
Application model for technological business incubators in universities and educational institutions

¹Huda Abdulredha Ali

Department of Banking and Finance, college of Administration & Economics,
university of Babylon, Iraq .

3bus.huda.abd@uobabylon.edu.iq

Introduction:

Lethargy and boredom have afflicted the traditional local tools that harness public budgets for the implementation of huge vital projects related to infrastructure. These tools are no longer able to encourage the transfer of the productive capacity of large enterprises to new places. International developments provide wide options for growth in developing countries, but these options depend on the market-oriented and technology-oriented strategies they adopt simultaneously.

The experiences of developed countries confirm that stable economic growth rates come in the long run from the union of entrepreneurship and innovation, on the one hand. On the other hand, it means developing new products with traditional entrepreneurship, that is, adapting new products to foreign markets. Entrepreneurs are parties who can accelerate the process of generating, disseminating and applying innovative ideas. The country in which entrepreneurial activities abound seems to be a permanent generator of new and advanced products and services.

Research objective: The research aims to

- 1- Knowing the concept and mechanism of implementing business incubators at the level of organizations in general.
- 2- Learn about the role of business incubators in universities and the extent to which they can be used in developing the potential of the industrial sector, whether in the production or marketing side.

- **Research problem:**

Despite having and having the ingredients to build business incubators, there are difficulties in establishing and making the incubator work a success

- **Research hypothesis:**

Establishing and building business incubators within universities limits and alleviates the facing difficulties existing and emerging institutions, and thus the success of the incubator's work.

- **Methods used for gathering information:**

The study adopted an analytical descriptive approach to the phenomenon under investigation and analysis. The elements of the phenomenon were investigated according to the inductive method.

The concept and importance of business incubators as an application mechanism
The transfer of science and technology is an important factor for economic development, as the US Council on Competitiveness declared in 1998 the generation and dissemination of knowledge, and there is a difference between the transfer of science and the transfer of technology, the first is the pursuit of knowledge, and the second is the application of scientific knowledge, which means pushing problems at the level of Use. As for the transfer of technology, it means an innovative achievement, that is, the transformation of a resource at the level of technology into a reality of use.

The most important parties concerned with the transfer of science and technology are: -

1- Universities and research centers: Knowledge can be generated for knowledge only so that it takes an educational form and moves to a more influential role in light of the changing importance and nature of knowledge in modern society. There are many reasons that push universities to market their research, the most important of which is that interaction with industry means a financial resource at a time when forms of government support are declining. The other reason is that universities seek to reach industrial technical expertise, meet students with practical problems, and ensure students are prepared for good future work.

2- The government: develops and develops the effectiveness of research, and facilitates the translation of research into commercial facts, in order to ensure that science and technology continue to provide solutions that help the economy.

3- Large industrial enterprises can secure semi-self-sufficiency to support the development of their technology products through their own research centers. However, global competition and the focus of industrial enterprises on basic strategic activities only make them compelled to search for an external source of creativity.

And the most important interfaces supporting the transfer of science and technology are:

1- Technology parks: Technology Parks

There are many names for it, innovation centers, a business park, an industrial park But the university research garden group defines a technology park as a property-based project with land and buildings dedicated to public and private research facilities, for companies with a scientific and technological orientation and support services, and for the park Relationships with universities and institutes of a high academic level, which encourage research and development at the university in partnership with industry.

2- Business Incubators: Business Incubators

It is a dynamic institutional process whose goal is to fight unemployment by creating new institutions and increasing their survival rate, stopping the local economic decline, expanding the necessary infrastructure and providing assistance to market university research, especially through technological business incubators and increasing the capabilities of specialized scientific, industrial and technological institutions.

.3Intellectual Properties Protection Office

Many thinkers attribute the tremendous progress in industry to intellectual protection systems that began in the eighteenth century, as they created a kind of fair competition between innovators due to the financial return of their innovations, and also increased the profits of manufacturers who invested in the marketing of innovation for their account for some period, thanks to the expansion of the practice of intellectual protection. The neglected research in universities for real studies and translated into innovations and protection, so researchers competed away from imitation and exaggerations in theoretical issues.

Business incubators are service organizations that seek to provide care and support for the establishment of new businesses that gradually turn into institutions with firm foundations, and pave the way for transferring creative ideas to projects with economic and technical dimensions that form the nucleus of new institutions, as well as contribute to providing scientific, administrative, training and advisory services to institutions already in their environment. Technology Business Incubator is distinguished by its acceptance of small projects with a high and advanced technological level, while investing in advanced designs for new non-traditional products while possessing advanced equipment and devices, and technological business incubators are distinguished from science parks, technological parks and industrial cities, where science parks are a form One of the forms of technological incubators in which the focus is on developing science and technology, securing technical, scientific and international companies, transferring science and technology to the local productive environment and delivering research results to the market or scientific gathering, and these parks are subject to the management of the Ministry of Higher Education and Scientific and Technological Research, as for the Techno-Park, which is a form from U.S Technological incubators, in which they focus on innovating new technologies, processes and organizations, and play a fundamental role in serving the industry to be highly competitive in terms of technology and quality, which is similar to research centers in American universities, as for the industrial incubators, which are an incubator that is set up within an industrial area after determining The needs of this region are from the support industries, where the benefits are exchanged between the large factories in the industrial city on the one hand and the small enterprises affiliated with the industrial incubator on the other hand, and the focus is on transferring knowledge and technical expertise from the large factories. In addition, the aim of the parks is to sponsor and transfer technology and encourage network cooperation between

companies. Upon graduation from the incubator, some companies decide to stay in the technology park, but they move to a new place in the park.

Despite the multiplicity of means that aim to build strong bridges between universities, institutes and research centers on the one hand and the world of industry on the other hand in pursuit of mutual benefit, technology business incubators are considered the most effective in this field, as traditional structural structures such as universities are insufficient for capacity building. Technological patriotism with the effectiveness and success of science and technology policies and goals, so most countries have taken the initiative to establish new structures, which include technological cities, research parks, centers of excellence, industrial complexes developed on technology, technological business incubators, where the need to create new activities capable of supporting and sponsoring invention and applied research and converting them into successful companies, through technical capacity building, whereby any organization has the capabilities to draw the frameworks and steps of the production process and thus there is a peculiarity that each of the projects enjoys through its technological nature, as well as building human capabilities, i.e. supporting projects with human potential. With the ability to provide consultations in all aspects of the production and marketing process, in addition to events supportive (logistical), in addition to building informational capabilities, any project must possess some amount of information that puts the project within the paths that are balanced with the environment, in addition to working on an ongoing basis to reduce the information gap of the project in the possibility of obtaining information capabilities that serve as a guide for the project in the process. Productivity Therefore, the idea of business incubators was inspired by the incubator in which incomplete children are placed in it immediately after their birth in order to take care of them and then the newborn leaves the incubator, as it is an effective method that aims mainly to help new projects by providing an integrated package of services and material production requirements to small projects at the beginning. Its emergence and upgrading to the stage of commercial work.

In the last years of the last decade, large numbers of American and European organizations have emerged that aim to promote and upgrade small and medium enterprises. The development in the concept of business incubators can be summarized as. The beginnings go back to the decline that occurred in western industrialized countries in the late seventies and early eighties, when it was met by a rapid wave of high unemployment resulting from the collapse of traditional industries. The strategies followed in the eighties were generally characterized by the shifting of the proposition based on the principle of "from top to bottom" that relies on external factors and the state's direct intervention to transfer surplus mobile capital and job opportunities from poor and affected areas towards another proposal based on the principle of "from the bottom to the bottom." The higher one "focuses on upgrading local capacities for economic development and helping poor areas to

help themselves. Business incubators are service organizations that seek to provide care and support for the establishment of new businesses, gradually transforming into institutions with firm foundations, meaning that they greatly reduce the possibility of failure of emerging institutions, and pave the way for the transfer of scientific, administrative, training and advisory ideas to institutions already in their environment. It is an organization that systematically oversees a successful formation process for new institutions by providing them with a comprehensive and integrated format of services, including: spatial location, shared services, administrative and technical consultations, and network activities that act as a reference point between the entrepreneurs within the incubator and with the surrounding environment.

Incubators divide businesses according to their goals into two groups, multi-purpose incubators that accept any type of business provided that they fulfill a specific commercial condition, and specialized incubators that focus on special activities such as developing specific models of technology. The extent to which the management team adopts the concept of supervision in the relationship with the inmate and his work, the acceptable business model and the degree of technological specialization. The incubator can be described according to: the level of infrastructure, the goals to be reached, and the relationship between the technological level and the administrator.

The direct role of the incubator is to encourage new institutions to succeed by reducing the obstacles and fixed costs associated with launching. As for the roles that the incubator plays from a more comprehensive perspective, it is to encourage entrepreneurial thinking rather than the thinking of the subordinate employee, increasing the pace of establishing new institutions on solid foundations, providing facilities For owners of projects promising to turn them into institutions that create job opportunities, increase the scientific and administrative capabilities of institutions and thus increase competitiveness, in addition to transferring technology from scientific research centers and universities to the local industrial fabric, if supporting new and emerging projects and raising their chances of success, it is the first job of incubators By providing all kinds of financial, administrative, marketing, technological, and informational support, facilitating the start of the project, and reaching a network of community support, and the incubator can provide these services to projects that are implemented inside it or those affiliated to it from outside the incubator, and also by adopting projects based on Technology and associated with universities and research centers, and work to nourish the nascent small enterprises in their site.

The establishment of technology incubators specialized in specific sectors work to facilitate the transfer and settlement of modern and advanced technology, and focus on developing the technologies of these sectors, for example the establishment of business incubators associated with universities, there are two directions for this incubator, the first direction is the revitalization and development of the higher education sector (universities) Technology, through the implementation of a number of new and advanced programs in this sector, while the second and complementary

direction to the first one is to strengthen the link and interdependence between the scientific bodies (the university) and between the productive and service sectors. Here, it must be pointed out that the role of business incubators associated with the university is to develop the capabilities of the universities themselves by transferring an advanced model from universities to developed countries and applying it to the university to be developed that has similar patterns of work, and this leads as a result to the development and advancement of universities' capabilities and work and achieving their desired goals in obtaining The university has developed advanced outputs of competencies, research and inventions compatible with the requirements of the labor market. From here comes the other role of business incubators associated with universities, which is to strengthen the link between knowledge generators and investors, market the outputs of scientific research and technological development, and link it to current and future development needs, and this leads to upgrading the public and private production and service sectors of scientific and technical knowledge, raising the level of their demand for scientific research, technological development and improving competitiveness And innovation has helped it to make its structure more flexible to keep pace with market changes. This can be illustrated by the following chart.

1- The American experience:

The American experience in business incubators is the first that is concerned with promoting the products of research and development and the spread of incubators linked to universities. Then other incubators were established with dual specialization: technology and business, and the number of incubators in North America increased from 12 in 1980 to 800 in 2001, according to the National Association of American Business Incubators. NBIA _US based National Business Incubation Association and that the incubators here generate job opportunities at a cost of \$ 1,100 compared to \$ 10,000 the cost of other government mechanisms to generate employment opportunities. There are one hundred technology incubators in the United States of America and more than 150 around the world, and this type of incubator exists in About 25 countries, and about 70% of the incubators are located in the USA

2 - The French Experience:

As for the French experiment in technological business incubators, it is the first European experience, which began preparing for it since 1964, and its programs enjoy unique government support in particular by the French Ministry of Research, which aims to establish economic institutions based on knowledge and technology and capable of international competition. During the period 2000-2003, there were 865 large economic projects with a total value of 26.5 million euros within 31 incubators, and then 797 projects were established in the period 2004-2006 with an amount of 25 million euros.

Through these experiences in establishing technological business incubators and technology parks, there is a significant role and impact on development, as each small incubator in the United States creates about 702,000 job opportunities on average every seven years at a cost of \$ 1.109 per job opportunity, and 78% of The economic institutions that are established within the incubator maintain their survival in the first five years, compared to 11% of the total American institutions, and European incubators have produced more than 300,000 job opportunities at a cost of 4,000 euros per workplace, and this cost is much less than what European governments bear in creating opportunities Work across various programs

The fifth axis: the mutual influence between business incubators and universities

Scientific research and higher education have a fundamental role in the advancement of societies in various fields, and scientific research is a modern tool that has rules, foundations, approaches, stages, and material and human requirements that must be provided in order to achieve practical results and contribute to the development and development of society. The necessary material, human and organizational means, the path was guaranteed to achieve the goals of increasing the rates of economic and social growth by following the method of scientific research, and scientific research has a fundamental role in the process of transfer, innovation and development of technology in line with the conditions of the country in order to achieve the desired goal of it, so technological development became the criterion of the difference between Progress and backwardness in our current era, therefore, attention must be paid to scientific research and technological development for the critical role it plays in promoting technical development and building a national science base that is capable of creativity and innovation with the participation of intermediate and supportive institutions such as technological business incubators, and this is reflected in the strengthening of the economic and social development process, By taking a set of policies necessary to achieve this goal, including: Preparing a plan to activate the role of scientific research and technological development and employing technologies to serve science and support economic development, intensify efforts to develop and indigenize technology and rationalize the exploitation of economic resources, support and encourage innovation and creativity by supporting scientific and technical research by intermediary agencies, creating databases in the private sector and linking them to research centers to identify On the needs of the market.

Supporting and developing scientific research is one of the most important pillars that drive progress and growth in all sectors and achieve development goals. Despite the multiplicity of means and concepts to build strong bridges between universities on the one hand and industrial institutions on the other in an effort to achieve mutual benefit and economic growth, technology business incubators are considered The most effective in this field, as these incubators have a general orientation related to supporting institutions in a scientific way, which means that the goal that it seeks to achieve in the first place is to immunize the local institution from retreat and mobilize scientific and technological capabilities to serve and develop these

institutions, and on the other hand this type of Incubators have a wide field in front of the scientific, technical and development potentials that accumulate in the centers of universities and higher institutes through research and implemented student projects in order to be able to transform them into institutional projects that derive their administrative, legal and marketing frameworks from their incubation period to provide local institutions with technologies, technical solutions, and new products and services that raise the status of institutions within the country . Technology business incubators have a prominent role in achieving these goals through their continuous support for scientific research in various fields through building and establishing incubators within universities, which helps in making sound decisions. Through technological business incubators, it is possible to support and activate scientific research activities and methods in all fields, including: Building strong awareness with local and international institutions and organizations, providing integrated informatics and statistics networks about the market's need for new research, and providing investment opportunities available for study and research, the contribution of scientific research centers and higher education institutions universities in providing advice and opinion on various economic, financial and organizational issues, raising issues Local and international research of interest to researchers and businessmen through meetings, seminars and conferences to enrich the research process, expand cooperation with the university, higher education and research and training centers, generalize research results in higher education to the private sector and benefit from them, extend bridges of cooperation with scientific research institutions in various parts the world .

The main objective of establishing technological business incubators in universities is to incubate the creative and distinct ideas of students in universities and contribute to providing opportunities for self-development, upgrading the level of culture and qualification derived in the field of information and communication culture, ensuring effective utilization of creative human resources and contributing to the making of the informational knowledge society. Marketing innovative scientific and technical outputs, as well as preventing brain drain and cultural settlement.

The mechanism of business incubators is one of the most important mechanisms of communication between universities and research centers and between the industrial sector and its applied fields, despite this there are a number of obstacles to activating the role of intermediary and support institutions in supporting and developing scientific research (universities). These obstacles are represented by the weakness of communication channels between intermediate and supportive institutions (incubators). Business) and scientific and research institutions, a weak role of the chambers of commerce, industry and agriculture in developing cooperation between universities and scientific research centers, away from the problems and needs of the production and service sectors and their needs for development.

As talk about technology transfer often focuses on owning the machinery and equipment necessary for production, but it is not limited to the acquisition of capital goods only, but also includes the transfer of non-material goods from universities and research centers to the applied reality on the other hand, including knowledge and know-how, which is one of the challenges. Small enterprises that face, which can be addressed through the establishment of business incubators associated with universities, and that can link universities and economic sectors and create a suitable environment for transferring research results to the applied reality. Among the most prominent roles that business incubators play in this field are the following: (25)

1- Investing scientific and human energies, laboratories and workshops in universities at the lowest symbolic fee, and this represents an exploitation of scientific energies and reducing production costs for incubator projects. It is also possible to contract with scientists and researchers in order to prepare research and studies for the benefit of the incubator, and this will be an incentive for creativity, innovation and the advancement of education.

2- Business incubators are a means of transferring and settling technology within the university, improving the educational process, and achieving science and knowledge policies in building national capabilities on the one hand, and marketing technology and innovations to the economic environment through the investment and development of scientific research on the other hand.

3- Creating additional financial returns to universities, through the exploitation of the university's material and immaterial assets 4. Development of the creative energies of university students by contracting with them and employing them for part-time work in incubators, which leads to the development of students' capabilities through actual practice complementary to academic study.

Some governments have taken a set of measures to link the work of business incubators with the traditional function of universities in society, which includes higher education, training, and the discovery of new scientific and technological knowledge.

There are a number of benefits accruing to universities and research centers as a result of this interconnection, including: - (26)

- 1- Universities' contribution in a tangible way in the process of economic and social development, which enhances the university's image in society.
- 2- The applied research that finds its way to commercial companies encourages the introduction of new developments in the curricula of university students.
- 3- Creating local knowledge networks based on joint effort, which promotes new research discoveries and patents.

With regard to assessing the reality of Iraqi scientific research, despite the prosperity witnessed by Iraqi institutions specializing in science, technology and technology in the eighties of the last century, the results did not go beyond preserving some vitality in some sectors of science and technology at a time when universities were satisfied with learning and teaching activities and were absent

from them. Scientific research is almost completely complete, and the common factors for the experiences of scientific research institutions in Iraq can be summarized as follows:

- 1- The multiplicity of scientific axes and the broad spectrum of research trends are weaker than the possibility of some research institutions reaching cumulative added value.
- 2- The focus of some institutions on preparing human cadres with doctoral and master's degrees and their weak interest in the rest of the qualification (university degree, higher diploma and institutes) led to negative results represented in the lack of application dimension and preventing the integration of the research process to reach direct results.
- 3- Neglecting the continuous rehabilitation activities and the training that should accompany basic rehabilitation permanently, this has led to some vital research institutions losing their human frameworks to see developments.
- 4- The legal aspect is inflated and the minds of those working in scientific research activities are dispersed with the abundance of laws, regulations and laws that must be applied, which slows down the documentary cycle for approval and funding of research.
- 5- The small amount of cooperation between research institutions, the absence of linkage and coordination mechanisms for information exchange at the level of knowledge and research results, and the link of cooperation cases with personal knowledge between researchers.
- 6- The absence of systems for evaluating the objective performance of research institutions reduces the possibility of rationalizing and developing their performance.

And the first feature of the Iraqi environment is the almost complete dichotomy between scientific and university research on the one hand and other sectors on the other hand, as scientific research is often directed to abstract theoretical models, while other local sectors live on the inherited experience and traditional craft models if any, in addition to that lack of Communication and distrust between these sectors and scientific research, as you see that the research and development sector is not enthusiastic and not sufficiently prepared to cooperate with it, and at the same time researchers do not see any benefit in dealing with these sectors because they are only concerned with searching for a quick profit and any possible tool without Being concerned with the degree of its operation, there is also a noticeable weakness in the institutional orientation of researchers, especially in universities and institutes, as they lack the administrative culture and the technologies of the business world.

so what is required of the incubator, if it was established in Iraq, is to be a specialized incubator with a technological orientation and to strive to achieve a set of local goals in addition to the general goal of sponsoring entrepreneurship with a technological base. On the other hand, supporting the scientific and technological

approach, as well as technical and administrative training, providing advice and services, and keen on technological innovation, and attracting investment and technology.

Conclusions and recommendations

- First: the conclusions

- 1- The application of the incubator model can be used as a preliminary experiment in certain departments or colleges, especially in the early stages.
- 2- The research revealed that the incubator model could be applied in cooperation between Iraqi universities and foreign universities that have similar patterns of work.
- 3- It is difficult to apply the incubator model on a large scale, because this model requires extensive capabilities, high accuracy, and pre-preparation.
- 4- The application of the incubator model in higher education will lead to a qualitative leap in the development process of universities, especially the colleges and departments through which the model is applied.
- 5- The administrative leaderships of universities must be widely aware of the nature of the requirements of the variables of the application of the business incubators model in order to take the initiative by the leaders in looking into and examining the purpose of making this aspect successful.

- Second: Recommendations

- 1- Creating the appropriate environment by the university to build business incubators within colleges or departments, which are considered as a laboratory for the extent of the possibility of success of the experiment.
- 2- Developing the establishment of a concerned unit or center concerned with making a series of changes, whether in curricula or study methods, with the aim of making the faculties concerned with the experiment or departments with twin capabilities and the model required for the application of the experiment.
- 3- The procedure for selecting a group of professors for the purpose of practice in foreign universities that can be used in the incubator form.
- 4- The choice of the model concerned with the incubator requires foreign universities to be somewhat similar to the university patterns in force within Iraqi universities, especially the English language.
- 5- Since the process of preparing the incubator and then the university development process requires the existence of a consensus in the traditions and university values between the existing model at the Iraqi University and the model that can be attracted for the purpose of establishing the incubator, i.e. there is harmony between the two models in order to bring about a process of change that can serve as a development of the similarity between the two

models, The Iraqi University and the foreign university that is accredited as a business incubator.

- 6- It requires preparing the requirements of the work mechanisms for the purpose of development, and what is meant by the working mechanisms is the nature of the requirements that can be identified and then benefit in the field of their application.
- 7- Establishing a research unit or research center to determine the priorities required in the field of implementing the incubator model in one of the foreign colleges or universities, and this research unit or center carries out continuous work for the purpose of following up the requirements for implementing the incubator program, whether in the curriculum, teaching methods, or the required support processes. Successful implementation of the program.
- 8- Working on choosing a model for a university, college or department of a foreign university in those universities that can be used in order to consider it as a model that is suitable for application within one of the colleges or departments in our universities in terms of academic vocabulary, college size, study methods, language adopted in teaching and the type of certificate is it Professional or academic.
- 9- Within the mechanisms of work, the preparation of the first stage of this model of the program requires the selection of the first stage of study for students included in the incubator application form, and these students are carefully selected and at a high level of competence, whether in specialization lessons, language or supportive programs related to the use of computers and the use of the Internet for each Student as well as professors.

- **References**

- 1- Imad Mustafa, The National Report for Science and Technology Policies in the Syrian Arab Republic, March 1999, p. 4.
- 2- Annapureddy. G. Donchev. T. Kottutt.S "The incubator as a support tool for high-tech entrepreneurs" December 2001 p4.
- 3- Akcomak .S.Taymaz. E. "Assessing the effectiveness of incubators" economic Research Center. October> 2004. P 202. 4. Economic and Social Commission for Western Asia (ESCWA), a symposium on the development and investment of inventions in Syria, United Nations, New York, 2001, p. 2.
- 4- Atef Ibrahim Al-Shabrawi, The Role of Business Incubators in the Development of Industrial Textiles The Economist, First Symposium of Incubators, Cairo, 2001, p.10.
- 5- Atef Shabrawi Ibrahim, Business Incubators: Initial Concepts and Global Experiences, The Islamic Educational, Scientific and Cultural Organization (ISESCO), 2005, p. 26.

- 6- Some International Experiences in Establishing Business Incubators, The Internet, p. 19.
- 7- Economic and Social Commission for Western Asia, Initiatives for Building Technological Capacity during the Twenty-first Century in ESCWA Member Countries, United Nations, New York, 2003, p. 19.
- 8- China Business Review, Volume 29 Number 4, July-August 2002.
- 9- Isfahan Science –Technology Town –Rooyesh IT Incubators. Website.
- 10- Muhammad Marayati, Technology Incubators and Development of the Arab Nation, Al-Arabi Magazine, No. 573, Kuwait, August 2006, p. 25.
- 11- Economic and Social Commission for Western Asia (ESCWA), Seminar on New Structures for Building Technological Capacity, New York, United Nations, 2001, p.9.
- 12- the . Muhammad Nasser Aziz, Global Experiences in Incubators and Their Impact on Development, An Introductory Seminar on Technology Incubators, 2007, pg.
- 13- Muhammad Nabil Nasser, “From Patents to Trademarks Protecting Intellectual Property Rights Has Become an Arab Priority, Al-Hayat, 2005.
- 14- Turki Saud Muhammad, Knowledge Economy and Technology Incubators, King Saud University, 2007, p.30.
- 15- Economic and Social Commission for Western Asia (ESCWA), Technology Business Incubators, United Nations, New York, 1995, p. 21.
- 16- Abdel Basset Hammouda, Technology Research and Business Incubators and their Role in Supporting Creativity, Invention and Industry, Working Paper, Arab Organization for Industrial Development and Mining, 2000, p.19.
- 17- Amir Turkmen, The Role of Intermediary and Supporting Institutions, The National Conference for Scientific Research and Technical Development, Damascus, 24-26, 2006, p. 4.
- 18- Abdul Aziz Al Harqan, Technology Incubators and Creativity System, an electronic document on the website www.bairict.com .p5
- 19- Abbas Ahmad Al Mahdi, Technology Transfer and Technological Capacity Development, Working Paper, Arab Industrial Development and Mining Organization, 2000, p. 22.
- 20- Samir Muhammad Al-Sakkak, Business and Knowledge Organizations, Introductory Seminar on Business Incubators, King Saud University, 2007, p. 28.