Entrepreneurship in Sustainable Development

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Abstract: The concept of development is one of the most important and controversial issues or challenges particularly in developing countries. The attainment of sustainable development through entrepreneurship is a model recognized worldwide as the driving engine of sustainable development. The aim of sustainable development is permanent development of human capabilities, thereby compensating for the lack of other capabilities. Clearly, a key and strategic mean to this end is to develop entrepreneurial universities. An entrepreneurial university is one that focuses on the generation of knowledge and the expansion of the borders of human knowledge to respond to the educational, research and technical consultation needs of the environment. By encouraging creativity and developing methods of wise thinking, it contributes to the identification, formulation and resolution of the problems whether individually or collectively and, this way, prepares the ground for sustainable development. Academic entrepreneurship involves laying the groundwork for the development of innovation among academia, commercialization of academic research results and development of economic and entrepreneurial activities. Accordingly, the aim of the present study is to elaborate on the importance of universities in sustainable development and the way they affect it and also provide an explanation for the structures required to meet the criteria for entrepreneurial universities.

Key words: Entrepreneurial university, sustainable development, academic entrepreneurship, creativity, human capabilities.

INTRODUCTION

Knowledge has become increasingly important in stimulating innovation and reviving the industry and is the focus of attention of university professors, firms and policy makers. Knowledge-based entrepreneurial firms are the ones competing entrepreneurially in innovative industries based on their competitive advantage, i.e. their capacity for exploiting and promoting the financial and intellectual capitals. In this context, universities are regarded as a valuable source of knowledge on which the technological innovations are based (Bonardo, et al., 2007). Universities are considered a key component of the innovation formula in knowledge-oriented societies. They produce profitable knowledge and transfer it to the economic system. Today, the promotion of technological innovation is a crucial requirement in governments’ policies for the development of innovation systems, the conceptual basis of which is dependent on the interaction among the university, industry and government. Among all SMEs (Small and Medium Enterprises), technological SMEs, although being the riskiest, carry the highest economic potential and universities as the knowledge producers enjoy a pivotal role in developing such SMEs (Gassol et al., 2007).

The missions of the university in the past involved just “teaching” and “research”. Regarding the changes happening in the international environment as well as in the relations among the three main operators in national innovation systems (industry, government and university), the universities have presently taken on a third mission, namely academic entrepreneurship and involvement in the economic and social development of societies (Etzkowitz et al., 2000). Iran has numerous universities and the Iranian society has a really high potential to make use of these potential resources to boost national development. Interactions with the elites and academia and exploitation of the scientific capacity of universities as well as, particularly, the interactions of the industry and companies with universities, however, seem to have been given little attention. With regard to the importance of this issue, the present research aims to provide an explanation on the significance of entrepreneurship and how universities can have a positive effect on entrepreneurship, and study the required structures to determine the criteria for entrepreneurial universities.

Concepts and Definitions of an Entrepreneurial University:

Below come some important definitions offered by some scholars:

Clark (1998)’s definition of an entrepreneurial university is twofold:

First: a university which endeavors actively to create innovations in business and affects the formation of the
future of the society.

Second: an innovative university which is a risk-taker and developer of entrepreneurial behavior.

Kirby (2002), introducing such a university as the heart of entrepreneurship, maintains that this kind of university enjoys innovation, cognition, opportunity making, risk and the ability to tackle challenges.

Etzkowitz (2003) writes as universities train the students, educate them and make them ready to attend the university, the entrepreneurial university is a growth center that supports the faculty members as well as students to establish new intelligent, business firms.

**Mission of the Entrepreneurial University:**

Given that participation is essential for progress, it is a necessity that the university participate as the key institution in the promotion of entrepreneurship.

As far as the concept of an entrepreneurial university is concerned, such a university is to determine its mission based on three factors: teaching, research and society.

Teaching should be based on research which, in turn, is dependent on the needs of the society.

The labor market is changing; the younger generation should learn the new values.

The university can get involved in entrepreneurial activities in two ways:
1- By designing the educational programs in such a way that prepares the students for establishing companies.
2- By participating in the activities in which the students deal directly with the company.

**Characteristics and Functions of an Entrepreneurial University:**

The characteristics include:
1- Investment; scientific progress is achieved through knowledge, and investment in knowledge lays the grounds for development, so knowledge performs a major role in society.
2- Mutual dependence; the entrepreneurial university interacts with the government and industry and is not completely independent of them.
3- Independence; the entrepreneurial university is a fairly independent organization in terms of providing services, patents, etc.
4- Bipurposeness; achieving independence and releasing the tensions between the closely related issues are the two goals that provide the incentive for the establishment of a bipurpose organization.
5- Flexibility; while interacting with the government and industry, the university undergoes self-recreation.

**How Universities Grow Entrepreneurial?**:

The way universities become entrepreneurial is open to discussion. There are five key factors to this: 1- a flexible structure, 2- a consistent entrepreneurial culture, 3- a constant interaction with the environment, 4- a common and unified outlook and forward-looking strategy, and 5- the consideration of manpower.

**Entrepreneurial University and Social Capital:**

Social capital which is among the main elements of a society is a new concept in social sciences. There cannot be only one possessor for the social capital; in other words, the social capital can be claimed to exist only when there is collective ownership. It is of various aspects including social trust, socio-cultural values, social security, social involvement, and social awareness, cognition and cohesion.

**Effects of the Entrepreneurial University on Sustainable Development:**

In the past, some researchers disapproved of the relations with the university believing interaction with universities would lead to less dynamicity and risk-taking than other entrepreneurs and finally to too low growth (Doutriaux, 1987). Establishing companies is dependent on universities in educational as well as research and innovational terms. The practicability of ideas in the market depends on the existence of active academic institutions, supportive institutions of ventures, talented managers and a range of collaborations among companies (Cuervo, 2005). Some universities and research institutions have developed internal support systems. These systems involve such activities as the management of research contracts, protection of the intellectual property, negotiations over licenses and supporting independent companies. The development of such systems and procedures is in line with the support and encouragement of knowledge-based entrepreneurship that is undergoing a change from being individual and accidental to social and organized (Moray and Clarysse, 2005). The link to the university can have great effects on companies’ strategies. This link provides the companies with lots of benefits and resources. Access to knowledge and innovation sources and also to the physical resources like university libraries and laboratories are some of the major additional benefits. Moreover, new windows have been opened by universities through which flexibility of universities in carrying out research and development (R&D) activities will improve and, in the meantime, the costs of technology development will
reduce. Affiliation with universities will foster cooperation with other research institutes, resulting in information sharing. Besides, universities can increase the confidence of other stakeholders of a company and act as an indicator of the company’s credibility and prestige.

**Relationship Between the University and Industry:**

With the mission of universities expanding from education to research and then to entrepreneurship, the relations of universities with industry have assumed greater importance. These relations may take either a formal or informal form. In the countries where there is no formal communication through technology transfer offices, the relations are often of an informal and, in a way, confidential type. During the nineteenth century, many companies were established by the students who had a close relationship with their professors. In fact, the student, professor and investor were the three key players. Thanks to these informal relationships, many technical industries came into existence in the nineteenth century, through which financial and social capitals were transferred to the companies. Currently, such relationships have been replaced with formal ones and some organizations have been formed in universities that are responsible for identifying and considering the potential results of commercializable studies. Getting involved in such activities, the university, in some ways, absorbs the characteristics of business. Commercialization of knowledge based on the entrepreneurial university, including technology transfer through the patenting and the formation of companies, began at the early twentieth century. The traditional linear model of knowledge transfer involved knowledge production based on the government’s financial support and its transfer to the industry through publication and consultation. The existing gap in this model having been identified in 1930, the principal of MIT University convinced the top decision-makers of the industry, university and government that knowledge commercialization had the potential for economic development and that a systematic support system was required (Etzkowitz, 2002).

There are two main models for the relationship between the university and industry for the commercialization of research and resolution of the conflicts between them over profits:

1. Clear separation of business activities from academic ones.
2. Unification of research and business activities as an institutional mission covering a broader range.

The industrial partners enumerate the following reasons behind their cooperation with universities:

1. Access to the newer research results;
2. Development of a newer product;
3. Maintaining the relationship with universities;
4. Obtaining patents for the new inventions, and
5. Tackling the technical problems.

Universities, on the other hand, give the reasons below:

1. Financing the research, laboratory facilities and research procedural requirements;
2. Gaining an insight into research and being able to perform field tests and empirical studies in industry.

This collaboration is, in fact, in line with a supply and demand chain. Universities sell the results of their research and development to the industry in exchange for money returns.

Overall, the activities involved in the collaboration between the university and business can be categorized into four groups:

1. Activities related to teaching and business;
2. Activities associated with such laboratory services as research centers or appropriate infrastructures like laboratories, equipment, human resources etc. which are lacked by many businesses;
3. The consulting services provided by university professors for the businesses, and
4. Transferring research results to businesses through the tools like research contracts, award giving and the establishment of technology-based companies (Gassol et al, 2007).

**Academic Entrepreneurship:**

There is no consensus over the definition of academic entrepreneurship. There are a variety of definitions that can be divided into three groups:

1. Definitions which are based on the establishment of new businesses using academic intellectual properties, including research commercialization, technology transfer and academic activities related to spin-offs.
2. Definitions based on a consolidation approach; from the entrepreneurship point of view, academic entrepreneurship is a participation that involves organizational formation, innovation and strategic renovation performed whether inside or outside the university.
3. According to this kind of definition, academic entrepreneurship generally includes academia’ entrepreneurial behaviors, e.g. forming new companies at the university, establishing centers for conducting common research with the industry, preparations for protecting the intellectual properties and licensing the results of university research, among others (Rothaermel et al, 2006).
Affective Institutional Factors on Academic Entrepreneurship:
A lot of research has been carried out on the knowledge-based entrepreneurship and, particularly, academic entrepreneurship to study directly or indirectly the institutional factors impacting on this type of entrepreneurship. Most research has focused on institutional policies, institutional and organizational environment, individual academic entrepreneurship and the relations between the university and its external environment (Yusuf and Jain, 2007). By looking through the literature on entrepreneurship, the factors influencing academic entrepreneurship and the turning of a university into an agent for the development of entrepreneurship in a region can be categorized as follows:

- Intellectual property policies or the rules and structures related to the management of intellectual property in the university
- The university structural requirements
- The professors’ and university managers’ skills and motivation and their approach to entrepreneurship
- Entrepreneurship training and the students’ approach to entrepreneurship
- The centers for supporting academic start-ups like science and technology parks and incubators
- Academic entrepreneurial culture

Structures and Rules Relating to the Management of Intellectual Property:
A key factor in the facilitation of technology transfer and creation of incentives for the commercialization of research results is to protect intellectual property ownership rights. Determining and clarifying the ownership of intellectual properties, makes major investments safer and reduces the risk of capital loss (Karlson, 2009). The unreliable and uncompile nature of technical knowledge has led to its high operational costs and its systematic failure in the market which is reflective of complexity of industry-science relations. A factor that is considered a necessary requirement for establishing appropriate industry-science relations is setting well-defined, well-understood and clearly articulated rules for intellectual properties. In the United States, according to the Bayh-Dole act, the ownership of the publicly funded studies was transferred to the academic partner and this stimulated a high level of motivation in academia for exploring the ways to commercialize their research results (Debackere and Veugeler, 2005).

Merits of Intellectual Property Rights:
Intellectual property rules are thought to bring about a rise in the exploitation of entrepreneurship opportunities for the following reasons:

First of all, these rules are a crucial element in intellectual property rights and help to avoid getting threatened or forced to give up one’s ownership rights. Thus, these rules give people confidence that no one else can deprive them of their rightful entrepreneurial profits. Second, these rules set up a standard legal framework, making it possible for the entrepreneur to rely on them, but to a reasonable extent, to exploit the opportunities. Third, such rules can facilitate resource management at different times since they assure that people have legal rights to the resources they can have access to according these rules. Forth, the rules facilitate labor division and prompt expertise orientation because they make the contracts firmer. As a result, entrepreneurs can gain human and financial resources from external sectors and hence not having to provide all the value necessary for exploiting the opportunities, by themselves. Fifth, they increase investment on resources, because they facilitate the allocation of the produced output to innovation. Using business secrets, patent rights and other necessary complementary resources, which are seen as three vital mechanisms for the allocation of the output to innovation, depend, at least to some extent, upon the structure of rules. Consequently, the environments in which there exist stronger ownership rights, enjoy higher levels of entrepreneurial opportunity exploitation (Shane, 2002).

The relevant structures to the management of intellectual property ownership in a university, including the technology transfer office, the manner of intellectual property management, discussions concerning the formation of new companies and net income distribution earned from the commercialization of intellectual property will be investigated.

Technology Transfer Office:
Because of the phenomenon of academic technology transfer and the evolution of universities in the national innovation and economic development system, entrepreneurship has promoted at the academic level. Despite the increasing interest in academic entrepreneurship, the efficiency of the formation of new companies as a mechanism for commercialization needs more consideration. Studies demonstrated that academic start-ups tend to remain small and have less development than other companies working in the field of high-tech. what’s more, faculty lack the necessary skills for the identification and use of opportunities and also the required social capital for the business relations in the market even for gaining access to other types of capital. Establishing
technology transfer offices can, to some extent, help to overcome these barriers. Having business networks and expertise in business development, technology transfer officials (TTOs) should more easily identify the opportunities and develop new companies than faculty. However, technology transfer offices may not have the adequate skill in this regard either. One supplementary strategy for the new academic businesses could be to make use of the experienced managers and entrepreneurs who may be easy to identify using appropriate networks of the university and faculty. Effective commercialization by means of development of new businesses demands adoption of proper rules on the part of the universities. Furthermore, from the outset of the company, TTOs must appreciate the importance of the evaluation at the stage of technology transfer and be well aware of the challenges facing the new businesses at the early stages of development. The researchers working on technology development are in the best position to assess the technology market preparedness.

**Structural Requirements of the University:**

Different organizational arrangements in universities can result in different approaches towards involvement in the commercial application of academic fundamental research results. If the university adopts a professional bureaucracy, constituted of traditional organizational, divisional and collegial structures and boundaries in its organizational composition, it will be of limited business orientations. Undoubtedly, the universities that organize their activities solely based on disciplinary lines, have too few strategic goals to involve in the commercialization of their research results (Debakere and Veugelers, 2005). As far as the organizational structure is concerned, the decentralized model of technology, through a dedicated professional technology transfer office, increases the industry-science relationships in universities (Debakere and Veugelers, 2005). Adding new divisions to the structure of universities, for example technology transfer offices, university incubators, science and technology parks and so on, is among the structural requirements for commercial knowledge transfer.

According to some research findings, if the mission of the university as an organization is communicated more clearly to academia and the organizational structure is of less hierarchy and the university management is more professional, the entrepreneurial university is affected more positively (Kirby et al, 2006).

**University Managers’ and Professors’ Skill, Motivation and Approach to Entrepreneurship:**

Traditionally, there was a dim view of conducting business activities in universities and they assumed only the two missions of teaching and research. Entrepreneurship, however, gradually found its due position and acceptability among academic and political authorities. The three reasons for this change follow:

1. The rise in the social pressure on universities for the expansion of their traditional missions and acceptance of further involvement in the economic development of the region. This caused the universities to take on a third mission to be called “entrepreneurial universities”.

2. The increase in the internal relationship between knowledge and technology in many university majors like IT and biotechnology that necessitated more collaboration between industry and universities.

3. The drop in the state budget allocations to universities’ traditional activities that made universities resort to alternative methods for self-financing (Johnson, Jacob and Hellstrom, 2005).

The involvement of trained people in research and development (R&D) gives rise to the launch of small and medium businesses. Ten to fifteen percent of the new high potential venture businesses have been based on the commercialized innovations. These businesses include high-tech or knowledge-based companies often established by experienced faculty; therefore, universities impact not only the level of technical knowledge and business training, but also the establishment of new innovative companies. While technical and basic science colleges have often laid the foundations for technical manufacturing or service companies, business companies have aided the companies of less technical essence. These results were obtained from a study conducted by Doutriaux in TTAWA in 1987. According to the findings of this study, full professors tend to start more but smaller companies than other university professors and technical and manufacturing companies have higher potential growth than service and technical consulting companies (Doutriaux, 1987). Basically, faculty may not have any incentive or desire to commercialize their research results. Their primary goal is to be known in the scientific community. Besides, most universities do not grant any rewards to the academics for the commercialization of their research results and establishment of companies and such activities are not considered a criterion for promotion or taking up positions (Wright et al, 2009). Some scholars and experts believe that we should resist the orientation in universities towards entrepreneurship, because it may cause the universities to lose their primary function as the independent critics of the society. One of the critical issues to deal with by universities is whether researchers have sufficient incentive to announce their inventions and involve in their broader production and use by signing a patent assignment agreement (Debackere and Veugelers, 2005). Intrinsic motivation is crucial to tacit knowledge transfer. If people are motivated only extrinsically by rewards, they focus only on the rewarded aspects of knowledge transfer and, hence, explicit knowledge transfer
is performed more efficiently. On the other hand, the scholars whose motivations are driven intrinsically further involve in the company’s activities. In cases where no tacit knowledge is transferred, innovation is of slow speed and the introduction of goods and services is often performed too late or even the process of turning technology into products may not take place and, ultimately, the knowledge-based entrepreneurial company fails. For the knowledge transfer to be done successfully, the faculty working on business-related technology development must involve in the company’s activities. If most of the researchers join the company as founders, tacit knowledge will be transferred effectively, leading to high-speed innovation. In lieu of the fact that speed is a key factor in a company’s success in the market, when innovation in knowledge-based companies is slow, they meet with little success (Liano, 2006).

The findings of the research (Liano, 2006) on faculty motivation and its effects on the performance of the knowledge-based companies follow:

- The more of the research team members are among the founding members of a knowledge-based company, the higher the transfer of tacit knowledge and, consequently, the faster the innovation which, in turn, promotes the company’s performance.
- The more the members of a knowledge-based company combine the tacit knowledge about technology with a business insight, the more likely it is that the company will achieve fast-paced innovation that brings about promotion.
- The smaller the perceptual gap between the team members with tacit knowledge concerning technology and those with a business insight, the higher the chances of reaching higher speeds of innovation and, in consequence, the better the performance of the company. The university’s role models and reward systems also affect the faculty’s motivation. The more the number of entrepreneurs and the more developed the reward systems of the university, the more effectively the entrepreneurial university will work (Kirby et al., 2006).

**Entrepreneurship Training and Students’ Approach to Entrepreneurship:**

Training is offered in different ways in universities and colleges. In some universities it is provided as a complete course including financial marketing, business development, etc. Entrepreneurship training has become popular for five reasons:

1. The development of business plans allows the students to acquire an integrated set of financial, marketing, economic, accounting etc. skills.
2. Entrepreneurship training can lead to the promotion or founding of businesses by the graduates or make them more successful in the labor market.
3. Entrepreneurship training can promote technology transfer from the university to the market by means of developing technology-based business plans.
4. Entrepreneurship training establishes a strong link between the academic and business communities. Business leaders regard the entrepreneurship training as a useful and applied approach to the study of the economy and business and are keen on financing entrepreneurship plans.
5. As there is not a single approach to entrepreneurship training and entrepreneurship is not restricted by common traditional boundaries, some experiments can be carried out through the training courses to enhance other business courses (Charney and Libecap, 2000).

Charney and Libecap conducted some research in 2000 on the impacts of entrepreneurship training on the establishment of companies in the University of Arizona. The results of the research on the graduates of entrepreneurship and those of other majors in the University of Arizona were as follows:

1. Training entrepreneurship and business skills causes individuals to develop a tendency towards getting involved in the creation of new business ventures. On average, the number of entrepreneurship graduates who start a new business venture is three times that of non-entrepreneurship graduates.
2. Thanks to entrepreneurship training, entrepreneurship graduates were more inclined to be self-employed. In fact, they were not as willing as other graduates to be employed in governmental or non-governmental companies.
3. Entrepreneurship training greatly influences the entrepreneur’s income. On average, entrepreneurship graduates’ income is 27% as high as non-entrepreneurship graduates’.
4. There is no meaningful relation between entrepreneurship training and job satisfaction. In other words, it doesn’t raise the graduate’s job satisfaction.
5. Entrepreneurship training impacts the development of companies, particularly smaller ones. In general, the companies that employ entrepreneurship graduates tend to have higher sales figures. By contrast, the companies owned by entrepreneurship graduates are, generally, larger and sell more than those possessed by non-entrepreneurship graduates.
6. Training of entrepreneurship enhances technology transfer from the university to the private sector and leads to the development of technology-based companies and products. Entrepreneurship graduates, generally
speaking, tend to work with the companies which either have a technology license or issue technology licenses to other companies. They are also mostly inclined to work for technology-based companies. Nearly 23 percent of entrepreneurship graduates own a high-tech company, while only 15 percent of non-entrepreneurship graduates are high-tech company owners (Charley and Libecap, 2000).

Overall, the more positive the students’ approach to entrepreneurship and the more entrepreneurship-oriented the studies and the higher the number of the theoretical and applied research methods, the more positively the academic entrepreneurship success will be affected.

**Centers Like Science and Technology Parks, Incubators, Etc. for the Protection of Academic Start-Ups:**

Increased attention to knowledge and technology transfer through the institutional boundaries of the university and industry has led to the establishment and application of various transfer-based mechanisms. These mechanisms include technology transfer offices, university spin-offs and joint ventures, science and technology parks, business incubators and the joint ventures in which universities play a role as a stakeholder (Looy et al, 2007). These mechanisms are the institutions which provide the new knowledge-based ventures with some support and services and place more focus on the transfer of scientific and technical knowledge from universities through to firms. In the growth model, at one end of the spectrum there are public business and public regional incubation centers the services of which include providing tangible assets and market goods and at the other end of the spectrum come the private incubation centers mostly dealing with the provision of financial resources and short term and high-value intangible assets (Grimaldi and Grandi, 2005). Overall, the more strongly the academic start-ups, incubators and the procedural centers related to the establishment of new companies are supported, the more positively the entrepreneurial university will be affected (Kirby et al, 2006).

**Academic Entrepreneurial Culture:**

Hofstede defines culture as the collective mental programming of the members of a group or class of people which distinguishes them from the members of other groups or classes. Culture is a system of shared beliefs, values, conventions and behaviors to which the members of a society adapt their world and are passed on from generation to generation by education (Avramska, 2007).

The difference in the amount of entrepreneurial activity in different countries has cultural and historical roots institutionalized over time. The culture of a company is a certain set of attitudes, values, incentives and wishes all of which are the individual structures in pursuit of socio-economic success. The cultural environment provides some incentives for the utilization of opportunities in terms of the values, beliefs and legitimacy of the entrepreneurial activities. Social values and the prior experience of the entrepreneurs in the society strengthen the rules while weakening the legal limits and the cultural norms which are against entrepreneurship. Other values like admiring people for their success or acceptance of defeat, changes and innovations should also be considered. An advanced culture is founded on five values: independence or freedom of action, innovation or freedom of experiment, risk-taking, supporting creativity and competition. In a society where social values and norms are at their highest levels and people greatly respect them, there is trust and the tendency towards profit-seeking opportunities is limited; The domestic markets are booming and the managers are honest and industrious (Cuervo, 2005). The mentioned values can have a great effect on the development of academic entrepreneurship in an advanced culture. Institutional coherence has a big impact upon the development of academic businesses. These relations affect the institution’s (i.e. the university’s)cognitive elements like culture. The culture of a university may either encourage or disrupt the academic entrepreneurship. The traditional culture of the university embraces a series of values opposing to research commercialization. Additionally, the vague relationship among researchers, money and the researchers’ disinterest in the establishment of companies puts some obstacles in the path of the creation and development of academic businesses. On the contrary, a richer entrepreneurial culture and beneficial social norms and the university’s encouraging the entrepreneurs may persuade academic investors to use the opportunities (Wright et al, 2009). The culture of universities is taking a positive approach mostly towards considering and valuing entrepreneurship in colleges and academic divisions and, in fact, more emphasis has recently been laid on entrepreneurship as a strategy of universities for increasing research and commercializing the technology (Yusuf and Jain, 2007).

**Reasons Why the Entrepreneurship Course is Necessary in Universities:**

A challenge facing many societies is how to deal with those graduates who lack the individual capabilities and necessary skills for starting a business. Given this, it is vital to prepare the students through the inculcation and development of entrepreneurship culture in them. The important point is that the preparation of students for entrepreneurship must be completed, not after, but before graduation and during education and entrepreneurial spirit must be cultivated within universities. With this end in view and in order to meet the national interests, it seems essential to reconsider and make modifications to university majors as well as the curriculum content and
materials at all academic, especially university, level and offer the scientific majors that are felt necessary in universities.

All in all, the reasons for the inclusion of entrepreneurship course in the university curricula can best be summarized as follows:
1- Strengthening the knowledge-based structures in the generation of science and technology;
2- Devoting attention to the generation of science and generation of wealth out of knowledge;
3- Developing the ability to identify the needs of the society and adjust expertise to the education level.
4- Creating and cultivating the entrepreneurship culture
5- Developing the ability to work as a team
6- Improving the ability of value creation
7- Acquainting the students with the resources that help them identify new opportunities and develop the ability to process new ideas.
8- Creating the ability of the economic evaluation of a business plan
9- Developing the ability to identify the changes in the needs of the society
10- Understanding the concept of entrepreneurship with respect to the economic development
11- Establishing and fostering the foundations and potential capabilities to deal with unresolved scientific problems, the needs of the country and new ideas
12- Encouraging and expanding creativity for the creation of businesses and development of new business concepts
13- Raising dynamism and enhancing the analytical skills of students for the identification of the market, technology and financial and economic opportunities
14- Identifying strengths and weaknesses in the existing businesses, analyzing the opportunities and threats and developing the strategies to improve them.

Conclusion:
In order to change the function of a university and turn it into an entrepreneurial university three changes need to be made:
1- The university should become an entrepreneurial organization so as to act dynamically.
2- The university staff, faculty and students should also turn into entrepreneurial people.
3- An interaction is to be established between the university and the environment.

Therefore, it is essential to direct our efforts towards the development of entrepreneurial universities. Education should not merely involve teaching some traditionally prearranged and rigorously followed lessons; it is but to be approached as a way of developing the skills required by the future young generations.

To promote entrepreneurship and innovation for the creation of new businesses and employment, a reconsideration of curriculum materials and content must get underway.

The idea that entrepreneurship is vital and everyone can start his own business does not occur to people overnight. The decision to initiate an economic activity is the outcome of a process starting since as early as childhood and which must be given serious and meticulous consideration in education to make sure that the students acquire the necessary skills. Nowadays, entrepreneurship is regarded as the driving engine of the economy of the countries having appreciated its value since years ago. In the experience of these countries, “education”, along with other factors such as the facilitation of rules and regulations, the development of support mechanisms and promotion and culturalization, occupies an undeniably unique position in the development of entrepreneurship. This well accounts for the inclusion of entrepreneurship course in the curriculum of not only the major of management but also a wide range of other majors in the world’s top universities. Accordingly, the first step to take in our country is to conduct research and develop in order to provide appropriate educational materials and curricula, and publish educational textbooks.

Below are some other strategies besides those mentioned above to help achieve our goals:
- Using experienced and able teachers to present or teach entrepreneurship (one of the most important factors)
- Forming groups for teamwork and the analysis of the work of other groups
- Considering the relevant articles and case studies
- Inviting guest entrepreneurs to class and encouraging students’ involvement
- Developing practical projects and designing different processes of a business plan or conducting feasibility studies

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