

The Role of Business Incubators in the Development of Start-ups and Small and Medium Enterprises: Lessons Learned from International Experiences

دور حاضنات الأعمال في تطوير المؤسسات الناشئة والصغيرة والمتوسطة: دروس مستفادة من التجارب الدولية

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Abstract:

This study aims to highlight the role of business incubators in supporting and developing start-ups as well as small and medium-sized enterprises by providing a conducive environment and effective strategies for project organization and development, particularly technology-based business incubators. These incubators have demonstrated their ability to address many of the challenges faced by entrepreneurs and to enhance their entrepreneurial capabilities.

The study focuses on defining business incubators and emphasizing their importance in nurturing enterprises, while drawing on a set of international experiences to illustrate their effectiveness. The findings indicate that business incubators contribute to job creation, especially for university graduates, play a significant role in transforming innovative ideas into promising economic projects, and provide knowledge-based and technical support that helps improve product quality and enhance market competitiveness.

Keywords: Business incubators; Small and medium-sized enterprises; Development; Technology incubators; Start up.

Jel Classification Codes: L26, L53

ملخص:

تهدف هذه الدراسة إلى إبراز دور حاضنات الأعمال في دعم وتنمية المشاريع الناشئة والصغيرة والمتوسطة، من خلال توفير بيئة ملائمة واستراتيجيات فعالة لتنظيم وتطوير المشاريع، خاصة حاضنات الأعمال التكنولوجية. وقد أثبتت هذه الحاضنات قدرتها على معالجة العديد من التحديات التي تواجه رواد الأعمال، والمساهمة في تعزيز قدراتهم الريادية.

واعتمدت الدراسة على التعريف بحاضنات الأعمال وبيان أهميتها في رعاية المشاريع، مع الاسترشاد بمجموعة من التجارب الدولية لإبراز مدى فعاليتها. وتوصلت النتائج إلى أن حاضنات الأعمال تساهم في خلق فرص عمل، لا سيما لفئة خريجي الجامعات، كما تلعب دورا مهما في تحويل الأفكار المبتكرة إلى مشاريع اقتصادية واعدة، إضافة إلى تقديم الدعم المعرفي والفني الذي يساهم في تحسين جودة المنتجات وتعزيز تنافسية الأسواق.

كلمات مفتاحية: حاضنات الأعمال، المؤسسات الصغيرة والمتوسطة، التنمية، حاضنات التكنولوجيا، مؤسسة ناشئة.

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1. Introduction

Small and medium-sized enterprises (SMEs) play a vital role in societal development and in accelerating the pace of economic growth, as they are among the most important drivers of growth and job creation. Within the framework of achieving comprehensive development, countries seek to identify new and effective mechanisms to address the economic conditions resulting from the implementation of economic reform policies and to adapt to market-oriented economic policies adopted by most countries worldwide at the present time.

Against this backdrop, the need has emerged to adopt mechanisms that contribute to the creation of new employment opportunities, stimulate economic activity, and activate processes of technology transfer. As competition intensifies among innovative enterprises seeking to expand their market shares and enter new markets, the importance of newly developed systems aimed at improving and modernizing the concept of supporting and nurturing small and medium-sized enterprises has increased.

In this context, it has become necessary for SMEs to receive special attention from various countries, enabling them to confront the difficulties and challenges that often lead to their failure and disappearance. This can be achieved through the establishment of diverse support networks that have taken several forms, most notably business incubators. Studies have demonstrated that business incubators are capable of providing the essential requirements for the growth and development of new ventures by supplying various forms of support that help them advance, stabilize, and enhance their competitive capacity.

Considering business incubators as one of the practical and serious solutions that warrant implementation, the research problem of this study arises from the following question:

To what extent do business incubators contribute to supporting small and medium-sized start-up enterprises?

From this main question, several sub-questions emerge, most notably:

- Are business incubators an effective alternative solution for nurturing small and medium-sized start-up enterprises?
- What role do business incubators play in supporting small and medium-sized start-up projects?

1.1 Significance of the Study:

The significance of this study stems from the growing importance of small and medium-sized enterprises in achieving economic and social development, as well as their effective role in job creation, reducing unemployment, and promoting innovation. The importance of the study also derives from its focus on business incubators as one of the modern and effective mechanisms for supporting and nurturing start-up, small, and medium-sized enterprises, and enabling them to overcome the difficulties they face during their early stages.

The importance of this study is further reflected in its academic dimension, as it enriches the economic literature related to business incubators and highlights their role in supporting entrepreneurship and technology transfer. In addition, it has practical significance in that it may contribute to guiding decision-makers and economic policy designers toward adopting and developing more effective business incubator models, particularly in developing countries.

1.2 Objectives of the Study:

This study aims to achieve a set of objectives, the most important of which are:

1. To define the concept of business incubators and clarify their origins and development.
2. To highlight the importance of business incubators in supporting and nurturing start-up, small, and medium-sized enterprises.
3. To clarify the role played by business incubators in promoting innovation and technology transfer.
4. To analyze the extent to which business incubators contribute to improving the chances of success and sustainability of small and medium-sized enterprises.
5. To benefit from international experiences in the field of business incubators and to derive lessons learned from them.
6. To present findings that can help support policies aimed at developing entrepreneurship.

1.3 Methodology of the Study:

To achieve the objectives of the study and answer its research problem and sub-questions, the descriptive-analytical approach was adopted. This involved describing the theoretical framework of business incubators and analyzing their role in supporting start-up, small, and medium-sized enterprises. The comparative approach was also employed in presenting and analyzing selected international experiences in the field of business incubators, with the aim of highlighting similarities and differences and benefiting from best practices. The study relied on secondary sources, including books, scientific articles, previous studies, and reports issued by relevant bodies and organizations, in a manner that serves the research topic and enhances the credibility of its findings.

In order to comprehensively address the various aspects of the topic, this study is structured around the following sections:

- **Section One:** The concept and nature of business incubators;
- **Section Two:** The role of business incubators in supporting start-up, small, and medium-sized enterprises;
- **Section Three:** International experiences in the establishment of business incubators.

2. The Theoretical Framework of Business Incubators

2.1. The Historical Development of Business Incubators

The history of business incubators dates back to the first project established at the manufacturing center known as *Batavia* in New York State, United States of America, in 1959. This occurred when a family converted the premises of its company, which had ceased operations, into a business center whose units were leased to individuals wishing to establish projects, while also providing them with advice and consultancy services. This idea achieved considerable success, particularly since the building was located in a business district and in close proximity to several banks, shopping areas, and restaurants. Over time, this concept evolved into what later became known as a business incubator. Since 1959, thousands of small and medium-sized enterprises have been established within this center, which continues to operate to this day under its original name, *Batavia* (Ben Bouziane & Ziani, 2004, p. 184).

Since the early 1980s, which marked the actual beginning of the establishment of incubators in the United States of America, the incubator system has continued to develop without interruption, to the extent that it has come to represent an industry in its own right, referred to by some as the “incubation industry.” If we consider the development of incubators as an industry worldwide, it can be noted that there are currently approximately 3,500 business incubators across different countries, including about 1,000 incubators in the United States. China has 465 incubators, while both South Korea and Brazil have around 200 incubators each. Arab countries also host a number of incubators, including Egypt with 10 incubators, Bahrain with one, Morocco with two, and Tunisia with one (Abu Qahf & Aitani, 2002, p. 80).

2.2. Definition of Business Incubators:

Business incubators are defined as “an integrated package of services, facilities, support mechanisms, and consultancy provided for a specific period of time by an established institution possessing experience and networks of relationships, aimed at entrepreneurs who wish to initiate the establishment of a small enterprise, with the objective of alleviating the burdens of the start-up phase” (Abu Qahf & Aitani, 2002, p. 71).

They are also defined as “the successful development of companies and projects through a set of activities that support resources and services, provided

and coordinated by the incubator's management, and delivered through its communication network."

The Arab Human Development Report of 2003 describes business incubators as "representing a new pattern of support structures for innovative activities undertaken by small and medium-sized enterprises or by creative developers imbued with an entrepreneurial spirit who lack the necessary capabilities to develop their research, innovative technologies, and market them" (Raad, 2000, p. 16).

Between those who define business incubators as coordination processes, those who describe them as mechanisms analogous to medical incubators in which premature newborns are placed, and those who regard them as an integrated package of services and support mechanisms provided over one or more time periods until the process of qualification is completed and actual production and operational activity begins, it is possible to highlight a synthesis of the conclusions reached by researchers regarding the classifications of business incubators, as illustrated in the following table:

Table 1: Comprehensive Classification of Business Incubators

Classification of Business Incubators According to Purpose		
No.	Title	Objective
1	Primary Incubators	Attracting foreign capital
2	Regional Incubators	Investing in human capital or a specific segment of society
3	Industrial Incubators	Exchange of facilities and emphasis on technical support and knowledge
4	Sector-Specific Incubators	Serving specialized sectors such as software and engineering industries
5	Technology Incubators	Supporting advanced designs for new, non-traditional products using sophisticated equipment
6	Research Incubators	Development of academic research and innovative ideas
7	Virtual Incubators	Serving various sectors through reliance on information networks
8	Internet Incubators	Supporting start-ups operating in the fields of the Internet and software

Classification of Business Incubators According to the Nature of the Field				
No.	Title	Level of Technology	Affiliation	Examples
1	General or Mixed Business Incubators	Simple technology in service provision or light manufacturing	Knowledge- and information-based enterprises; distinctive handicraft industries	Cambridge Incubator; Campsix Idealab & Companies
2	Economic Development Incubators (Specialized)	Diverse technologies linked to the state	Employment-generating projects; industrial restructuring projects	Mackansey
3	Technology Incubators	Advanced technology	Research centers; universities; information centers	Anderson Consulting; The Elevator Company; Internet Capital Group
Classification of Business Incubators According to the Services Provided				
No.	Title	Objective		
1	Project Incubators	Comprehensive services including infrastructure, communication technologies, human resources, and capital		
2	Business Accelerators	Accelerating the initiation or launch of new business ventures through consultancy services, access to financing, and rapid project launch		
3	Business Gateways	Establishing networks of contractors, consultants, and investors		
4	Business Networks	Early-stage investment aligned with overall strategy, followed by the creation of small, distributed cooperative units among members to provide effective support for investment value		

Source: (Jawadi & Abdellawi, 2019, p. 7)

3. The Role of Business Incubators in Supporting Small and Medium-Sized Start-Up Projects and Evaluating Their Performance:

3.1 The Economic Role of Business Incubators in Supporting Start-Up Projects:

3.1.1 Encouraging the Creation and Development of New Small Start-Up Enterprises:

Supporting start-up projects and increasing their chances of success constitutes the primary function of business incubators. This role is fulfilled through the provision of various forms of financial, administrative, and marketing support, as well as through the nurturing of new ventures during the start-up and growth stages. Business incubators facilitate the launch of projects, enable access to community support networks, and establish a range of distinctive support services, such as quality assurance systems, technical and commercial information databases, and testing and measurement units serving projects both within and outside the incubator. Incubators may provide these services to projects hosted internally as well as to affiliated projects operating externally (Mohamed Belkbir & Kaboush, 2019, p. 229).

In addition, incubators deliver services to surrounding projects by linking small enterprises with relevant institutions and specialized bodies, contributing to their development and marketing their products and services. They also support technology-based projects linked to universities and research centers, while fostering the growth of emerging small enterprises within their local environments.

3.1.2 Supporting Economic Development:

Business incubators can enable cities or regions in which they are established to achieve high rates of new economic activity, in addition to realizing strong growth rates among incubated enterprises. This is achieved by facilitating the localization and establishment of new productive or service-oriented projects within the community. Such projects constitute one of the most important pillars of economic development, as they contribute through tax payments, fees, stimulation of production processes, exports, and supply chains—activities that generate financial resources for state budgets and benefit society as a whole.

An illustrative example of this role can be found in the experience of the U.S. state of Maryland, which established a network of incubators comprising six incubators with different specializations. Operations at the most recent incubator began in December 2000, and within less than one year, projects established through this network had contributed approximately USD 96 million to the state's tax revenues. The total employment capacity generated by this network is estimated at around 2,400 new and permanent jobs for state residents (Angers, 1997, p. 36).

3.1.3 Supporting Industrial and Technological Development:

Technology incubators focus on nurturing and developing innovative ideas and applied research, and on transforming them from the research and development stage into the implementation stage through the establishment of small enterprises. This enhances the role of small technology-based enterprises as one of the most important mechanisms of technological advancement, given their superior capacity to develop and modernize production processes more rapidly and at significantly lower costs compared to large firms with high capital investments.

The establishment of specialized technology incubators in specific sectors facilitates the transfer and localization of modern and advanced technologies, while promoting technological development within these sectors. An example of this is the creation of incubators specializing in information and communication technologies (ICT), which contribute to stimulating the ICT sector within a given region. Such incubators generate a flow of advanced new projects in this field, as is also the case in other advanced technological sectors such as new materials technology and biotechnology.

Statistics indicate that 27% of all business incubators in the United States are affiliated with universities and educational institutions, whereas this percentage exceeds 95% in China. In this context, incubators play a pivotal role as a linkage channel between industry and scientific research (Boudaoud, 2005, pp. 262–268).

3.1.4 Developing Entrepreneurial Skills and the Spirit of Self-Employment:

The development of entrepreneurial skills and project management capabilities represents one of the most significant impacts of business incubators within any society. This is accompanied by the creation of permanent and temporary, direct

and indirect employment opportunities through the enterprises that incubators help establish and develop. Statistics show that 75% of jobs created in the United States since 1979 resulted from only 10% of small enterprises. Another example indicates that 26,000 new jobs were created through just 78 business incubators in countries such as the Czech Republic, while business incubation programs succeeded in creating 440 new and successful companies (Rouwmaat et al., 2003).

A recent study conducted by the Organisation for Economic Co-operation and Development (OECD) further revealed that one billion new jobs were created between 1995 and 2005, all of which originated from small enterprises. Although the majority of these enterprises were low-technology projects, the highest rates of economic growth and value added tend to favor technology-based enterprises, which are expected to constitute a major source of economic growth and job creation in the third millennium (El-Hennawi et al., 2001, p. 26).

3.1.5 . Addressing Specific Economic or Social Problems

Several countries have recently employed business incubators to address specific economic, industrial, or social challenges. Barbara Harley, Executive Director of the National Business Incubation Association (NBIA), notes that medium-sized business incubators can be used to contribute to solving particular problems, such as large-scale job losses resulting from the closure or restructuring of major corporations—a phenomenon commonly observed during privatization processes of state-owned enterprises.

A notable example is the collapse of the U.S. energy company Enron, which resulted in the loss of more than 30,000 jobs within less than one month. Such challenges arise not only from factory or company closures, but also from the shutdown of military bases, underutilized administrative units, or the decline of industrial zones and manufacturing or commercial activity. Business incubators can play a role in revitalizing these areas through the creation of new enterprises (Tornatzky et al., 2001, p. 3).

One illustrative case of business incubators addressing a specific issue is the initiative undertaken by the United Nations Industrial Development Organization (UNIDO) in cooperation with the Pakistani government, which established a pioneering incubator targeting retired military officers. The incubator aimed to absorb officers typically retiring in their forties by training them in essential project management skills and encouraging them to establish new enterprises that

leverage their military experience. This incubator was established in cooperation with the Pakistani AWT Authority, founded in the 1970s to develop services for retired officers and their families. The Askan Commercial Enterprise Incubator was established in 1996; approximately 130 individuals applied for training, and 24 of them successfully launched new projects within the incubator (Arab Fund for Economic and Social Development, 2002, p. 61).

3.2 Methods for Evaluating the Performance of Business Incubators for Start-Up Projects:

An in-depth study conducted on a number of technology incubators in North America and the European Union identified several success and failure factors for the incubation of new projects. These factors depend on six main elements (Yousfat & Belmokaddem, 2007, p. 2):

- Available incubator facilities and location;
- Level of shared services and quality of the business network;
- Criteria for project entry and exit;
- Effective monitoring and follow-up of projects;
- Financing and financial support;
- Professional management of the incubator.

Based on the availability and quality of these elements across different incubators, the study summarized best practices in technology incubators as follows:

- The incubator's area should not be less than 30,000 square meters to generate rental revenues sufficient to ensure financial self-sufficiency and sustainability.
- At least 10 projects should be incubated to enable the establishment of business networks, exchange of activities, and the development of shared services.
- Technology incubators should be located near universities or scientific research centers, research laboratories, and academic libraries, and in proximity to government laboratories or specialized corporate laboratories.
- Incubators should operate within buildings meeting standardized specifications, particularly in terms of communications and infrastructure, to facilitate interaction among companies.

- Incubators should provide services to non-incubated firms, offering the same services except for physical workspace.

3.3 International Experiences in Establishing Business Incubators for Start-Up Projects:

3.3.1. The United States Experience:

The U.S. experience is considered the oldest, as the concept of business incubators was initially introduced and developed in the United States. As previously noted, the first experience dates back to the Batavia Business Center in 1959. However, the real expansion of the incubator concept began in the early 1980s, particularly in 1984, when the U.S. Small Business Administration (SBA) began focusing on incubation programs and expanding their number. At that time, only around 20 incubators were operating in the United States.

The number of incubators increased significantly following the establishment of the National Business Incubation Association (NBIA) in 1985 by a group of U.S. industrialists, reaching approximately 800 incubators. From the end of 1986 onward, incubators were being established at an average rate of one per week (Smith, 2000, p. 2).

According to the latest reports of the NBIA, the growth rate of business incubators during the previous fifteen years was remarkably high, reaching more than 500 incubators by the end of 1993. Statistics indicate that incubators were being established at a rate of one per week during this period. A clear indicator of this rapid growth is that, in 1991, two-thirds of these incubators were less than four years old, with most still in early stages of development and exhibiting a strong need for information and effective utilization thereof (Turkmani, 2006, p. 7).

Statistics from one U.S. incubator network—the Texas Association of Business Incubators—show that the success rate of new ventures within affiliated incubators exceeds 80%, and that the growth rates of incubated enterprises are between 7 and 22 times higher than those of non-incubated firms. Approximately 19,000 new companies were created and remain operational, generating more than 245,000 permanent jobs (Abdelrazak & Nouredine, 2006).

Recent statistics published by the National Business Incubation Association (NBIA) further provide a comprehensive analysis of U.S. incubator characteristics based on several criteria (NBIA, 2000):

➤ **Location of Incubators:**

Business incubators are geographically distributed across all U.S. states, with a notable concentration of technology incubators in Atlanta (Georgia), Chicago (Illinois), San Jose (California), New York, Philadelphia, New Jersey, and Kingston.

- 45% of U.S. business incubators are located in major cities;
- 19% are located in urban areas;
- 36% are located in rural areas.

➤ **Incubator Size:**

Incubator sizes vary, with the largest reaching up to 12,000 square meters. The average leasable area is approximately 5,000 square meters, and the average number of projects per incubator is around 20.

➤ **Types and Specializations of Incubators:**

- 27% of all U.S. business incubators are technology incubators affiliated with universities and educational institutions. Of these, 10% have specialized manufacturing objectives, while 9% are focused on specific technological fields such as biotechnology and information technology.
- 16% of U.S. business incubators are jointly funded by governmental and private-sector organizations. In most cases, governments finance and establish the incubators, while the private sector provides consultancy, expertise, and project financing (El-Shabrawy, 2003).

3.3.2. The Malaysian Experience:

Recent studies indicate that 91% of all registered companies in Malaysia are small and medium-sized enterprises, most of which operate in productive and manufacturing sectors. These sectors constitute the backbone of the Malaysian economy and represent the primary source of employment in the country.

On this basis, and in order to support and develop this sector, the Malaysian government adopted two long-term national plans (El-Shabrawy, 2003):

- **The First National Plan (1996–2000):** This plan focused on stimulating and developing small industries oriented toward meeting the needs of the domestic Malaysian market. Several support programs were designed and implemented specifically for small enterprises with high growth rates, which rapidly expanded and increased their business volumes. In addition, the government encouraged export-oriented small enterprises through specialized export support and financing mechanisms.
- **The Second National Plan (1996–2005):** This plan adopted the policy of industrial clusters as business incubators, with a focus on stimulating and developing productive and manufacturing enterprises specialized in specific sectors that are primarily export-oriented.

➤ **Malaysian Technology Parks and Clusters:**

Recognizing that universities and research institutes are the most suitable entities to play a leading role in translating and transferring innovative ideas into industrial applications, Malaysia established several institutions for this purpose. Foremost among these was the **Malaysian Technology Development Corporation (MTDC)**, founded in 1997 to commercialize and transfer innovative ideas from Malaysian universities and research institutes into practical applications by linking these institutions with the labor market (Shibli, 2004).

✓ **Examples of Centers Established by MTDC:**

- **UPM–MTDC Technology Innovation Center:**

This technology incubator was inaugurated in April 1997 in the presence of the Prime Minister of Malaysia. It hosted 31 resident companies, most of which operated in information technology and multimedia. The incubator became a successful model for technological innovation centers in Malaysia and also financed numerous advanced technology projects. It contributed to the implementation of several government projects, particularly in computer software and multimedia, including the establishment of the **Multimedia Super Corridor (MSC)** project.

- **MU–MTDC Technology Innovation Center:**

This center was officially inaugurated in February 1999. Since then, it has hosted several companies specializing in communication technologies and advanced electronics manufacturing sectors.

3.3.3 The Egyptian Experience:

- ***The Technology Business Incubator in Tebbin:***

The Tebbin Technology Business Incubator is the first technology incubator established in Egypt. It forms part of an advanced technological system that includes an applied research institution, namely the **Tebbin Institute for Metallurgical Studies**, located in the Tebbin industrial zone, approximately 30 km south of Cairo. The Tebbin–Helwan industrial area represents the largest industrial base in Cairo Governorate in terms of the number and diversity of factories and research centers in materials science, in addition to Helwan University (El-Shabrawy, 2003, p. 65).

The incubator project contract was signed on July 1, 1998, between three parties (Shibli, 2004, p. 22):

- The **Social Fund for Development**, as the funding entity;
- The **Tebbin Institute for Metallurgical Studies**, as the provider of the incubator's site;
- The **Egyptian Business Incubators Association**, as the body responsible for establishing and operating the incubator.

- ***Facilities and Capacities of the Incubator:***

The incubator occupies an area of approximately 4,810 square meters, including buildings and green spaces, and is located directly within the premises of the Tebbin Institute. The incubator includes a central administrative unit staffed by an executive director, an accountant, and an executive secretary; a showroom for the products of incubated projects; a fully equipped meeting hall for seminars and training; a computer center with Internet access; a mechanical workshop equipped with machinery for turning and related activities; and a cafeteria serving incubator beneficiaries.

The incubator is capable of accommodating 17 fully equipped units to host projects during the first phase, with plans to expand this capacity to 40 units in the second phase through the construction of additional units on allocated vacant land within the incubator premises (Regional Office for Arab States, 2003, p. 101).

➤ ***Core Services Provided by the Incubator:***

Activating the services and facilities provided by the incubator and placing them at the disposal of innovators and technology-based project owners is expected to significantly enhance technological applications. This, in turn, contributes to the development of technological industries capable of meeting domestic market needs, substituting certain imported products, and achieving the strategic objective of producing export-oriented products capable of penetrating international markets.

The technology incubator provides comprehensive support services to new and emerging enterprises, particularly those based on innovative ideas and inventions, including:

- **Specialized services:** product development consultancy, packaging, pricing, and product management;
- **Financing services:** funding and production of initial prototypes;
- **Administrative services:** accounting, invoice preparation, and equipment rental;
- **Secretarial services:** word processing, document reproduction, reception duties, file management, fax, Internet services, and management of correspondence and telephone communications;
- **General services:** security, training facilities, computer laboratories, and libraries;
- **Feasibility studies and business planning services.**

➤ ***Procedures for Project Admission to the Incubator:***

Projects are admitted to the incubator following the evaluation and analysis of their business plans, which demonstrate the technical, marketing, and economic feasibility of the proposed project. Based on this assessment, an appropriate workspace is allocated in accordance with the project plan, and the project gains access to the full range of services provided by the incubator.

4. Conclusion

Business incubators constitute an effective mechanism for supporting and assisting innovators and entrepreneurs with new and creative ideas, enabling them to establish sustainable enterprises and demonstrate their entrepreneurial capabilities. This support is manifested through the provision of an integrated environment offering diversified services, as business incubators facilitate the start-up phase—which is considered the most challenging stage—by adopting advanced standards, providing appropriate financial resources aligned with the nature of projects, and delivering administrative support and consultancy services to mitigate associated risks.

To enhance the role of business incubators in achieving their objectives and strengthening support for small and medium-sized enterprises, the following recommendations may be proposed:

1. Strengthening the role of business incubators in development by establishing a legislative and legal environment that grants them a more substantial role in the development process;
2. Raising awareness among investors and business leaders to encourage investment in business incubators;
3. Leveraging local and expatriate expertise and establishing information-based incubators to build technology-driven enterprises that contribute to sustainable development;
4. Benefiting from joint Arab research projects and unifying efforts to design integrated Arab programs for supporting business incubators;
5. Defining incubator focus areas, with particular emphasis on information and communication technologies, renewable energy, water desalination technologies, waste recycling, environmentally adapted agriculture, and other vital sectors.

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