehr. The results showed a significant positive impact on Enablers and this affect the performance knowledge-based companies in the Science and Technology Park in Bushehr.

Volek et al. (2007), in an article entitled "Intangible assets: The importance of the knowledge-based economy and its role are cleared in the value creation of a company " explore the question of how important Intangible Assets (IA) in today's knowledge-based economy have been assigned responds. The main objective of the study is to define the influence of fundamental value of both tangible and intangible assets in the market value of the assets in Russian companies as a general approach used here for assessing IA. The present study focused on both the analysis of the sample companies (43 companies) as a whole and also divided into five areas gathered there: Mechanical engineering, mining, engineering, communication services, and metallurgy. Some suggestions for IA management in Russian companies are presented in the article.

Kimball et al., (2006) in an article entitled "knowledge management system of re-evaluation" reassessed the role of knowledge-based systems (KBS) in Knowledge Management (KM). While knowledge-based systems and expert systems were widely used in the past, in the late 1980s lost their effectiveness. In this article argues that several factors have been changed and now is the time to assess the share of that system based on knowledge management to create knowledge.

3. THEORETICAL FRAMEWORKS

3.1. Conceptual definition of knowledge-based companies

No accepted definition of industry knowledge-based or knowledge-based businesses there. Although it seems a deal that knowledge-based companies have a high proportion of intangible assets and rely heavily on innovation as a competitive source there. Although there is little agreement about the definition of knowledge-based business.

Knowledge-based companies, are corporations and law firms which set up knowledge-based businesses in order to stable conversion of knowledge into formed wealth and economic activities along with research and development in the field of modern technologies and to develop knowledge-based
economy in the society. Business knowledge is a private legal entity generally the most important asset is its intellectual property. In the knowledge-based businesses, research and development is not a point once and for all; But a continuous and dynamic process (Felsenstein, 2013, 2009). In knowledge-based Business, Explaining and modeling the production of knowledge (research and development of new knowledge), knowledge Enrichment (education, culture and human development) and knowledge transfer (dissemination of knowledge and innovation) must be focused. In this type of business, knowledge is divided into different types based on Type of knowledge, knowledge of why, know-how and those who know it.

3.2. Knowledge-based companies
According to Gridinges (2005) and Davis (2009) Science and Technology Parks as a supporting infrastructure by establishing the necessary conditions for the development of knowledge-based companies and technology-based new enterprises and reduce their risk, support creative people with innovative findings. The main mission of science and technology parks support enterprises and institutions of knowledge and technology, to develop technologies and knowledge and knowledge creation and new technology. Knowledge-based businesses play an important role in the production effectiveness, the crystallization of knowledge in new products and services, promote economic and social welfare and wealth creation and value of a play. And move toward innovation and change in the composition of products and services in the territory of a knowledge-based companies are active STI policies. The more businesses from other companies with emerging changes in the business environment and to survive in competitive environments are trying to keep pace. (Gridinges, 2005; Devies, 2009). According to Clark (2014), if knowledge-based economic firms use more knowledge in their structures, their value will be added. Knowledge based businesses are companies which are active in competitive environment with knowledge creation and innovation to create value (Clark, 2014, 101).

According to Sveiby (2013), value creation for customers and its management is one of the key factors of success and survival of these companies. Also these companies play an important role in explaining and modeling of manufacturing processes, research and development, scientific and technical enrichment, education, education and human development, knowledge transfer and dissemination of innovation in each country. (Sveiby, 2013, 28). Due to the rapid changes in the field of science and technology makes increase of knowledge-based businesses products and technologies and yet these products are quickly outdated and out of competition, as a result of sustained knowledge-based companies in the product development process, enhance knowledge and attention to factors affecting business performance management are necessary and inevitable.

Albino et al (2014) Mudambi and Agarwal (2013) Studies shows this fact that these companies will use knowledge and information to give an appropriate response, to keep pace with the acceleration and changes in the market environment factors, as well as the tastes and needs of customers. (Albino et al, 2014, 4).

Allocation and application of knowledge in the company to develop core competencies such as innovation, skills, and the field of specialization, communications, marketing and industry coordination with different capabilities have been offered below

Table 1: allocation and use of knowledge to improve the ability of business knowledge

<table>
<thead>
<tr>
<th>Capabilities</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Innovation</td>
<td>Rapid introduction of advanced products and services</td>
</tr>
<tr>
<td></td>
<td>Rapid introduction of advanced technology and vital</td>
</tr>
<tr>
<td></td>
<td>Determination of the unique characteristics of innovative products and services</td>
</tr>
<tr>
<td>Skill</td>
<td>Providing services based on the unique skills of knowledge workers</td>
</tr>
<tr>
<td></td>
<td>Wisdom and practical insight in professional services</td>
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<td></td>
<td>Intellectual Asset Management</td>
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</table>
3.3. Characteristics of knowledge-based companies

According to Gorman and McCarthy Most banks and government agencies have agreed that businesses have the knowledge of some of the following features:

- High skills;
- Higher Education Task Force;
- A high level of research and development;
- Tendency to export;
- A high percentage of intangible assets;
- Short lifecycle products and services with high gross profit margins

In addition, knowledge-based businesses are the base of most advanced technology and innovative processes in products, services or their processes (Gorman & McCarthy, 2014, 76). Knowledge-based companies have the characteristics of such new ideas (idea-driven), commercial potential and competitive viability of the idea, (Smolen et al, 1995, 28). Accordingly each of these features will be discussed by following:

3.3.1. New ideas (idea-driven)

Experts have different views about ideas, including the idea which produce goods price for its resources (Smolen et al, 1995, 28). On the other hand we believe that the idea has some guidance for developing innovation and global competition to accelerate organizations (Deichmann & Ende, 2009, 17-19). Introduction of innovative ideas and production process of new ideas are important sources of innovation within the organization (Sandstorm & Bjork, 2008, 18). However using the assets of a knowledge-based as a competitive advantage, Profits as a result of the commercialization of new ideas and innovations are the result of the interaction of physical assets and knowledge capital, and include human capital, structural and relational. Thus, the founding director of knowledge are well aware that corporate knowledge assets, increasingly play a more important role in the survival of the business. (Mirkamali et al., 2011, 65).

3.3.2. Commercial potential of ideas

Creating platforms for knowledge, in addition of providing economic value for companies, leads to economic growth and technological society. Since delivering a product to market can guarantee the success and survival of the organization, commercialization has been proposed as a vital factor (Ammani Tehrani and ahmd Amini, 2010, 34). The sources of knowledge commercialization, commercialization of multiple definitions are provided. Commercialization in Herat culture means the application of business practices in order to profit. From the perspective of the transition process and become one of the researchers, commercialization of knowledge produced in research centers in a variety of business activities is considered (Chiesa & Piccaluga, 1998).
Commercialization is the conversion process of technology to economically successful products (Reame & youtie, 2003). Commercialization is a process which converts produced knowledge into marketable products. (Yadollahi & Talebi, 2009). The process of technology commercialization is not simple and linear, but it is a complex task that multiple players with different abilities play a role in it. When this process takes place, marketable wealth is obtained (Hasheminia et al., 2008).

3.3.3. Opportunities
Not only opportunities is the first base to produce the goods and services which offered in the future, but also creates opportunities which are not sustainable and do not last forever. One of the characteristics of entrepreneurial organizations, is their opportunity-seeking who are constantly seeking for the opportunities in the near and far. Schumpeter divided it into five groups: opportunities which dispose of creating or discover raw materials, new methods of production, and new ways of organizing, new product innovation and conquer new markets (Reame & youtie, 2003, 3).

3.3.4. Ideas, creativity and innovation
Creativity focuses on ability, not activity. The person may bring a new idea and how to use it, but do not do necessary act to turn it into a reality. Creativity is the primary prerequisite for innovation and ideas do not value themselves, unless a product, service or process is new. (Mirkamali and shoja, 2010, 43).

3.3.5. Business plan
Business plan is a written summary of the entrepreneur's proposed activity, including operational and financial details, opportunities and marketing strategies and the skills and abilities of the manager. One of the most important steps in starting a new business is plan business. Business plans, cause business ideas and thinking about problems which can be monitored by performance evaluation. (Sandstorm & Bjork2008,22).

3.4. knowledge-based economy
In the last two decades of the twentieth century, economic theorists such as Paul Romer, Machlup and Drucker predicted the new economic era in which knowledge is the main source of wealth. Thus, as a permanent source of knowledge was always available to firms and frequent participation in various production and service processes, increase competitive advantage and create added value, which can lead to social welfare and reduction of poverty and injustice and to promote the sustainable development process. Therefore it can be concluded that the very prominent role of knowledge and training in achieving the goals of development and its relationship to sustainable development is inevitable. In the present era, the so-called knowledge-based economy or knowledge economy by the Organization for Economic Co-operation and Development (OECD) about particular emphasis on the development strategy of the United Nations, indicates emphasis on the role of science and technology in the development of the economy; Therefore we can say that in the knowledge-based economy to the knowledge of qualitative and quantitative are considered more important than the past. (Nazamian and Islami Far, 2010, 3and 4).

Organization for Economic Co-operation and Development, Defined Knowledge Based Economy in 1996 as the economy which is directly based on the production, distribution and use of knowledge and information. In addition, the organization stated the definition of investment knowledge, knowledge distribution through formal and informal networks is essential for economic performance. Increasingly knowledge of computer and communication networks in developing and transition to an information society by nature. The knowledge-based economy could be defined as economy in which its economic production, distribution and use of knowledge are the most important Driving of the growth, wealth creation and employment in all industries (OECD, 1996:7).

3.5. knowledge-based economy in Business
Knowledge-based economy generally used in organizations and the private sector; and Refers to the use of knowledge to produce economic benefits. In other words, economic production and exploitation of knowledge play a significant role in wealth creation. Knowledge-based economy refers to the way
in which trade with high technology, especially computer software, communications and virtual services are performed. In addition, independent research and educational institutes can participate in the economy of a country or with the help of them, other economic sectors can operate more effectively. Knowledge-based economy could apply to a series of economic activities, including the application of knowledge in the production process. (azimy and bakhordary, 2008, 33).

Among the reasons for the transformation of industrial production increased attention to the issue of knowledge-based economy, changing consumer preferences, the need to increase efficiency, and economic globalization is intensifying global competition. The major benefits of the knowledge-based economy, decreasing the problem of scarcity, the institutionalization of intellectual property rights, positive externalities knowledge, different competition in the knowledge-based economy, Ease and abstainer of knowledge mobility, economic agents access to more complete information, increasing the speed of obtaining and attract leading-edge technology, tend to use advanced technology in businesses, expanding knowledge and extensive market (jabary, 2006, 5).

Processes of knowledge production, distribution and transmission and application of knowledge-based economies are four basic processes. Volume, relationship of these processes distinguish modern economies from traditional economies. In traditional economies the volume of these processes is limited and relationship between them is linear i.e., first knowledge is produced and then distribute and transfers and finally uses. There is no direct relationship between the use of knowledge and its production. But an indirect one-way relationship that is formed by the transfer of knowledge is not a guarantor of any dynamics (Emadzadeh and Shahnazy, 2007:151)

In any economic system knowledge assets inherited from past efforts. However, in order to become innovative products, assets must be linked together. This target if the new methods of development and the acquisition and dissemination of knowledge are combined can be attained. In other words, the vision system knowledge-based economy only if the organizational environment, economic and regulatory support for the acquisition, use and develop their knowledge, creativity and realized that in turn creates incentives for innovation. Identification of the key players is essential to understand the knowledge-based economy. Three principal actors have been identified by researchers in the knowledge-based economy. Activities such as production, development, distribution and accumulation of knowledge is often assumed that activities such as research and development to discover new knowledge and ideas takes place.

3.6. The role of industry in creating a knowledge economy

The role of industry in the knowledge economy is promotion and cooperation Search for learning and communication development in order to provide complementary assets. These interactions the industry for distribution of costs and risks associated with innovation can help. Industry with product development and new methods determines what activities can be done independently, what activity requires cooperation with other organizations or activity requires government support. The government is also required to provide economic incentives, legal and necessary infrastructure and support to facilitate the interaction between universities and industry. So that the resources, expertise and capabilities of different parts can be used for the positive development of advanced goods and services. (Heng, et al 2012:532)

Knowledge-based economy aspects of trade, economic structure, productivity, change management, etc., and has features like trade liberalization and globalization of trade, communication and information technology, knowledge management, changes in economic structure, change in location and resources work, increasing choice for consumers, small business and electronic government (Emadzadeh and Shahnazy, 2007, 65).

4. Research Methodology

In this study, using a questionnaire collected information is required In connection with the feasibility study and creation of knowledge-based companies in the SID (Case Study: University of East Azarbaijan Province). This research has a practical purpose and the most descriptive - analytical
technique that is in the field of human resources management issues in government agencies concerned. The method used in this study is Descriptive and analytic technique in which in order to the economic and financial evaluation, To obtain the various economic indicators to evaluate the project, specialized software Comfar and standard computer model to analyze this issue (adopted by the United Nations Industrial Development Organization (UNIDO) and have been used.

5. THE AGGREGATION MODEL VALIDATIONS OPTIONS

Rankings formula feasibility options

$$RAF=30-\lceil INT (EF/5)\rceil INT (TF/5)\lceil INT (OF/10)\rceil (EF+ TF+ OF)$$

Partial operational feasibility model:

$$EF= 4*FM + 2*T + Q2M +$$

$$FM= (P\lor Bp) \land (Ic) \land (Tc \lor Mc)$$

$$TM= L\lor ((BCD \lor Bp) \lor (PCD \land PC)$$

$$PM= Ond \land Es$$

$$PM= Pd$$

Minor technical feasibility model:

$$Tf=Q2M + 4*Em + RMM +$$

$$Q2M= (Ir \lor Cd) \land (Al \lor Oa) + AMd$$

$$Em= (Oc \lor Lc) \land (Sc \lor Hc)$$

$$RMM= (PRD \lor BRd)$$

$$PM= EP$$

Minor economic feasibility model:

$$OF= 2*Q2M + 4*RMM + HM + 6*FM$$

$$Q2M= GSD \land US \land (PD \lor SC$$

$$RMM= (URD \land MRd)$$

$$HM= (IH \lor VH)$$

$$FM= OC$$

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6. RESEARCH FINDINGS

69 people were less than a bachelor (41% of the sample), 79 bachelor (47% percent of the sample), 19 higher than bachelor (12% of the sample), respectively. Most of the people had bachelor's degree (79) people, it means forty-seven percent. 51 people (30% of the sample), were 40-30 years, 43 people were (26% of the sample) 40 to 50 years, 42 people were (25% of the sample) and 50 people were above age 31 (19% of the sample) is 30 to 18 years.

23 people (14% of the sample) were under 5 years, 67 people (40% of the sample) were from 5 to 10 years, 77 people (46% of the sample) were more than 10 years, respectively. Group work experience mode variable is more than 10 years.

7. DISCUSSION AND CONCLUSION

The comparison of these results with other studies and the production of knowledge and theories of literature research and field cases can be presented as follows: International authors such as Emadzadeh and colleagues (2010), Eid Mohammad Zadeh and colleagues (2007), Pearson and colleagues (2012), the Taliban et al., (2013), Mousavi et al., (2013), Kimball et al., (2006), and foreign researchers as Vlkv et al (2007) examined the creation of knowledge-based companies in the service organizations. Their results show that the creation of knowledge-based companies studied are effective in organizations. Each project must be implemented before from different perspectives including financial, time, human resources, technical and monitored and the so-called feasibility study. The target population in this study, are all the managers and experts of SID (Case Study: University of East Azarbaijan Province) in the city of Tabriz. The number of population in the year 2015, 167 of which the information was collected using a questionnaire. So given that in the present era, we need to seek mechanisms that teach us how to convert ideas into products and to accelerate the process of transforming knowledge into wealth. Knowledge-based companies as transforming ideas into technology centers, can be the interface between SID, various industry professionals and faculty research work that they have done and the ideas advanced by the industry. The results showed that there is the possibility of establishing knowledge-based companies in the SID (Case Study: University of East Azarbaijan Province) in the city of Tabriz.
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