

Role of Business Incubators in the Development of Small and Medium Enterprises Examples of International Experiences

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Abstract: *Business incubator is an institutional unit that helps innovators to develop their ideas and leading projects that can be transformed from an idea of business to produce and market. The concept of incubators appears to be integrated system of different mechanisms of support for the small and medium enterprises chosen to be affiliate to the incubator. The sources of finance vary by the type of incubator whether under sponsorship of governmental authorities or not for profit organizations or for profit organizations. The government subsidy for establishment of incubators is a key factor for continuity and development of the experience, and it is an important role of government on the world level to develop economy and develop the competitiveness of their projects. The idea of business incubators dates back to the late 1950s in the United States after war II, in addition, the concept of incubators spread in the remaining regions of the Middle East and Arab countries. The experience of Egypt in establishment of small enterprise incubators, in spite of its old steps of study and development, was volatile between attention of governments and negligence of others, which requires dedication of attention by the existing governments to revive the small enterprises sector that represents the highest rate of companies in Egypt. The main function of incubator is the social and economic development of the country, and edication of all science and technology researches to practical application and assessment of their outcomes.*

I. Introduction

Business incubators are integrated systems that consider every small project as an emerging project that requires care and comprehensive attention. Therefore, it requires incubator to accommodate these projects from birth to protect it against the surrounding damages and provide it with the survival energy, and push it gradually afterwards to be strong and able to grow and develop in the future, and be provided with the mechanisms and events of success. We noted that the idea of incubators is derived from the incubator in which the child is placed for children who need it upon their birth for support and help of specialized systems that help them transcend the hard conditions that surround them where they need particular care. The newborn leaves the incubator after healthcare specialists provide him with a certificate that testifies his strength and ability to grow and lead natural life amongst the others. This is the same idea that different countries adopted. Economists stress on the importance of establishing such incubators for protection of the projects that need at the beginning particular support and protection to enable them later to move to the foreign markets⁽¹⁾.

General framework of the research:

First: Problem of the research:

The history of technology projects incubators dates back to the early 1980s. There appeared need to create new events capable of supporting and caring for the applied inventions and research and creativity, particularly technology, and transfer of them into companies and increasing their success opportunities. The idea of incubators is derived from the incubator where the incomplete children are placed upon their birth to transcend the difficulties of the special conditions that surround them, by providing all means to care for them, and then the newborn leaves the incubator after we confirm that he is able to grow and lead normal life amongst others.

Therefore, the problem of this research lies in the answer to the following question:

What are the requirements for development of incubators to become capable of supporting the small enterprises? What are the obstacles of spread of the mechanisms of business incubators in Egypt?

Second: Importance and Goals of the Study:

(1) Nabil Mohamed Shalaby, Proposed Model of technical incubator in the Kingdom of Saudi Arabia, paper submitted to the symposium on "facts and problems of small and medium enterprises and the means of development and support of them", Chamber of Commerce and Industry, Riyadh, 2-3/08/1423, corresponding to 8-9/10/2002, p. 4

Scientific importance: The importance of the study arises from the fact that the study defines the concept of business incubators and their role. In addition, this study is one of the few studies to handle the effect of business incubators on the success and development of small enterprises in Egypt and developing countries.

Scientific importance:

The importance of this research stems from the study of feasibility of using the business incubators in supporting the competitiveness of the small enterprises to utilize the experiences and services provided by those incubators, and the need to apply the unconventional administrative and organizational ideas and practices to face the successive scientific developments to guarantee the satisfaction of the needs of developing societies.

The goals of the study include:

- 1- Definition of the concept of business incubators as one of the basis of small and emerging projects.
- 2- Exposure to the effect of using business incubators in the service of small enterprises in Egypt.
- 3- Handling the obstacles that encounter the use and spread of business incubators in Egypt.
- 4- Identification and utilization of the experiences of the developed countries in the field of business incubators.
- 5- Exposure of the suggestions that contribute to the success of ancillary programs of the small enterprises that enable their presentation through the business incubators.

Third: Questions of the Research:

This study aims at answering the following questions in addition to the main question:

- 1- What are the different types of business incubators and the essential differences between them?
- 2- What are the advantages of business incubators in support of small enterprises?
- 3- To what extent have the small enterprises in Egypt benefited from the use of business incubator system?
- 4- How can the business incubators relation to the projects adopted by them after the end of incubation period continue? Does the relation affect the ability of such projects to maintain its budget and competitiveness after end of this period?

Fourth: Theoretical framework of the research:

This research aims at handling several points that include: rise and development of the concept of business incubators, definition of the concept of business incubators and related concepts, constituents of business incubators, types of incubators and standards of their success and their effect.

A- Rise and development of business incubators:

The idea of business incubators dates back to the late 1950s after the United States ended the World War II and slump and corruption increased, and conventional leading factories became idle. The first incubator, Mancuso's Batavia Industrial Center, appeared in New York in 1959 as the first incubator known in the world till now⁽²⁾, when a family transformed the headquarters of its company after the company stopped work into business center the furnished facilities and office equipment of which are leased to the individuals interested in establishment of their projects, and providing the consults and advice to them. The idea made brilliant success. Joseph Moancuso, a reputable name on the list of inventors of incubators mechanism continued till he died in 2008 aged 88⁽³⁾.

The idea didn't spread fast. However, with the increasing attention to small enterprises throughout the world from the late 1970s, the concept of business incubators was related to the small enterprises as a new mechanism that can develop this economic sector and play its part in achievement of development. Up to 1980, the number of business incubators in the United States didn't exceed 12⁽⁴⁾. The number of incubators that were established in the United States increased from 12 to 15 incubators in the early 1980s; to 20 in 1984; to 70 in 1987. By the end of 2010, there were 1400 incubators in the United States, followed by China in the number of incubators that reached 800⁽⁵⁾. After emergence of business incubator in the United States, they began to emerge in Europe in Germany, France and Britain as leading countries in the field of adopting the mechanism of incubators. France had the first experiment of incubators (Tacomak) that was established on 500 m², then it incubated 15 projects. The first technology magnate in France was "Metro Wellis" that was established since

⁽²⁾Dr. Ramadan El Senousy and Dr. Abdelsalam Al Dwiby, **Business Incubators and Small Enterprises**, Benghazi, Libya, Dar Al Kotob Al Watania, 2002

⁽³⁾Website of the world's first business incubator in the United States (www.mancusogroup.com)

⁽⁴⁾-Lind knopp, Incubation Industry Compensation Survey, USA: NBIA Publications, July 2010.

⁽⁵⁾-The 25th National Business Incubation Association Report- NBIA International conference on Business Incubation, conference report, held in Orlando, Florida- USA, May 2010

1964. From the early application of incubators till 2002, the number of incubators based in France reached 112 incubators, and 48 technology magnates⁽⁶⁾.

In the United Kingdom, due to the industrial depression that interrupted the English steel industry and weaving industry, and with American help, the first English incubator was launched. In 1971, the two technology parks were established in the Heriot University and Cambridge University. Up to the end of 1989, incubators in the Britain were 36 technology parks. According to the annual report of the United Kingdom Business Incubation (UKBI), incubators in the United Kingdom reached 270⁽⁷⁾.

Concerning Germany, it started its first experiences in establishment of incubators in 1983, upon initiative of the Berlin Technology University, and the number incubators by the end of 2010 was 330 incubators and 67 technology parks. The key institutions that supervised these incubators include the German Business and Technology Incubators Society⁽⁸⁾.

According to the annual report in 2004 of the National Business Incubation Association (NBIA), the American National Business Incubators Association, the number of incubators in the European Union exceeds 900 incubators. In addition, the number of incubators in the United States was 1100 by the end of 2010⁽⁹⁾.

By the end of 2010, China ranked the second and rivals Germany, the third standing in the field of incubation establishment. The initiative came in the mid-1980s when China carried out the first transformation and restructuring of scientific research policies in 1985, to transfer the trends of theoretical scientific researches into applications in industry and economy, which is known as TORCH program. The first incubator in China dates back to 1987 (Wuhan Donohue Business Incubation Center, 1987). Single models of incubators were established in China. Fifty-four technology parks were established during 1990s and increased to 465 incubators by October 2002. Approximately all of these are technology incubators⁽¹⁰⁾.

The experience of Brazil was one of the experiences that made tangible success. The beginning of the experience was in the mid-1980s with two incubators, and the number increased in 2010 to about 400 incubators. The experience achieves what is worthy of close study. There has become what is known as the Brazilian model of incubators. Brazil ranked the fourth in the international classification of business incubator models⁽¹¹⁾. In Australia, incubators began in the early 1980s and there were 17 incubators actually by 1989, so incubators were 49 in 1996. The number of incubators in Australia was 80 by 2005 with total incubation capacity of 1200 projects at the same time. The percentage of success of the projects incubated in Australia was 60% by 2005 till 1300 projects in the period from 2000 to March 2005⁽¹²⁾.

The Malaysian experience appears on the list of the countries that successfully used the mechanism of business incubators in the support and development of the small and medium enterprises that represent 86%⁽¹³⁾ out of the total projects. It began with the second national plan that was called 1996-2005 plan as a beginning of attention to the establishment of incubators. The policy of industrial compounds was approved as business incubators through the establishment of number of establishments for this purpose. The investment fund was created under the name (Malaysian Technology Development Corporation (MTDC)) that fosters incubators as one of the activities. It was established in 1997 to market and transfer the creative ideas from inside the Malaysian research universities and institutes⁽¹⁴⁾.

Concerning the Middle Eastern and African countries, the idea of incubators appeared in the Arab countries in the 1990s with the help of the European Union and World Bank. The United Nations Industrial Development Organization (UNIDO) played a key role, particularly in the early 1990s. The first incubator in the Arab Republic of Egypt was established in 1995, and the first nongovernmental organization to sponsor the small enterprises, the Egyptian Business Incubators Association, was financed by the Social Development Fund. The plans that were set included the establishment of about 20 incubators before 2003. The number of incubators actually established didn't reach this number yet⁽¹⁵⁾.

⁽⁶⁾ -COUVIDATY GIUSTU, "Atlas international des technopoles" Paris- France, 2001.

⁽⁷⁾ -Andrew Duff, Best Practice in Business Incubator Management, Western Australia: Strategic Partnering Pty Ltd, 1998

⁽⁸⁾ -What is business incubation, UKBI publishing 2009, Available on: <http://www.Ukbi.co.uk/index.asp?SID=222>. Visited Jun, 2010.

⁽⁹⁾ -Dina Adkins, A Brief History of Business Incubation in the United States, USA: NIBA Publications, 2008.

⁽¹⁰⁾ -Aruna Chandra Approches to Business Incubation: A Comparative Study of the United states, China and Brazil "Network Financial Institute Work Paper. November, 2007.

⁽¹¹⁾ -Guillherme Ary Plonski, Science Parks and Incubators in Brazil, Center of Technology Policy&Management (http://www.inova.unicamp.br/download/artigos/SCIENCE_PARKS_AND_INCUBATORS_IN_BARAZIL-artigo.pdf) March 2009

⁽¹²⁾ -Naational Incubator Static in March 2005, Business Innovation and Incubtion Australia (<http://www.businessincubation.com.au/incubation/statics>) assaessed. July 2010.

⁽¹³⁾ Mohamed Ghazali Younes, Technology capacity Building for SMES. Sharing of Malaysian Experince, Beijing, People,s Republic of China, October 2006 .

⁽¹⁴⁾ Muhammad Hatta, Malaysian Experience in Incubators, the first Arab seminar in the Field of Industrial Incubator, Cairo, Egypt, Jan.2003

⁽¹⁵⁾ Dr. Atef El Shabrawy, Dr. Ahmed Darwish, Success Arab Models of business incubators, Al Tebbin Incubator of Technology Projects, First Arab Seminar on Industrial Incubators, Cairo, A.R.E, January 2003.

Egypt, Jordan and Tunisia made progress in the application of the concept of business incubators. The experiences varied and achieved tangible results. In addition, the concept of incubators spread in the remaining regions of the Middle East and Arab countries. There are incubators and science and technology parks in the ultanate of Oman, Qatar, Bahrain, Lebanon and Sudan. In addition, the experience of incubators started in Algeria, Morocco, Libya, Syria, Lebanon and United Arab Emirates⁽¹⁶⁾.

In Kuwait, attention began to arise to the sector of small and medium enterprises, particularly after an amount of USD 500 million was appropriated to promote the initiative of support and propagation of small and medium enterprises in the Arab countries that target appropriation of a total amount of USD 2 billion for this purpose. There is Al Shwaikh incubator affiliated to the general authority for applied learning and training. It is still in the early phases. The first technology incubator in Kuwait is still under construction till 2010. this is called the Kuwaiti Technology Incubator that was financed by the Kuwait Institute for Scientific Research (KISR) and the Kuwait Establishment for Development of Small Enterprises to establish Kuwaiti companies of technology orientation and facilitate the transfer of technologies of the KISR to commercial applications⁽¹⁷⁾. The experiences of project incubators in Iran started with two incubators in 2002 and the number of incubators in Iran rose to 58 incubators in 2008 to reach in total about 102 incubators by the end of 2010, in addition to about 25 scientific parks that represent science and technology revolution. Every incubator incubates in average 16 projects. Some of them made success and reputation such as Rooyen Incubator and Asfahan Incubator for Science and Technology. 50% of the finance of these incubators comes from government in contribution and grants of research given to the companies, not the individuals⁽¹⁸⁾.

Phases of development of incubators:

However, what the world witnessed in the second half of 1990s which is known as information technology revolution, and its contribution during this period in the change of the basic common rules in the markets, particularly in the incubators industry, represented in the rapid access to the market and survival in it were the key factors for success of incubators in the internet era. The joint ventures arose and capital readiness increased. Many events emerged and recalled more management than need to the technical side and experience. These market changes required revival then redefinition of the concept of incubators. Revival was because of the dramatic increase of the numbers of incubators. Definition of the concept of incubators was required by the continuous radical changes made to the basic principles of the original model of business incubators⁽¹⁹⁾. Table (1) can indicate the main comparisons between business incubators in the 1980s and 1990s (Gonzalez & Lucea, 2001, 1)

Table (1)
Main properties of the models of business incubators in the 1980s and 1990s

Incubator in 1980s	Incubators in 1990s
Public or semi-public property	Private property
Not for profit	Not for profit
Society oriented	Business oriented
Fees for the service purposes	Property for service purposes
Aims at cutting the business cost	Aims at cutting the market access time
Various uses	Tight concentration particularly on information technology

Source: Gonzalez, Marisela & Lucea, Rafael, The Evolution of Business Incubation, Working Paper, March, (2001), P. 1.

In addition to the above two phases (1980s and 1990s), some note that what happened to the incubators since 1998 is an essential point that transcends to work at the age of globalization, and some call the incubators of this phase the third generation incubators. They turned to establish incubators for profit by utilizing the developments that occurred in the information and communication technology to provide support that contributed to create a new type of incubators known as knowledge- based ventures. Some of those incubators

⁽¹⁶⁾Dr. Mohamed Ayman Abdelmaguid Dayf, Knowledge cities in the Arab World: **Role of regional urban planning in orientation of the future of information economy of the states**, Academy of Scientific Research and Technology, Arab Republic of Egypt, 2009.

⁽¹⁷⁾ Dr. Hany Al Mubarak, International supply of business incubators, quantitative and qualitative perspective, PhD thesis, Faculty of Engineering, Kuwait University, Kuwait, 2008.

⁽¹⁸⁾ Fataneh Taghiyareh. A New Entrepreneurial Model of Incubators, master thesis, Faculty of Engineering, University of Iran, Iran. 2008

⁽¹⁹⁾ - Rouwmaat, Vincent; Reid, Alasdair & Kurik, Silja, Business Incubation: Review of Current Situation and Guidelines for Government Intervention in Estonia, Working Paper in Innovation Series, Ministry of Economic Affairs and Communications of the Republic of Estonia,(2003).P.9.

contributed to achieve economic growth, and such developments led as well to the emergence of the so-called virtual incubators or incubators without walls or borders⁽²⁰⁾.

B- Definition of the concept of business incubators and related concepts:

In addition to the fact that business incubators are based on the provision of equipped and furnished space or place for the project owners, the incubator management provides integrated service system for the emerging small enterprises from establishment to the entry in the phase of production, as if it is a newborn who needs intensive care and attention till he leaves the incubator after the specialists of the incubator provide him with all types of technical and consulting support to help him assume the field of work and grant him the ability to compete. The incubation process proceeds through the provision of management and financial support to the small enterprises to help them overcome the problems that can lead to their failure. Therefore, the incubator provides the small enterprise with the place equipped with all material resources, so the small enterprises have in their first steps the opportunity to rapidly grow in the incubator to have stronger performance when it leaves the incubator, and therefore improve the opportunities of their success. As a result, societies achieve economic growth and can overcome the difficulties of competition under open global market⁽²¹⁾.

Concept of business incubators:

The concept of business incubators refers to the place where the services, experiences and supplies are provided to those interested in the establishment of small enterprises under technical and administrative supervision by the experienced persons and specialists so that these projects can have the ability and experience required for guaranteeing the continuous success under competition of the markets. The concept of incubators considers that the small and emerging projects are treated as a newborn that needs particular care and attention to protect him against any danger that he may suffer. Therefore, the incubators provide many facilities and advantages that can't be provided for such projects abroad, in addition to the technical support and consulting, accounting and other facilities services related to the registration of the project and its legal and marketing matters, through the partnership and cooperation of incubators with the authorities related to the support of small and medium enterprises. The project is incubated through particular mechanism that defines the type and specifications of the project that can be incubated in accordance with the every system set by every incubator to choose the developed projects⁽²²⁾.

Consequently, the concept of business incubators is the pattern that establishes the provision and development of technical support and services for the small and medium enterprises. It is the environment of integrated framework of the place, supplies, services, facilities and support and consult mechanisms and organization dedicated to help the business entrepreneurs on the development of their ideas through integrated inputs of activities and sources of support and services in the way that achieves the management and development of the incubating (production, service or specialized) projects for specific period of time (mostly within two years) in the way that reduces the common risks from those entrepreneurs and provides their projects with more success opportunities than what they would have achieved out of the incubator, through legal entity established for this purpose. The incubator is considered a dynamic program for development of the business corporations and entities⁽²³⁾. In other words, the concept of business incubators is a new pattern of structure that fosters the innovation activities of the small and medium enterprises or creative developers who enjoy the spirit of leadership and who lack the necessary capacities for and marketing development of their research and technology.

The concepts of incubators were distinguished from the other concepts of supporting the small enterprises because they are often related to the modern innovations and new projects. They are different from the other mechanisms that support the small enterprises by being institutions that primarily adopt the ideas of inventors and patent owners. They support the initiators who have the ambitious ideas and sound economic study and desire to establish their partnerships and apply their inventions. The business incubators are provided to the affiliate projects in suitable work environment during the early critical years of the project life and increase of the opportunities of success through the completion of the technical, administrative and technological sides required for commencement of the project and development of it through a specialized department that provides all necessary support, including the integrated consulting, administrative, technical and legal services in the way that pushes the project owner to focus on the essence of work and to set off the lack of

⁽²⁰⁾ - Rouwmaat, Vincent; Reid, Alasdair & Kurik, Silja, Business Incubation: Review of Current Situation and Guidelines for Government Intervention in Estonia, Working Paper in Innovation Series, Ministry of Economic Affairs and Communications of the Republic of Estonia,(2003).

⁽²¹⁾ - Lalkaka, R. and Bishop, J. Technology Parks and Business Incubators: the Potential of Synergy, 4th World Conference on Science and Research Parks, Beijing, September 1995.

⁽²²⁾ Nevin Talaat Sadek, Support programs provided in the fields of business incubators, comparative study with application to Egypt, master thesis, Cairo University, Faculty of Economics and Political Science, 2011, p. 22.

⁽²³⁾ I.D.Ryan and Gail. Hiduke, An Entrepreneur's Business Plan. Incubate your Business for Success, USA: Thomson Corporation, 2006.

experience in such affairs. In addition, there are some other models of central incubation centers that include: provision of specialized programs for finance of good small enterprises of innovated ideas through the risk capital companies, government finance programs, businessmen and investors network, central administrative, technical and marketing services, supply of equipment and systems of computer, contact with the experience centers, universities and research centers, in addition to help through the incubator consultants in provision of follow up, evaluation and counseling on continuous basis⁽²⁴⁾.

Accordingly, the incubator can be defined as the entity or authority that adopts the ideas of inventors and initiators and dedicate them to the production and presentation of new products or development of existing industries or services through the provision of suitable work environment to those emerging products by providing the technical and economic administrative services and consults, and supply of some equipment and accessories. In addition, it connects the authorities that help in the success of incubated projects such as the sources of finance, labs, etc. for a specific period of time where these emerging projects become capable of moving out of the incubator and encountering the market difficulties and challenges⁽²⁵⁾.

Business incubators and related concepts:

The experiences made in the pre-1980s were called the first generation of incubators. During that period the forms and mechanisms of support of small and medium enterprises such as the compounds of specialized support units, institutional agencies and industrial cities. The experiences provided in the 1990s were called the second generation of incubators in which other mechanisms emerged such as the business centers and scientific cities. The current, third, generation of incubators emerged. This generation includes all types of support and sharing of risks with the small enterprises that are elected for entry of business incubators⁽²⁶⁾. The concept of incubators emerged in line with some other terms such as entrepreneur, innovation and creation that can be defined as follows:

- Definition of entrepreneurship:

Entrepreneurship can be defined as creation of new business or businesses or response to new opportunities. Entrepreneurship is the skill of attention to opportunities while the majority don't note that these opportunities exist, so entrepreneurship resulted in creation or building of something out of nothing⁽²⁷⁾.

- Definition of creation:

Creation is defined as making or deriving something new even if it elements actually existed before. It is:

- Innovation of what is new and addition of new value to current product.
- Innovation of a new product or addition of new valley to current product.
- Innovation of manufacturing method or amendment of existing manufacturing method.
- Provision of new service or addition of new additives to existing one.

Creation is the highest level of talent that is capable of creating the new and investing the renewable ideas of the human mind⁽²⁸⁾.

- Definition of innovation:

Research used two different terms for approximately the same concept; namely innovation and creation as a translation of the Latin term "innovation". Creation in Arabic is derived from virgin, and the virgin is every act that wasn't presented before. If the factors of success are available for it, the person who did it would have done and no one preceded him shall be called innovation.

Therefore, innovation is a new idea or new behavior by the establishment or market management or the environment where it works to transfer this idea into useful goods or services or useful work method⁽²⁹⁾⁽³⁰⁾.

C- Criteria of Business Incubators:

Formation of incubators is usually done by full support of the public sector or private sector. In addition, it is sometimes done between the public sector and private sector, and sometimes with participation and support of the governmental and foreign international organizations. Universities and specialized institutes

⁽²⁴⁾Nevein Talaat, Ibid, p. 23

⁽²⁵⁾ - Rustam Lalkaka, Venture Creation and Growth Through Business Incubation Centers and Technology Parks, Mediterranean Development Forum, Cairo, Egypt, March 2000.

⁽²⁶⁾ Registration guide for Host Entrepreneurs", Erasmus for Young Entrepreneurs, European Commission Enterprise and Industry, 2009

⁽²⁷⁾ McMillan, J. and C. Woodruff, " The Center Role of Entrepreneurs in Transition Economies," Journal of Economic Perspectives, Vol.16, 2006

⁽²⁸⁾ Julia Birkinshaw & Garyham El, Academy of Management, London Business School, Review Management Innovation, 2008

⁽²⁹⁾ Ned Herrmann, Creativity? Innovation? Are They Different? Do We Need Both?", FOCUS, volume 10, 1999

⁽³⁰⁾ Palmon, R., Illies J., "Leadership and Creativity: Understanding Leadership from a Creativity problem-Solving perspective", The leadership Quarterly, 2004

also contribute to the provision of the required technical support of those incubators that may extent to establish of incubator in the university and allow the owners of labs and libraries beside the place, equipment and internet networks, telephone lines and security services. The incubators depend on availing opportunities to creative youth. Consequently, they started through the universities such as France and the governmental entities like China and Brazil, then the incubators financed by private sector and the not for profit international organizations and for profit international organizations emerged⁽³¹⁾.

Objectives of Business Incubators:

Incubators have become key and developed mechanisms that contribute to address and resolve the economic and social problems of the small and medium enterprises throughout the world, particularly in the developing countries, so business incubators aim at achieving set of objectives on two levels:

First: Community Level:

The incubator aims at providing the infrastructure of the projects that feed the large and small enterprises that actually exist, and transfer of unemployment in society into an economic power that can contribute and provide jobs to the third parties through the increase of the number of projects and increase of job opportunities, increase of the rates of income in the local community, encouragement of the categories that don't have sufficient experiences to establish the small enterprises, dissemination and development of the concept of private enterprises, direction of businessmen towards the high technology projects, support the cooperative efforts between the business sector and universities, scientific research centers and government authorities to revive the local community, market the research and studies done by the universities and scientific research centers.

Second: Project level:

The incubator aims at providing the suitable environment for creation and protection of the small enterprises in their early stages of the project, to provide strong entities to society to be able to survive and develop, such as cutting the costs of establishment of projects and the risks that the projects may suffer at the early phases of their establishment, cutting the period of time required for their development and providing the suitable solutions to the technical, administrative, financial and legal problems that encounter their success, and therefore increase their success through the support of innovation and distinguished ideas and expanding the business of projects and supporting cooperation between them. The incubators build networking through the invitation to symposiums and exhibitions that aim at attracting the potential investors in the associate establishments of these incubators. In addition, the incubators build the communication networks between them to participate in the experiences and avoid dualism, while continuing in communication with the establishments that graduate from them by providing some services that were provided before graduation, because this helps only in increasing the income of incubators, but it is an effective marketing tool as the associate of these incubators makes benefit from the graduated incubators⁽³²⁾.

• Phases of formation of business incubators:

Incubators undergo basic phases in their establishment:

1- **Phase of basic studies:** This phase includes communications between the sponsor of the project and the organizing entities and authorities that organize the work of incubators, along with collection of information on the place, area and target projects, and creation of the general framework of the project for establishment of incubator and defining the expected costs during the early years of the incubator.

2- **Phase of feasibility study, design of place, preparation and early operation:** In this phase, all data on the needs of small enterprises to be incubated in terms of area, supplies, services, raw materials, cost of transport and how all these needs are satisfied and the costs of the preliminary operation cycle of each project as well as the expected labor, necessary skills and other data required for preparation of the feasibility study and work plan of each project shall be prepared. This is done by the owners of projects that apply for the incubator under supervision of the incubator management.

3- **Phase of soft launching (piloting):** Operation of some projects started for probation and the incubator doesn't work at its full capacity, and start to incubate some projects.

⁽³²⁾ - Shalaby, N.M, "How can Saudi Arabia benefits from Business Incubators and Technology Parks", **Saudi Commerce and economic review magazine**, No. 88, Aug. 2001, PP. 29-36

4- Phase of permanent operation: This is the phase where the incubator practices its duties particularly in the field of receiving the small enterprises and caring for them during the period of incubation dedicated for each project⁽³³⁾.

In addition, there are incubators that require support and local and international networks to serve and work on the success of this mechanism as follows:

- Local network for management of the progress of works. This network consists of investors to provide seed fund or risk capital to manage the works of marketing of the products or services produced by the incubating small enterprises.
- Local knowledge provision network: This consists of science and technology corporations and companies and specialized experts and consultants...etc. We find several local networks in the countries of Europe and in the United States and Australia where the relations are created and the experiences are exchanged between the local incubators.

International companies for provision of knowledge: It consists of training network on business administration, remote learning and training, research and development institutes, incubators, technical information ...etc. In addition, they include technology transfer networks so that the project can exist under the incubator in Egypt as example and can leave to open the external markets through these networks. There is a program called soft landing, and provide translation and legal consulting services and other startups among the different incubators all over the world including the mutual services among the incubators.

Phases of implementation of the business incubator projects:

After evaluation of the previous projects provided for association of business incubator, a specific number of projects is chosen in accordance with the incubator capacity, and the project undergoes several phases from the beginning of presentation of incubator till graduation as follows⁽³⁴⁾:

1- Pre-incubation phase: This is the phase of preliminary study and discussion and planning.

In this phase, and through the interviews between the incubator management and those who apply for their projects, we stress some points related to the idea of the project and the staff as follows:

- Seriousness of the idea (or project) owner and the compliance of the standards of choice to the beneficiaries and their projects.
- Ability of the proposed staff to manage the project.
- Type and nature of the services required by the project from the incubator and the incubator's ability to provide them.
- The preliminary marketing study and plans that handle the producer's ability to access the market.
- Business plan for expansions of the projects and definition of their finance and technology needs.

2- Phase of reception: The tendency period and provision of place for the project in the incubator.

During this phase, performance of projects that work in the incubator is monitored and helped to achieve high growth rates through the assistance and consults from the ancillary specialized technical devices in the incubator management, in addition to participation in the symposiums, workshops and training courses in the incubator in cooperation with the appropriate establishments. All types of support services required for establishment and operation of projects are provided, and the projects and the period range from 6 months in some examples to five years in other forms.

3- Phase of project graduation: After graduation from the incubator, we find in most experiences that the relation between the graduated project and the incubator continues in the difference of form of this relation from a model to the other provided the project uses some services, particularly marketing and participation in the exhibitions and obtaining information on continuous basis.

Sources of finance and business incubation services:

Sources of finance of incubators vary in accordance with each type, including the profit incubators and other not for profit incubators, including the governmental incubators and those financed in collaboration with the private sector. All programs of incubators are not for profit since they were established till for profit incubators emerged in the United States of America at the late 1990s. According to the National Business Incubation Association (NABIA) issued in 2002, the percentage of profit incubators in the United States of America was 16% against

⁽³³⁾ Colin Barrow, **Incubators: A Realist's Guide to the World's New Business Accelerators**, USA: Johan Wiily & Sons Incorporate. November 2001.

⁽³⁴⁾ Nabil Mohamed Shalaby, "Overview of incubators in Egypt", paper submitted to the Egyptian Incubators Association, Cairo, 2000

only 6% in 2006, according to the annual report of the same organization. Different organizations, including public authorities and private companies and scientific organizations and professional and specialized organizations provide types of support or participate in the finance of incubators before reaching the phase of depending on finance. The finance provided by these and other authorities takes different forms that are often in the form of buildings or financial contributions in accordance with specific mechanism in addition to the returns from these services provided to the incubators to the project owners as follows:

- Returns of rent and services provided to the associate projects.
- Returns of services provided to foreign entities such as the service of feasibility studies.
- Aids and gifts received by the incubator in kind or cash form.
- Sponsorship
- Returns of investment in the incubating projects.

The forms of services provided to the small enterprises in the incubator vary to include⁽³⁵⁾:

• **Administrative services:**

- Facilitating the company establishment formalities.
- Provision of accounting and invoicing services.
- Building modal structure for establishment and incorporation of new businesses and companies.

• **Secretariat services:**

Daily services: such as text processing, photocopying, answers of receptionists, archiving, fax, internet, reception and control of correspondences and telephone calls.

• **Specialized services:**

- The incubator, through the experienced and competent trainers, trains the owners of small enterprises on how to perform their work in the different fields by holding the symposiums and workshops inside and outside the incubator.
- Provision of information base for serving the projects inside and outside the incubator.
- Provision and facilitation of the technical consults and marketing services, public relations and legal consults.
- Raising the ability of projects to use the developed technology, particularly in the technological incubators.

• **Finance services**

- Help in receiving finance through the finance companies or government projects.
- Identifying the strategic investors and companies.
- Looking for investor or partner to adopt the project after the phase of graduation to complete success, as the period of association can achieve the first success and survival remains the purpose.

• **General services:**

- Providing sufficient locations to receive the associate customers and labs, common meeting rooms and workshops.
- Guiding and counseling the incubator associates to answer any general enquiries.
- Security, training fields, computer and library.

Benefits that inure to the project owners in the incubator:

It provides incubation of services and privileges with which it supports the associate projects that have mechanism of business incubators from the other mechanisms of support of small enterprises, particularly because each of the following services may be available in the other mechanisms, but they meet in the incubation process to accelerate the growth rate of the associate projects and to reduce the potential risks of failure at the beginning. We list below the main services and facilities provided by incubation for these projects:

- **Project place:** This represents the starting point for starting any project, through which the project owner undertakes the activities necessary for the project to create and innovate in the market it and receive his customers.
- **Financial support:** This includes cutting of outlays and utilization of access to soft loan, possession of the project equipment on partial payment basis and financial leasing without any obstructing guarantees such as the guarantees required for the bank loan or finding investor through the incubator to provide the financial support or partnership after completion of the association period.

⁽³⁵⁾ Nabil Mohamed Shalaby, Ibid.

- To utilize the available facilities in the incubator such as receptionist for his customers, receiving and controlling the correspondences and telephone calls, computer with internet access, document printer, document control and all similar administrative facilities.
- Technical support by helping in the feasibility studies of the projects and receiving consults in all fields such as management, marketing, design, production, accounting and legal matters.
- Develop the skills through continuous training in accordance with the project needs such as the arts of sale, negotiation, tenders, etc.
- Cutting the time of issuing the licenses, commercial register and related matters with the governmental authorities.
- Make use of the relations and cooperation of the incubator with the different authorities related to the related project inside and outside the Kingdom.
- Marketing support by helping the associate project owner to participate in the local and international exhibitions and to help him market his products through the provision of specialized marketing services and marketing consults through partnerships that cooperate with the incubator.

Organizational and administrative structure of business incubators:

The organizational structure of business incubator often consists of three levels; the board or supreme committee of the system named in some forms the advisory board, and the executive committee and incubators manager, beside the incubator staff that supervises the implementation of the incubator plan. The incubator manager is its cornerstone and he is responsible for management of the incubator's daily business. He is helped by technical administrative staff that includes accountant, marketing specialist, secretary, security officer and assistant. The nominations vary from an incubator system to the other in accordance with each country, according to the incubator's affiliation, whether to the public sector, private sector or not for profit organizations. However, existence of business incubators depends on existence of multiple administrative models, not limited to individual experiences under the presidency of the incubator's manager. In some models, the organizational structure of the incubator presides is presided by the advisory board and sometimes has volunteers to provide their experiences to the incubator.

Incubator's staff:

The incubator staff that supervises the implementation of the incubation plan consists of number of personnel no less than manager and its deputy, deputy and marketing officer, secretariat and guards, in addition to the service office (exclusive window) that proves the services and answers the questions of all beneficiaries, in addition to the to the appointed and volunteer advisory specialists. The number of incubator staff varies from application to the other and it depends on the capacity of incubator in sponsorship of specific number of the small enterprises. In addition, the number of personnel increases with the increase of services provided. The services may include export, import, training and organization of participation in the international and national marketing fairs, the more the available facilities in the incubator including the labs, libraries, etc⁽³⁶⁾.

• **Types of business incubators⁽³⁷⁾:**

The types of incubators vary by the duties and interests that the incubator tends to implement and the difference of the goals that the incubator tends to achieve, or its geographic territory, or in terms of the sector that incubators it without others, so incubators of small enterprises takes several types as follows:

• **In terms of finance and profit of these incubators, the incubators are divided as follows:**

- Governmental incubators financed by government and not for profit that aims at promoting economy and developing the local communities.
- Private sector incubator, which are profit investment incubators that shall be financed by entities or groups of industrial companies.
- Mixed incubators financed by the governmental organizations and private authorities.
- Incubators financed by some private authorities to the international organizations and corporations or chambers of commerce.
- University incubators that are annexed to universities and educational institutes.

• **In terms of specializations, incubators can be divided as follows:**

- **General/Mixed-Use Incubators:**

⁽³⁶⁾ - Shalaby, N.M, "SMEs in Egypt, The Reality and the Hope", A paper submitted to the Canadian Project for SMEs development, Mansoura, Egypt, March 1997.

⁽³⁷⁾ Nevin Talaat Sadek, Ibid, pp 26-29

These incubators serve many business projects without specific specialization. However, they focus on the fields of innovation. The general incubators are established for this purpose or may be established for service of specific sector in the beginning, then move to general incubators concerned with the comprehensive economic development of the area where it exists in the development of the different business. These incubators deal with the small enterprises of different and various specializations in all fields of production and industry or the light engineering industries or those with distinguished craft skills primarily for the regional markets.

- Specialized incubators⁽³⁸⁾, including:

- Industrial incubator: the incubator to be established in the industrial zone after renewal of the needs of this area in terms of the supporting and ancillary industries where the interests and benefits are exchanged between the large factories in the industrial cities and the small enterprises affiliated to the industrial incubators. They focus on the transmission of knowledge and technical experience from the large factories.
- Specific sector incubator or economic development incubators. The specific sector incubator aims at serving specific sector or activity, and is managed by specialized experts in the business to be focused on and it aims at development of some economic sides of the area where they exist through the preparation of industrial structuring of the area or promotion of specific industries or creation of job opportunities of desired specialization or for certain categories of job seekers therein or to attract investments of particular type to them.
- Technology incubators or technology business incubators are concerned with technology and its propagation and development of the specialized authorities and those related thereto, and to encourage and help researchers and academia in the universities and research centers to become entrepreneurs by training and providing them with the skills and providing the other necessary investments and services. Technology business incubators provide the small enterprises with the main facilities, including labs, supplies and additional needs of systems, programs, information technology services and communication networks. In addition, some technology business incubators provide the requirements of infrastructure in terms of affiliate establishment of technology business incubators in the technological areas by these areas or in coordination with the universities, research centers and related ancillary service providers⁽³⁹⁾.

- Research incubator:

The incubators are often in the university campus or research center to develop the ideas, research and designs of the teaching staff members, in addition to utilization of the workshops and labs available in the university. The benefits that inure to the affiliate projects of these incubators from the academia, researchers and students in these universities and research centers through the loan or provision of investments or by participation in research and marketing are among the key advantages provided for the affiliate projects. In addition to these incubators, there is a number of incubators with goals that vary by society and surrounding environment.

New types of incubators recently appeared, such as:

- Specialized incubators to address specific problems "accommodation of the retired armed forces officers or those who retire from collapsed leading companies.
- specialized incubators in technical or creative fields" multimedia, television materials, designs.
- Specialized incubators in some economic or technology sectors such as one of the incubators of Marseilles that is specialized in incubating the holders of new ideas in the fields of use of information technology and multimedia applications "video, image and video". The incubator is often provided as part of the infrastructure, many systems and equipment used in this field and provide their use for the annexed projects.
- Specialized incubators in women business, although the factors of establishment and success of the new company don't depend on its owner's being man or woman. However, there are many cultural factors and inherited habits that render private business monopolized by men in many world countries, primarily the Arab and Muslim countries to encourage women and support their first steps in the world of business. Some countries tended to establish their specific incubators to match the nature of specialties preferable to women. Incubators provide women with training and guidance beside the specialized finance programs. There are some attempts that are still under experience in Egypt and the Kingdom of Jordan.
- Specialized incubators in the fields of manufacturing, production and services, this type of incubators emerged in North America, Canada and United States, which are incubators that provide supplies suitable

⁽³⁸⁾ Dr. Mohamed Bou Zayyan, Technology of Incubations in the Arab World, Paper submitted to the International Forum on Human Development and Opportunities of Integration in Knowledge Economy, Faculty of Law and Economic Rights, Telmsan University, Algeria, March 2004.

⁽³⁹⁾Scientific parks and technology zones, Riyadh (Kingdom of Saudi Arabia), King Abdelaziz University, Nahwa Al Maarefa Series, Scientific Research Department, 2005.

to specific activities, such as the incubators that were established with supplies to serve small enterprises in the fields of restaurants including the takeaways and advanced supplies⁽⁴⁰⁾.

• **In terms of their geographic extension, the incubators can be divided as follows:**

- Regional incubators: this incubator serves a specific region to develop it and foster the use of local resources of materials and services and invest the unemployed youth capacities in this area or service of specific minorities or category of society such as women. The benefits are exchanged for each of the large projects and the small enterprises affiliated to the incubator with focus on knowledge and technical support from the large factories.
- International incubator : The incubator tends to attract the foreign capital with transfer of technology, which emphasizes the high quality and export. This model of incubators was innovated to pursue the economic developments and outcomes of expansion in international trade and eradication of barriers among the markets. A new group of companies that transcend the national and regional barriers emerged. These are the transnational companies. The international incubators were established for this type of companies and facilitation of the nationalization of new emerging companies in business environment similar to the business environment in the international companies, in terms of provision of the infrastructure, technical and administrative skills of international standards, in addition to experts in the fields of international partnership and establishment of projects.
- Virtual Incubator: the incubator without walls, as they provide the common incubator services except for incubating of the property in which it is available with the previous types. The development centers of small and medium enterprises in the chambers of commerce and industry are good example of virtual incubators. Leadership of internet incubators is attributed to David Wethrol who established CMDGI incubator in 1995 and Bill Gross who established Ideal Lab in 1996⁽⁴¹⁾.

In the Arab Republic of Egypt, profit incubators appeared by the late 2010 and early 2011. It has four incubators; namely: Boots, Tahrir Square, N2v, Flate6 labs, and most of them are sponsored by Egyptian businessmen. Here is a preview of the different types of incubators in accordance with different standards such as finance, specialization, geographic extension, etc⁽⁴²⁾.

By previewing the different types of incubators we find expansion of the concept of incubators to have general incubators that incubate the small enterprises of all fields, and the incubators specialized in specific type of business such as the farming incubators, technology incubators and industrial incubators. There are specialized incubators in the sponsorship of small enterprises owned by certain category of society such as women, people with disabilities or retirees. In addition, the geographic territory of incubator work expanded to have regional incubators, international incubators and open incubators. We find difference between the types of incubators in terms of finance. There are governmental incubators, private sector incubators, university incubators and other incubators affiliate to certain organizations or entities. With the difference of incubators we find difference of the types of services and facilities provided by the incubator in supporting the small enterprises incubated there, and we find that the period of incubation and bases of this period depend on the administrative system of the incubator. The least period of incubation is six months, and the period of incubation may extend up to five years. In addition, the small enterprise relation to the incubator after the end of the period of incubation and graduation of the enterprise ranges between the provision of services for fees or free of charge and remote follow up of the registration of the project steps to determine the success of incubator in the enforcement of its goals and the relation between the project and incubator after graduations.

Standards of success of business incubators:

Business incubator is an institutional unit that helps innovators to develop their ideas and leading projects that can be transformed from an idea of business that can produce and market. They are development organizations that foster the provision of integrated package of services and work in the field of reception and care of the emerging enterprises that don't have all means required for addressing the requirements of operation and construction. Therefore, the success of business incubator is measured with the number of projects to be incubated and the number of new projects that graduate from them within specific period (often two years) and that continue in development after graduation to become medium or even large corporations. The number of direct and indirect jobs created by the incubator, and the encouragement of initiatives and development of spirit of risk, creation of new job opportunities and attracting the required industries, and their ability to prevent the

⁽⁴⁰⁾ Chinsomboon. O.M., Incubators in the New economy, master thesis, MIT University , USA 2000

⁽⁴¹⁾Dr. Atef AL Shabrawy, Business Incubators: preliminary concepts and global experiences, Beirut (Lebanon), publications of the Islamic Educational, Scientific and Cultural Organization (ISESCO)

⁽⁴²⁾ Von Zedtwitz, Classification and Management of incubators: Aligning strategic objectives and competitive scope for new business facilitation, In, Journal of Entrepreneurship and Innovation Management, 2003

immigration of innovators, and extent to attracting these minds again in reverse immigration, and the resulting profits to owners and investors as well as the tax returns added to the government receipts.

Success of the technology incubator is measured by the extent their achievement in propagation of technology and development of the ideas and patents of academia and researchers in commercial terms. It is noted that some technology establishments expand from two or three workers to twenty or more workers within few months and expand their business to be able to offer them in the stock markets within the early years of their graduation.

The good practices of business incubators include the optimal use of communication networks with market outlets, technology resources and their development centers and commercial adoption of them, and the service providers and infrastructure providers, scientific research centers, advisory entities in the way that helps the projects to continue in this communication after graduation from the incubator, and product development from lab to production.

Impact of incubators on society:

It can summarize in the following points:

- 1- The companies that were established through the incubator that works on leveraging their success. This indicator is measured by the number of companies incubated and the number of projects that weren't completed or those that failed.
 - 2- The functions created through the incubator management. these are measured by the number of jobs created every year to the end of incubation period.
 - 3- The functions and economic activity created through the companies that leave the incubator and graduate after it. This measure is measured by the number of jobs created every year by these companies, and the added value that it express to have achieved by these companies as well as the percentages of annual increase of sales.
 - 4- The incubator's ability to market the researches through the establishment and development of projects in the incubator. This indicate is measured by the number of projects built through the application of these researches, and the economic activity that results from these companies (employment every year, amount of returns, accumulated profits).
 - 5- Results of evaluation of the beneficiaries of incubator for the quality and benefit of the services provided to them. This indicator is measured through the rates of response to the polls and evaluation of the activities and services provided.
 - 6- The incubator's ability to survive and to finance itself is measured by the incubator's returns and ratios of planned performance for these returns and the opportunities of reaching the financial equivalence point.
 - 7- The taxes and payments made by the owners of projects in the incubator and the companies that graduate from them to the state. These are measured by the rates of increasing property, tax returns and other deductibles paid by all these companies that the incubator helps to establish them.
 - 8- The structural capacity of the incubator and its effect on the surrounding society through the change of cultural and social believes of free business and establishment of new companies, and the correlation between industry and scientific research. These are measured through the opinion of interested persons and partners on service provision, and through the increase of the number of contracts that the incubator contributed to set them between the industry, scientific research and universities (value- number of faculties- number of participating teaching staff members).
 - 9- The scale and force of change that resulted from the incubators' program in the government policy towards the support of private sector and establishment of new partnerships. This is measured by the number of laws and incentives and specialized finance programs set by government and actually implemented thereby.
- Accordingly, we find that the factors of success of the incubators vary among external and internal effects that vary by the location and management of incubator and the owners of concerned projects, and all these constitute factors of success that shall be synergized for achievement of the goals and expansion of the establishment of more incubators in the Arab Republic of Egypt. The incubator in most forms is a building that receives in average twenty to fifty companies, and provide them with scientific and technical consults and joint administrative at low cost. Therefore, the incubator is a system with inputs and outputs.

- **Inputs:** (1) Entrepreneurs or innovators; (2) new innovations and creativities.

The incubator provides the tools and techniques that include adventurous capital and financial support; (2) administrative services; (3) facilities of dealings with the state and the market; (4) technical and scientific consults; (5) subsidy in the name of incubator and the sponsors.

- **Outputs:** of this system include the successful operable businesses that include: (1) New companies based on new technologies and ideas; (2) technology services and investments provided to market; (3) marketing of the research and development outputs; (4) companies with high growth rate and big added value;

(5) good work opportunities productive for citizens, particularly university graduates; (6) contribution to real diversification of economy.

The concept of incubators appears to be integrated system of different mechanisms of support for the small and medium enterprises chosen to be affiliate to the incubator. These enterprises satisfy all needs of the project in its beginnings, including the financial, marketing, technical and administrative support, provision of communication network in the research centers, labs, universities and supporting authorities whether government or nongovernmental so that the focus of entrepreneurs who own projects focus on the planning of the project steps and overcoming the difficulties of beginnings with provision of diverse experiences and employment of number of experienced consultants to provide consult and guidance to the entrepreneurs in the way that achieves for the project tangible and rapid successes as compared to the similar projects that are established out of the incubator. The experiences of incubators undergo more than one stage from the beginning of formation of general framework of the permanent operation phase till the incubator admits number of projects in accordance with the capacity of each incubator during a period of time that ranges between one year to three years, and the relation between the graduated projects and the incubator that arise out of them sometimes continues with different forms of sponsorship that aim at controlling the steps of success and continuity of the enterprises.

The sources of finance vary by the type of incubator whether under sponsorship of governmental authorities or not for profit organizations or for profit organizations. In some experiences, the sponsor finances the incubator whether during the period of establishment to the period of operation. In this case, the sponsor covers the costs of periodic operation or admits cash or kind aids. In other experiences, the not for profit incubator leases its units and services to the projects for low price to cover the costs of operation or to make profit. If the incubators belong to the private sector, the incubator invests in the purchase of share of the affiliate company's properties as the returns on investment in such companies are from the sources of income whether during incubation or after graduation. There are many classifications of the types of incubators in accordance with the applicable standard whether finance or specialization of incubation of certain projects, or in terms of their geographic extension or other terms. The success of incubation is measured by the percentage of affiliate projects that survived during the planned period of incubation and reached to the stage of graduation successfully, and their ability to continue after this phase, and the other standards of success such as contribution of incubating projects in the development of exports and their contribution to the increase of the national income and contribution to reduce the rate of unemployment and development of some areas and number of direct and indirect jobs created by the projects established in the incubators.

Small enterprises in Egypt

The first step for a society that pursues socioeconomic development is to rely on enterprises in general. The small enterprises are the main building block of the large projects, and it is the nuclei of heavy industries. This view determines the orientation of investments. The experiences of many countries such as Japan, China, India, United States, Germany, France, Italy and other European and Asian countries imply that subsidy and support of small and medium enterprises made significant leap on the social and economic level of these countries.

Therefore, we find that the issue of small and medium enterprises is important for economic decision-makers in the developing and developed countries respectively. These enterprises play a key role in the social and economic development, and its importance is primarily embodied in its ability to generate jobs at high rates and low financial cost. The small enterprises have strong front and back ties with the medium and large projects, and contribute to the increase and diversification of income and increase of the local added value. Moreover, these projects are characterized with efficient use of capital due to the direct correlation of the project property and management, and the owner's interest in the success and optimal management of the project.

Although the small scale enterprises receive attention and care of the developed and developing countries, the logical and reasons for attention vary in the developed countries than the developing countries. The developed countries perceived the importance of these enterprises because of their role in supplying the small and large enterprises with the intermediate products. In the developed countries, attention to this type of enterprises derives from the economic reform measures, and tendency to reduce the role of state in investment, treatment of the increasing gap between the rich and the poor and finding job opportunities for the increasing numbers of those entering the labor market.

Discussion of this topic includes several points; namely, the concept of small enterprises: importance and characteristics, difficulties that the small enterprises encounter in the Arab Republic of Egypt, requirements for survival of the small enterprises and sponsors of the small enterprises in Egypt, beside the incubators.

- **Definition of small enterprises in Egypt:**

In the Arab Republic of Egypt, definition of small scale enterprise was not specified till law No. 141 of 2004 was enacted. This law is the law of small enterprises development. The law stated that the small enterprise

is every company or sole proprietorship that exercises production, service or trading economy with paid up capital of no less than fifty thousand Egyptian pounds and no more than one million Egyptian pounds and the number of personnel therein is no less than fifty in accordance with law⁽⁴³⁾ as follows:

- 1- Small enterprises: Company/ sole proprietorship that exercises economic, production, service or business with paid up capital of no less than 50.000 Egyptian pounds and no more than one million Egyptian pounds and its workers are no less than 50.
- 2- Micro enterprises: Company/ sole proprietorship that exercises economic, production, service or business and its paid up capital is less than 50.000 Egyptian pounds.

• **Importance of small enterprises in the Arab Republic of Egypt⁽⁴⁴⁾:**

Small and medium enterprises represent the common type of enterprises in the Arab Republic of Egypt. They represent about 95% of the enterprises and provide about 75% of job opportunities, along with the sector of agriculture. These are labor intensive enterprises. In addition, their contribution to the domestic product reaches 80%, while their contribution doesn't exceed 40% out of the total exports of Egypt. This is a very low percentage as compared to 60% in China, 56% in Taiwan, 70% in Hong Kong, and 43% in Korea.

Small and medium enterprises compete with each other depending on cutting of prices, which negatively affects their profit and type of products. Therefore, they suffer bankruptcy and failure. The average life of the project has become about 4 years only⁽⁴⁵⁾. Importance of small enterprises stems from the fact that they support the building of comprehensive production capacities. They help admit the production resources on all levels of economy, and contribute to conceptualize the economic systems characterized with dynamism and flexibility that combine the small, medium and large companies. These enterprises spread in wider geographic scale than the large enterprises, and support the development and growth of the spirit of initiative and skill, and help bridge the development gap between the urban and rural areas.

B- Difficulties that encounter the small enterprises in Egypt:

Small enterprises are characterized with their ability to encounter the sudden changes of market at faster pace than the similar ones of large size out of routine. They are able to adapt in accordance with the market conditions whether in terms of production quality or quality, which means that they are able to encounter the difficulties at the times of economic crises and recession. However, the percentage of added value to the national economy of Egypt from small enterprises is only 10%, which is a very low percentage, although it plays a critical role on the economic map. This is fueled by the fall of liquidity required for such types of enterprises in addition to their flexibility in creating job opportunities for youth.

In the annual competitiveness report issued by the Egyptian Competitiveness Council, the setbacks of small enterprises in Egypt are highlighted. The report, issued in 2007, noted that this sector encounters three main obstacles that explain its poor performance, including the high cost of finance, difficulty in obtaining finance and large number of complicated regulations that hamper it, in addition to the vast discrepancy between the high costs of small and medium enterprises versus the costs of large enterprises. Such obstacles cripple the spirit of initiative and decreases productivity. The report noted that 78% of the small enterprises never applied to bank loans, and that 92% of the small enterprises that actually applied for bank finance were refused^{(46) (47)}. Small enterprises in Egypt still encounter some problems and difficulties that minimize their ability to work and contribute to drive economy. As a result, the owners of these enterprises abandon them when they encounter some obstacles can be classified in the types of administrative, finance, marketing, technical and organizational difficulties⁽⁴⁸⁾.

D- Entities that support small enterprises in Egypt:

In addition to the business incubators, we find that Egyptian government make huge efforts to help youth establish and support small enterprises. For this purpose, many organizations, institutions, banks and bands were

⁽⁴³⁾ Implementing regulations of the development of small enterprises, website of lawyers, lawyers portal, Egypt.

www.lawyers-gate.com

⁽⁴⁴⁾ Dr. Alia Al Mahdy, towards the preparation of encouraging environment of the small enterprises in Egypt, office of the International Labor Organization for North Africa in Cairo, Tripartite National Seminar on the employment policy in Egypt, Cairo (Egypt), January 2005.

⁽⁴⁵⁾ Dr. Laila Al Baradei in workshop titled "towards the deepening of the concept of competitiveness in the field of entrepreneurship and small and medium enterprises", Alexandria, Egypt, 6 April 2010.

⁽⁴⁶⁾ Dr. Laila Al Baradei in workshop titled "towards the deepening of the concept of competitiveness in the field of entrepreneurship and small and medium enterprises", Alexandria, Egypt, 6 April 2010.

⁽⁴⁷⁾ Website of the Egyptian National Competitiveness Council (www.encc.org.eg/Reports/Arabic/ENCR%202006%202007%20Arabic.pdf)

⁽⁴⁸⁾ Dr. Eman Marey, Small Enterprises and Development- Comparative International Experiences and the case of Egypt, Cairo, Al Ahras Center for Strategic Political Studies, 2005

established by the state for this purpose. Civil community contributes through the not for profit organizations and associations in these countries. We present below the key entities concerned with the affairs of small enterprises and related services.

❖ **Appropriate ministries:**

- 1- **Ministry of Foreign Trade and Industry:** small and medium enterprises unit was established in the Ministry since 1997 along with the department of small and medium enterprises that was developed to become the sector of small and medium enterprise development policy sector. This sector assumes the setting of framework of encouraging policies to support the competitiveness of those projects and increase their exports. In addition, the Ministry is concerned with the small industries through the implementation of industry update programs in cooperation with the Union of Industries and the European Union.
- 2- **Ministry of Finance:** The Ministry was concerned since 1999 with the small enterprise sector through the project of including all business corporations in the official sector to determine the unofficial enterprises and transfer them to the to the official sector and add them to the tax society. For this purpose, in 2000, an agreement was concluded between the government of Canada and government of Egypt, represented in the Ministry of Finance and Ministry of International Cooperation on establishment of the project for development of policies of establishments. The Ministry of Finance collected information all measures that the small enterprises shall follow for establishment, in addition to the financial and non-financial services provided by the different government authorities for this sector⁽⁴⁹⁾. The small enterprise policy development unit affiliated to the Ministry of Finance managed to make package of achievements through the policy development project of the small, medium and micro enterprises (SMEPOL) and report to the sector the project's goals achieved since 2001.
- 3- **Ministry of Investment:** In June 2010, the Ministry of Investment announced, through conference on "Towards new policies of investment in Egypt" three new fields for attraction of investment in the infrastructure, renewable energy and small and medium enterprises with capital of 20 million Egyptian pounds. Capital of the investment fund for development of small enterprises is expected to reach one billion Egyptian pounds to provide finance to the small and medium companies, noting that the beginning will be in the small enterprises in Upper Egypt. In addition, most Ministries announced in 2010 the establishment of "Bedaya" unit for support of small and medium enterprises⁽⁵⁰⁾.
- 4- **Ministry of Communications and Technology:** The strategy of the Ministry of Communication and Information Technology aims at bringing the Egyptian exports of software to USD 1.1 billion in 2010. Under this strategy, the Ministry concludes many agreements and programs to develop the small and medium technology projects sector in Egypt.

Social Development Fund of the Council of Ministers

The fund was established in 1991 to alleviate the impacts of economic reform on the low income families by financing the production and service enterprises and craftsmen by providing soft loans at return rates of 7-11% according to the amount of loan. The credit is granted directly or through the banks, ministries, governorates and organizations. The fund financed one million small and micro enterprises with finance amount of 9 billion Egyptian pounds that created 202 job opportunities. The small enterprise share of the loans granted to the fund was 97%. Of the loans granted by the fund.

The entities that finance the Social Fund for Development vary between international entities such as the European Union and the World Bank and Germany, and Arab organizations represented in the Arab funds beside the Egyptian government and other entities along with cooperation with the different banks in financing and supporting the small and medium enterprises.

In its role in support and development of the small enterprises, the Small Enterprises Development Agency was established in the Arab Republic of Egypt to support the small enterprises with many services, including:

Material Finance: The fund holds many agreements with the different national banks to finance the small and medium enterprises. These agreements aim at providing the credit facilities required for lending the new small enterprises and helping the existing enterprises to innovate and develop.

Technical support: The fund and the Arab Academy for Science, Technology and Maritime Transport signed contract to develop the small enterprises and increase their competitiveness and maximization of the benefits of their manpower.

⁽⁴⁹⁾ Samah Mustafa Abdelghani, Report of the Ministry of Finance, promotion of the role of small enterprises in the service of the Egyptian economic development goals, 2006.

⁽⁵⁰⁾ Report of the Ministry of Investment, "Egyptian government implements number of procedures to support and encourage the small and medium enterprises" on the ministry's website.

Administrative support: Administrative support is provided through the establishment of the small enterprises service community. This is a community run by the one stop shop to facilitate the receipt of license for practice of business of the small enterprise, registration and issuance of national number of these enterprises. The communities include representatives from all entities that deal with the small enterprises in the same place.

- **Fund cooperation with other entities:**

The social development fund cooperates with many governmental and international authorities and nongovernmental organizations and banking sector to assume its main duties in the support and sponsorship of small and medium enterprises, including:

- Cooperation with the Bar Association to allocate the loans of small enterprises to quality the attorneys in accordance with them. A loan of EGP 30,000 is granted to be paid over three years for the small enterprises that aim at qualifying the attorney⁽⁵¹⁾.
- Projects of finance of many small enterprises established in the petroleum service stations in Misr Petroleum Company throughout governorates.
- New enterprises for privatization of the general services whereby the fund assumes, finances and sponsors thousands of small enterprises qualified for provision of such service activities on behalf of the government agencies that join the program, and upgrade and development of those services through the capitals of technical support that it provides.
- In 2010, the World Bank for Construction and Development allocated a project to enhance the availability of finance for the small and micro enterprises for USD 300 million with interest of 25%. The loan shall be paid over 28.5 years, including a period of grace of seven years for contribution to the development of small and micro enterprises in Egypt through the Social Fund for Development that will execute the project. This is the first line of cooperation with the Bank in the field of finance of small and micro enterprises in the Middle East and North Africa⁽⁵²⁾.
- Cooperation with the Ministry of Foreign Trade and Industry to make benefit from the small and medium enterprises through the "Agadir Agreement, a commercial agreement for establishment of Arab common market, to establish a zone for free exchange among the Arab Mediterranean countries, and as a step on the way of preparation for the milestones of 2010 relating to the establishment of the (Euro-Mediterranean) Free Exchange Zone to include Egypt, Jordan, Morocco and Tunisia. The agreement stipulates customs exemption of the exports and imports of the agreement's four countries from cars provided the percentage of local component is no less than 40%. The fund holds training and awareness workshops on the small and medium enterprises that apply the rules of "original accumulation among the member states to motivate them to develop their abilities to import between them and to the European Union.
- In addition, the Social Fund for Development plays a key role in the establishment of small enterprise incubators.

❖ **Governmental organizations that support the small enterprises in Egypt:**

There are many nongovernmental organizations and businessmen organizations in the different governorates of Egypt, and play key role in the support and development of the small enterprises sector in Egypt. Each organization in the governorate has its share of attention to support the enterprises in the same governorate in coordination with the other different entities that support the same sector. The activities done by the organizations include:

- The Nongovernmental Organizations Union established a nongovernmental economic establishment in 2009 with capital of EGP 10 million to support the small and medium enterprises in all governorates. This corporation will work through its technical committees to provide the necessary finance and to assume the role of intermediary between the conventional financing corporations (banks) and the other donors and target parties that need finance and don't know how to access it.
- The Egyptian forum of entrepreneurs in Alexandria Center for Creativity organizes on annual basis a competition for the best idea of new project in cooperation with the financial services development project for the small and medium enterprises of the Canadian Agency for International Development. The value of prizes amounted to EGP 130 thousand in 2008 in which 3168 young graduates of those who have new ideas in the different sectors of technology, industry, agriculture and services from the different governorates of Egypt, particularly upper Egypt. The prizes were distributed to the top 20 ideas. The forum aims at establishing 20 thousand small enterprises per year⁽⁵³⁾.

⁽⁵¹⁾ Hesham Abdelkhaled Ragab, Role of the Social Development Fund in financing the small industries in Egypt, unpublished master thesis, Faculty of Commerce, Ain Shams University, Cairo, Egypt.

⁽⁵²⁾ Website of the Social Development Fund www.sfdprojects.org.eg

⁽⁵³⁾ Website of the Egyptian forum (<http://www.ebf.org.eg>)

Moreover, the forum entered into partnership agreement worth EGP 15 billion with the Arab Business Network in the United Arab Emirates to finance the new enterprises in the Arab Republic of Egypt through the provision of the necessary finance to the young business entrepreneurs who have new economic ideas to transfer them to real factual enterprises.

- Agreement with the University of Alexandria and the participation development program of the Canadian International Development Agency to establish the Egyptian Entrepreneurship Center to motivate the innovators and grant them confidence to promote their projects and provide the technical support and rehabilitation mechanism by designing the national capital for investment in the establishment of the new projects.

- **Banking sector that supports the small enterprises in Egypt**

The increasing role of banks in finance of small and medium enterprises leads to expansion of their customer base and diversification of the risks and investments, which would be positively reflected on their financial portfolios. Banks play a critical role in the development of small enterprises through many important activities. The initiative came when the Central Bank launched the national strategy for microfinance that was launched in 2004 to open new finance channels before the poor families and small enterprises that produced the Egyptian microfinance network (Sanabel)⁽⁵⁴⁾. Since 2008, many Egyptian and international financial corporations adopted procedures for establishment of the investment fund that raises its money for investment in the medium industries. Those banks include the National Export Development Bank with capital of USD 100 million. This bank invests its money in the establishment of new enterprises and acquisition of existing companies, restructuring and selling of them afterwards. In addition to the decision of the Central Bank from the beginning of January 2009 to exempt the portfolio allocated in the banks to finance the small and medium enterprises of the statutory reserve of 14%. This decision applies to the companies with turnover or annual sales of no more than one million least 20 million0 Egyptian pounds, and their paid up capital no more than 250,000 Egyptian pounds and no more than 5,000,000 Egyptian pounds⁽⁵⁵⁾. As a result, many Egyptian national and private banks were encouraged to expand the lending of small enterprises.

The activity of supporting and developing the small enterprises is not limited to the national or governmental banks. From the beginning of 2009, most private banks established the small and medium enterprises support unit, including the Egypt Gulf Bank (EGB) that established independent company for microfinance like the development company established by EGB last year with Al Qalaa Company. In cooperation with Belton Investment Company, Credit Agricole Bank Egypt launched Belton Mid Cap Fund for direct investment with small and medium companies. An agreement was signed between the Arab African International Bank and the Industry Upgrading Center on the establishment of direct investment fund to finance the small and medium enterprises with capital of 300 to 500 million Egyptian pounds⁽⁵⁶⁾.

- **International donors of small and medium enterprises:**

The agencies that contributed to the field of micro, small and medium enterprises in Egypt include the US Agency for International Development, Canadian Development Agency, European Union, German Technical Cooperation, Japanese International Cooperation Agency, Japanese Bank for International Cooperation, German Development Bank, United Nations Development program and United Nations Industrial Development Organization.

- **Bank Credit risk guarantee company for small enterprises:**

This is a public joint stock company established in accordance with the Egyptian companies' act No (159) of 1981 as a company affiliate to the Ministry of International Cooperation, with contribution of nine banks and common property and insurance company. The company was established in December 1991. The company's purpose aims at encouragement and development of small enterprises in the different fields of production and services, and development of them through the facilitation of obtaining the bank credit required for these companies to establish the project or to develop its performance or facilitate the practice of its business.

- **Nile stock exchange for small and medium enterprises:**

⁽⁵⁴⁾building the microfinance network in Egypt www.arabfinance.com/News/newsdetails.aspx?id=160967

⁽⁵⁵⁾ Speech of Kamal Negm, deputy governor of the Central Bank in the conference on "People and Banks", 2010, on 6 April 2010

⁽⁵⁶⁾ Mohamed Abdelazim, Conflict of Banks and financial corporations on the finance of small enterprises, Cairo: Al Ahram Al Iqtessady, November 2009

Nile Stock Exchange, the first exchange in the Middle East and North Africa for trading the stocks of small and medium companies, started its business in October 2007. Due to the global financial crisis, work in the exchange slowed down and only three companies were listed in it till mid-2009. By 2010, work was resumed by registration of 7 other companies with capital of 40 million Egyptian pounds. In the report of the first half of year of the stock exchange, the 13 companies listed in the Nile Stock Exchange made 23.5 million Egyptian pounds. The Nile Stock Exchange is expected to contribute to the integration of large sector of small and medium companies in the official economy system by listing in them in accordance with facilitated measures that match their conditions. This increases the efficiency of financial and organizational management of those companies because of the liabilities they incur for listing in the stock exchange. Registration in the stock exchange adds benefits to the small and medium companies, including the acquisition of the necessary finance and providing opportunity for long-term lending by issuing bonds or increasing the capital.

- **National Council for Women:**

The National Council for Women supports the small business owners nationwide. The council helps women to establish the small enterprises that they can manage whether women are educated or rural illiterate. The council cooperates with the different governmental and nongovernmental authorities to facilitate the establishment and management of those enterprises.

Through the study of the small enterprise in Egypt, we found that in spite of the efforts made by the government of Egypt to support the small and medium enterprises, there is still unnoticed development of those projects and there are still many steps that shall be adopted one package to support these enterprises that admit 75% of the Egyptian labor or more than 80% of the projects in Egypt, and 99% of the non-agricultural private sector projects in Egypt.

Fifth: Results and Recommendations:

- The researcher supports the conclusion that the experience of Egypt in establishment of small enterprise incubators, in spite of its old steps of study and development, was volatile between attention of governments and negligence of others, which requires dedication of attention by the existing governments to revive the small enterprises sector that represents the highest rate of companies in Egypt. The main function of incubator is the social and economic development of the country, and dedication of all science and technology researches to practical application and assessment of their outcomes. The business incubators proved their ability to provide and generate job opportunities for the graduates, and generation of new companies and overcoming the failures in their early phases, transfer and development of technology on the local level, increase the awareness of small enterprises and investors on the importance of adopting information and communication technology. The business incubators shall be considered not as corporations of social nature; they have modern means to adopt the free business ideology in starting promising projects on sound bases to act in accordance with the economic standards whether in terms of choice of the small enterprises nominated for incubation or in terms of study of intensifying the support provided and its impact. In addition, the government subsidy for establishment of incubators is a key factor for continuity and development of the experience, and it is an important role of government on the world level to develop economy and develop the competitiveness of their projects. In addition, failure of incubators to provide the services at affordable costs would deprive them of their meaning. Therefore, the incubators themselves require support by the state in the different forms such as tax cutting and tax exemption, beside the direct contribution to establishment of these incubators whether as private property or partner in them. In addition, the infrastructure and legislature system are available. The creative and innovative initiatives shall be encouraged so that these incubators discharge their function in society.
- We believe that attention shall be provided and intensified to the small and medium enterprises development facilities in the rooms and unions that represent the commercial sector or the different industrial sectors in cooperation with the universities, institutes and research centers to work as virtual incubator that provides further services and development for each sector.
- If the centers of small and medium enterprises in the Egyptian chambers had the suitable premise to accommodate the small enterprises or in the universities and institutes, we expect that the success opportunity of these incubators will be big because of the competences, experiences and continuous support of these centers by the chambers and businessmen.
- The beneficiaries of incubators shall be followed up after creating their projects, and shall be helped to develop their works, even if for limited period of time, so that the enterprise can rely on itself completely and achieve sustainability.
- There shall be further financial and marketing services of the incubating small enterprises because this type of services is the most important type needed for any project and foster its progress and development.

- To make benefit from the previous experiences of establishment of technology incubators in the developed countries and some Arab countries to utilize their experience in establishment of incubators and avoidance of the problems that they suffer.
- To solve the problem of financing the incubators by raising the amounts required for establishment and survival of them. This shall be done in cooperation with the governmental and related authorities to technology incubators and the parties that shall be established.
- Provision of the above services shall be expanded, whether these are administrative, financial, material, marketing, human resources development, technical, consulting, secretary or information in general due to the projects' need to them as being basic means that can lead to success or failure of the projects.
- Like any other project, the business incubators shall control and develop the project on continuous basis during the period of incubation, and shall re-assess their business on periodic basis and identify the failures and try to avoid them to achieve the goal for which it was established.
- The small incubating enterprises shall take into account- during the period of incubation- the importance of integration and entry into partnerships between them, because this will guarantee the integration of experiences, money and effort, and therefore guarantee the success of the project.

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