



The economic effects of business incubators and their role in promoting the transformation for the circular economy in the Egyptian economy

By

Dr. Eman Mahrous Mohamad Al Mahdi

Lecturer at the economics department, Faculty of business administration.
Delta University of Science and technology

**Scientific Journal for Financial and Commercial Studies and Research
(SJFCSR)**

Faculty of Commerce – Damietta University

Vol.5, No.1, Part 1., January 2024

APA Citation:

Al Mahdi, E. M. M. (2024). The economic effects of business incubators and their role in promoting the transformation for the circular economy in the Egyptian economy, *Scientific Journal for Financial and Commercial Studies and Research*, Faculty of Commerce, Damietta University, 5(1)1, 735-760.

Website: <https://cfdj.journals.ekb.eg/>

Dr. Eman Mahrous Mohamad Al Mahdi

The economic effects of business incubators and their role in promoting the transformation for the circular economy in the Egyptian economy

Dr. Eman Mahrous Mohamad al Mahdi

Abstract

The study aims to clarify the developmental role of business incubators in the economies of less developed countries, and how these incubators can be prepared to ensure the safe transformation of the circular economy using the Chinese and Malaysian experience in this regard, and the study addresses the requirements to achieve this, and the most important challenges facing the Egyptian economy, and how to overcome those challenges to achieve sustainable development.

The study focused on the industrial sector in Egypt and in the countries under comparative study. Supporting and increasing the competitiveness of the national industry in front of foreign products by increasing the economic impact of major projects in international markets by focusing on the environmental side by producers through the transition to a circular economy based on improving the level of flows of materials and energy and reducing and controlling waste .

Keywords: Business incubators, circular economy (CE) , sustainable development.

Introduction:

Supporting and developing small and medium enterprises is one of the most important priorities to enhance economic growth in general, and the Egyptian economy in particular, through the development of the private sector, and increasing the competitiveness of small and medium enterprises. As a result of the existence of the phenomenon of the missing middle in the majority of the economies of the less developed countries, which means the deformation of the industrial structure by missing the Middle Ring of small, medium and micro enterprises in the industrial structure, which would be the inability to link between large, medium and small industrial enterprises, and then the weak competitiveness and the lack of economic impact of large projects, as well as the negative impact in the event of changes in market trends, waste of resources, and a decline in production capacity are all things

that made attention to the small and medium-sized industries sector an urgent necessity, especially in light of the emphasis of the economies of the more developed countries the role of this sector To support the sustainable development path.

study aims to identify the economic effects of business incubators as one of the main pillars in the sustainability of small and medium-sized enterprises and activate their role, because they are able to adapt to the business environment and exploit all opportunities in the local market by following quality standards in their products to become able to increase their competitiveness in foreign markets, implementing economic and technological development programs, promoting and pushing the transition to the circular economy, all of which are essential requirements in achieving sustainable development . The interest of developed countries and less developed countries to be through maximizing the role of business incubators to solve many economic, social and environmental problems has come recently, as business incubators have become the main supporter of emerging projects, one of the important engines towards regional and local development. This done through community participation by raising awareness of young people wishing to enter the labor market – by creating jobs and supporting human development - and providing them with the necessary financial, marketing and administrative support.

In addition, business incubators are able to adopt innovative ideas, which serve the process of modernization and continuous development of the production process.

Many studies have confirmed that business incubators have become a link between industrial development and scientific research, by promoting the concept of an economy based on Applied Knowledge¹, which gives priority in investment to qualified human resources trained in the use of modern technologies, emphasizing the economic dimensions of artificial intelligence technologies, which come in direct and indirect ways, targeting increased productivity and increasing the level of effective demand, which requires

¹ - The concept of a knowledge-based economy reflects the size of knowledge and information sectors and investments within the economy, as well as the extent to which technological knowledge is activated in production activities .

Dr.Murad, Ali . Knowledge economy and a course in achieving economic and social development in the Arab countries . The Cooperation Council for the Arab states of the Gulf. Faculty of Economics, Commercial Sciences and higher education, University of Zian /Algeria .2014

keeping abreast of all developments correctly and knowing the requirements of each stage, focusing on :

- 1- Activating the legislation that urges the conservation of resources, waste recycling and good management to protect the environment.
- 2- Encouraging small projects interested in recycling waste.

- Research problem:

The problem of the study reflects many points through which it is possible to determine the importance of maximizing the role of business incubators as one of the main engines in supporting and achieving the process of growth and sustainable development, but there are many challenges facing many countries in general and less developed countries in particular, with regard to activating the role of business incubators in supporting and developing the industrial sector and achieving the transition to the circular economy. Referring to the Chinese and Malaysian experience to determine the importance of business incubators in achieving sustainable development, and the extent of the possibility of benefiting from these experiences and applying them in Egypt .

- Study Hypotheses:

- Business incubators may be one of the important tools in achieving sustainable development in general, and in less developed countries in particular.
- There may be many obstacles that prevent business incubators from exercising their developmental role in the transition to a circular economy.
- By maximizing the role of business incubators in the transformation of the circular economy, there will be a positive impact on the development of the industrial sector, as it supports and increases the competitiveness of the national industry in front of foreign products by increasing the economic impact of major projects in international markets by focusing on the environmental aspect by producers through the transition to a circular economy based on improving the level of flows of materials and energy, reducing and controlling waste .

- Aim of the study:

1-Determining the importance and role of business incubators in economic development.

2-The role of business incubators in activating the principles of the circular economy to support the development path of the Egyptian economy.

3- Clarifying the possibility of benefiting from international experiences with regard to activating the role of business incubators in the transformation of the circular economy and the impact on the industrial sector, and the suitability of these experiences to apply in the industrial sector in Egypt.

- Study Methodology:

The researcher followed the inductive Methodology in studying and determining the developmental role of business incubators in the economies of the Least Developed Countries, their role in promoting the transformation of the circular economy in the Egyptian economy, and made a comparative study to clarify this role, if there is a positive impact, what are the challenges and requirements for implementation and activation of this role.

- Study boundaries:

- Countries of study: Arab Republic of Egypt, China, and Malaysia.
- Boundaries Time: the study covers a period of time starting from the Eighties until the Twenty-First Century.

- Study plan:

- The first topic: business incubators-concept, forms and goals.
- The concept and forms of business incubators and their purpose.
- Strategic directions to achieve the transition to the circular economy in the Egyptian business economy.
- The second topic: the developmental role of business incubators in supporting the development path of the transition to a circular economy (study imposition test) - study of the Chinese experience.

- Conclusions and recommendation.

The first topic: business incubators-concept, forms and objectives

The state strives to intensify all its capabilities to create an attractive climate for national and foreign investments in all sectors, by developing a clear investment strategy in line with regional and international developments, by employing all its resources to support the development path, depend on the creation of a strong national private sector capable of leading the development process .all studies came stressing the importance of their being a link to link large , small and medium economic organizations together to ensure increasing the competitiveness of major projects in international markets. Hence, the importance of business incubators as one of the main tools through which it is possible to connect large, medium and small economic organization, to achieve a secure transition from one stage of development to another.

In this part of the study, the researcher will discuss the concept of business incubators, their forms and the goal of their establishment, and their role in supporting industrial development in general and Egypt in particular.

- The concept of business incubators:

Researchers have dealt with many concepts of business incubators, where the United States of America is the owner of the idea of business incubators in 1959, after the exit of the United States of America from World War II and the aftermath of the war, the high rate of depression and unemployment, and large factories stopped working. And the idea spread to reach and apply in Europe, and not only to developed countries, but also to less developed countries, which have become very interested in establishing and implementing business incubators and providing full support to them so that they can overcome obstacles that may prevent the establishment of such projects . The Association of the National incubators Federation National Business Incubators Association 2005 (NBIA) of America defined business incubators as a group of support for nascent business entrepreneurs in order to accelerate growth and development in the start-up period, by providing a package of services and resources. As defined by the Center for economic and social services,2010), the EU Center for Strategic Affairs and service evaluation is an organization that contributes to the process of creating successful companies by providing them with a comprehensive and integrated set of support in various forms .

The Arab Center for studies and research defined “business incubators and their role in supporting entrepreneurship for young people in the Arab world, Egypt as a model – April 2018 "as centers that stimulate the incubation of entrepreneurs and their ideas, and turn these ideas into entrepreneurial projects in reality. Therefore, governments, in coordination with major companies in many international practices, have created an environment that simulates their working environment to promote the concept of an applied knowledge-based economy. So it can be said that the word incubator means the environment in which the project grows, by providing all the necessary capabilities, while providing full support to that project so that it can grow and develop continuously to become able to integrate into the labor market.

- Types of incubators and the purpose of their establishment:

The incubators are classified into types according to the support and services they provide covering certain industries or sectors, and the following table shows the types of incubators and the roles they play.

Table No. (1) Types of incubators

N	Types of incubators	purpose of creation
1	Incubator of public projects	Deals with small projects with different and diverse specializations in all production and industrial fields, with traditional technology, and produces for the local market.
2	Specialized support incubators	This type of incubator is held to support certain industries in the industrial areas where those industries are established to feed them with what they need from various aspects of support to ensure their continuous growth and development.
3	Open incubators	These incubators play the role of an intermediary between different industries, as they are located in the places of industrial clusters, to create an integrated environment for these projects through the provision of marketing, technical, administrative and financial support ²
4	Sector-specific incubators	It specializes in providing all aspects of support to a specific sector without others, whether (industry, agriculture, tourism ... And others)
5	Technology Incubators ³	This type of incubator is held within research centers, with the aim of benefiting from scientific and applied research and everything that is developed that will increase the production rate and contribute to the success of the projects being held.

² - The Ministry of finance, planning, the General Authority for investment, and the chambers of Commerce and industry can contribute to financing the infrastructure of the incubator and submit proposals to those responsible in accordance with certain controls .

³ - Egypt established the first technology incubator in 1998, the AL-Tabeen incubator for technology projects.

From the previous table, it is clear that incubators serve as a link between different projects, according to the type of each incubator and the role it plays to ensure that it increases the competitiveness of those projects, and then increase their capabilities to face all economic developments and changes, and thus contribute effectively to economic development, and then the pivotal role in supporting the development path of the transformation of the circular economy⁴, a circular economy based on improving the level of flows Materials, energy, reduction and control of waste and waste through the transition from waste management to resource management and the transformation of waste into raw materials in order to reduce the cost of production, reduce the cost of importing raw materials and then reduce the severity of emergency crises if they occur, in addition to controlling the impact of waste for those production sectors on the environment .

- Business incubators and industrial development in Egypt :

The industrial private sector in Egypt witnessed a remarkable development during the seventies of the twentieth century by pursuing a policy of economic openness, as the investment law for Arab and foreign capital No. 43 of 1974 was issued, with the aim of encouraging industrial investment in Egypt as well as attracting Egyptians' savings abroad . Egypt has started a new stage on the path of industrial development, with the implementation of the economic reform policy, and the increasing role of the private sector in achieving industrial development. The industrial sector has received many advantages, facilities, national and foreign investments directed to industrial activities have increased. At the beginning of the Twenty-First Century, Egypt began a phase of the promotion of the Egyptian industry by improving the competitiveness of the Egyptian product through the preparation of an integrated program to improve and raise the rate of Egyptian exports to integrate into major international markets, which

⁴ - The concept of circular economy was first introduced by Pearce and Turner. In their *Economics of Natural Resources and the Environment* (1990) they outline the theories within and between economics of natural resources and their interactions and implications for the concept of how economics works.

- Almas Heshmati " A Review of the Circular Economy and its Implementation" IZA DP No. 9611 , December 2015

- According to definition of industrial development organization, United Nations (UNIDO) The circular economy is: a new way of creating value, and ultimately prosperity. It works by extending product lifespan through improved design and servicing, and relocating waste from the end of the supply chain to the beginning—in effect, using resources more efficiently by using them over and over, not only once .

necessitated the creation of an appropriate investment environment for industrial and commercial activity. In order to ensure an increase in the level of contribution of the national and foreign private sector, believing in the importance of maximizing the role of the private sector as one of the main pillars in achieving economic development.

The industrial sector in Egypt is one of the leading sectors in the national economy, where its share in the GDP reached 17.5% with a value of about 275.3 billion pounds, the private sector contributed to it with a value of 223.9 billion pounds by 81.3%, and the public sector contributed about 51.5 billion pounds by 18.7% during the period from 2005 to 2006, reflecting the impact of investment incentives provided by the state for industrial investment on the growth of the role of the private sector. The period in 2005 to 2010 witnessed an increase in the volume of Egyptian exports by 14.81%, its value increased to 159.9 billion pounds in 2010 compared to 61.6 billion pounds in 2005, an increase of 98. EGP 3 billion, the national and foreign private sector contributed to it by about EGP 99.6 billion by 86%. During the past ten years, the state has followed many measures to stimulate the industrial sector, which contributed to improving the Egyptian Foreign Trade Index in terms of increasing exports by a total of 46% during that period.

However, despite the importance of the industrial sector in the growth process as one of the main sectors in Egypt, there are many factors that combine to make the role of this sector decline by adopting traditional methods that do not support its competitiveness as the Egyptian economy is facing increasing pressures imposed by international developments and the control of major countries over the sources of modern technology.

Despite the increasing degree of openness among countries, especially in recent times, the less developed countries are still losing their way to take advantage of the development opportunities available to them as a result of this openness. The phenomenon of the missing middle⁵ in the industrial structure is the link between large enterprises and other micro enterprises, a phenomenon that is a major reason for the weak competitiveness of the industrial sector in Egypt by the lack of the ability to transfer developments to small and medium enterprises in line with the nature of those projects.

⁵ - The missing middle phenomenon: this phenomenon means the deformation of the industrial structure, with the absence of the Middle Ring of small and medium enterprises, which connects between large enterprises and micro enterprises, which would lead to the inability to integrate with large entities and then negatively affect export rates.

Most regulatory decisions tend to serve large economic entities at the expense of small and medium-sized enterprise owners, thereby affecting the contribution of investors in pumping more investments , and hence the inability to create integrated production base consisting of large, medium and small projects together, which means the absence of the middle ring "Missing Middle", which was monitored by the field study conducted by the researcher to determine the developmental role of the National private sector⁶, through four industrial zones, including one of the largest industrial zones in the Arab Republic of Egypt, namely (the industrial zone in Gamsa in Dakahlia governorate, the industrial zone in Port said, the industrial zone on the sixth of October, and the industrial zone in Burj Al Arab⁷) . According to the data received, 57% of projects are small projects compared to only 9% medium projects, and 34% are large projects according to the size of the workforce, which negatively affects the changes in market trends, and therefore waste of resources and decline in production capacity.

Business incubators are one of the main tools through which it is possible to support and develop the industry sector in general and small and medium enterprises in particular through the integration of policies for the development of large, medium and small enterprises and manufacturing, financing and technical capabilities .

Small and medium-sized industries⁸ form the base on which the private sector is based in general in the economy of any country, and their importance is increasing especially in less developed countries due to the availability of job opportunities and thus alleviating the unemployment problem . Statistics indicate that SMEs represent about 90% of the total companies in most economies in the world, provide between (40% to 80%) of jobs, and their contribution to the global GDP is approximately 46%.

⁶ - PhD thesis entitled "The role of the national and foreign private sector in the growth of the Egyptian economy-during the period from 1970 to 2010 between reality and hope".Eman Mahrous al-Mahdi-Faculty of Commerce, Mansoura university-January 2018 .

⁷ - This choice was justified by the fact that these areas are one of the oldest and largest qualified industrial cities in Egypt, which is characterized by the diversity of its production base . - These areas also have a distinctive geographical location and division, as they are located within or near major cities, which

- Large, small and medium-sized enterprises are defined based on many criteria, such as the number of employees in these projects, the size of the capital, or both criteria. Due to the refusal of some to disclose the size of the real capital of their projects, and giving some inaccurate estimated figures, the criterion of the number of workers for the projects under study was based on it .

⁸ - National Bank of Egypt, small and micro enterprises under Law No. 141 of 2004 , economic journal , fourth issue, volume Fifty-seventh .

Dr. Eman Mahrous Mohamad Al Mahdi

Business incubators are one of the tools to achieve a balance in the distribution of the fruits of the development process, and this is through its geographical spread, and work to expand its establishment in all regions within the country, and then contribute to the establishment of comprehensive productive communities (Regional Development) capable of absorbing all the productive elements, and the provision of final and intermediate goods and services Economic, which leads to maximizing the economic return of the state, its capacity To develop and respond to the challenges it faces . In addition to this, the role played by business incubators reflects the size of the addition resulting from the production processes of these projects to the GDP. The greater the added value, this reflects the importance of those projects that are held in incubators in increasing national income. From the above, it is clear the relationship between the effectiveness of small enterprises and the achievement of economic development in all countries in general and less developed countries in particular.

Egypt has developed a long-term plan represented by a clear strategy for sustainable development in Egypt until 2030. The title of the conference on supporting and developing the Egyptian economy in March 2015 in Sharm el – Sheikh came under the title “sustainable development strategy, Egypt's Vision 2030 and the medium-term investment framework 2014/2015-2018/2019.

In an attempt to move at a more steady pace towards developing a planning approach in partnership with community elements, the government has attached a distinctive and very important role to the private sector and civil society in strategic issues in this regard, provided that the goal of this strategy is to make Egypt one of the 30 countries in the world that enjoy economic development, welfare of community members, and possess competitiveness in international markets, with the optimal activation of human capital .

Business incubators are one of the most important tools to achieve community participation, and Egypt is one of the first Arab countries that established a number of incubators in many governorates, and established the Egyptian Association for small enterprise incubators in 1995 with the aim of spreading the culture of self-employment, establishing industrial and technological clusters, qualification and training of human cadres, with supervision of cooperation programs with international bodies in relation to business incubators .

Dr. Eman Mahrous Mohamad Al Mahdi

In addition, Egypt established the Social Fund for development in 1991 with the aim of providing technical and financial support to small and medium-sized enterprises, but according to specific criteria, namely:

- The project should have economic feasibility.
- The products must be of high quality, and modern technologies are used in the production process.
- The project should be geographically appropriate.

In 1998, the first technology incubator was established in Tabeen, and the incubator included 11 projects, and its capacity to accommodate projects is estimated at 40 projects, and the idea of incubators spread in Egypt and each incubator had a package of services to provide to the projects attached to it.

9 incubators have been established in 2018, including incubators based on simple technologies in providing services or light manufacturing, such as Mansoura and Assiut incubators, that is, they are incubators for ordinary industries and distinctive crafts of high quality, and there are incubators with a high technical level located near or inside universities and scientific and technological centers such as Mansoura University Incubator, specialized incubators in Informatics and biotechnology in Mubarak City, Alexandria.

One incubator accommodates about 40 projects to continue inside the incubator for three years and then they are discharged from the incubator, but support continues for projects previously affiliated with the incubator to ensure survival and not stumbling.

After realizing the pivotal developmental role of business incubators, what is the mechanism by which the role of business incubators is activated in light of the strategic directions to achieve the transition to the circular economy in the Egyptian economy.

Second topic : the developmental role of business incubators .

In the first topic, the study dealt with the concept of business incubators, their types and the goal of establishing them, the role of business incubators in the economies of developed countries and less developed countries in general, as well as the importance of supporting and developing the small and medium-sized industries sector. The assumptions of the study are tested in this research, where the emphasis on the developmental role of business incubators through some international experiences that have supported and developed business incubators to become a main pillar to activate the role of the private sector and then in supporting the development process.

- **China's experience :**

The Chinese economic experiment is one of the experiments that has been taken as a successful development model. It has many clear economic visions that have enabled him to carry out sound economic reforms. The reform process in China began in 1978 under the leadership of the Chinese leader "Deng Xiaoping" to create the capabilities of the state by determining the size of available resources, and drawing up a map of economic and social priorities in an attempt to achieve social justice and economic growth sequentially according to the requirements of each stage of development in an orderly manner. The Chinese government has realized that it is difficult to achieve sustainable development under a centrally planned economic system, which prompted it to move towards the implementation of the reform program. The role of the private sector has already been activated, but gradually according to the requirements of each stage, which had a clear role in increasing the economic growth rate in China by an average of 9% per year. The northern region of China is one of the oldest industrial regions in which more than two-thirds of industrial production in China is concentrated, and in which there are many industries such as iron and steel industry, textile industry, and electronics industry.

There is no doubt that this has made China qualified to achieve a development, in terms of Natural Resources, industrial components, as well as the human resource that has made it play a pivotal role in building the economy of China, as one of the largest countries in terms of population, which is currently estimated at 1.4 billion people, an increase of about 2.5 times from the country's census in 1949. In addition, attention is paid to technological development and the introduction of modern technical systems in the production process in the fields of Heavy Industries and mining industries.

In 1988, China established the first national central technical program⁹ known as "TORCH", a program aimed primarily at promoting scientific research and maximizing its results by activating, activating innovation, and technical inventions, which at that time became an urgent necessity in manufacturing processes. The program has been implemented in every province of China within all industrial and technical facilities and public places as an essential step to properly structure the technical system.

⁹ - Edward M. Geaham "DO Export Processing Zones Attract FDI and its benefits: the Experience from China" *International Economics and Economic Policy*, 2004-

Dr. Eman Mahrous Mohamad Al Mahdi

The result of this program was the establishment of 54 technology incubators during the nineties, and the number of incubators reached 465 incubators in 2002, and these incubators included approximately 20.796 projects producing products at a high technical level, thus China became employed by 2.51 million people, and achieved income of approximately 115 billion US dollars, and China currently leads the world in terms of the number of business incubators and co-working centers, which number exceeds 7500 incubators contributed to supporting more than 223 thousand companies until 2016.

The development approach in China has come in three stages, the first stage is the stage of socialist organization and depended on the Central Economic Policy, and the second stage is the stage of opening up in according with market mechanisms, in which business incubators and qualified industrial zones played the largest role in achieving external economic balance by increasing the developmental role of the private sector and the tendency to establish business incubators and industrial zones qualified to incubate private sector projects while providing an appropriate climate to attract foreign technology-transmitting investments, especially projects with modern technology.

In the third stage, it adopted the circular economy as a development strategy, by issuing the Circular Economy Promotion Law in 2009, taking advantage of all scientific research related to resource management and waste recycling, and the creation of environmentally friendly products, where the optimal use of resources and their management is the main pillar on which the circular economy depends by reaching maximum efficiency in the use of limited resources, and the gradual transition to renewable resources, besides focusing on raising the efficiency of human capital, and working to localize the most advanced production technologies, and hence the expansion and diversification of the production base based on the development of industries New projects contribute to enhancing the competitiveness of the state and contribute to the integration of economic activities supporting the circular economy .

The circular economy in China has contributed to the development of new industries in the field of (environmental industry, waste management, saving and reducing energy consumption, health sector) . China has become a market for waste management department as follows :

Dr. Eman Mahrous Mohamad Al Mahdi

- Industrial waste, solid waste, hazardous waste, plastic waste, electronic waste, medical waste), the Waste Management Market in China has become a competitive market .

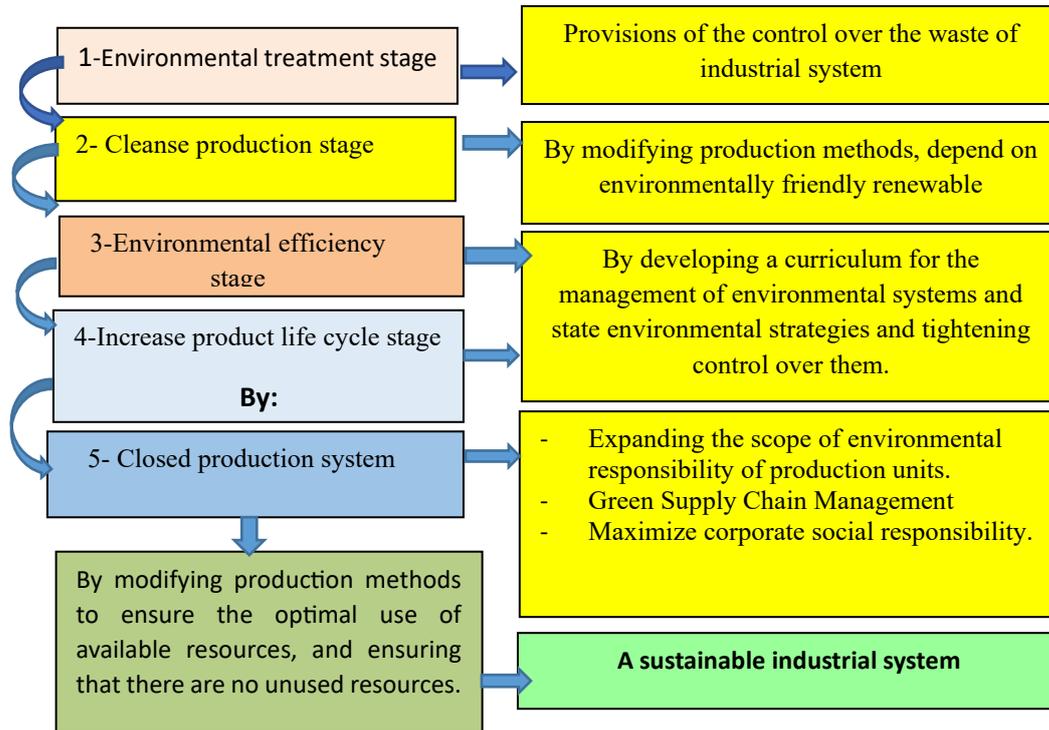
The World Bank's December 2022 China climate and Development report notes that if China cannot neutralize the impact of carbon emissions by 2060, it will be impossible to achieve global climate change goals. China emits 27% of global carbon dioxide emissions and a third of the world's greenhouse gases. This transformation will require huge changes in the available resources, as well as innovations introduced by employing modern technologies in order to raise energy efficiency and resource productivity, emphasizing the need to achieve integration between the public and private sectors in this matter.

Perhaps China's technological progress reflects its ability to neutralize the impact of carbon emissions and thus open up areas for new environmentally friendly industries that support its development path by:

- Increased production returns and the introduction of low-carbon technologies such as wind energy storage, electricity; and a high domestic savings rate.
- The leading role in the field of green finance; the ability to create highly skilled jobs¹⁰ in high – productivity industries, ensuring the recycling of what is produced-closed-loop production systems.

¹⁰ - The circular economy in China: Achievements, challenges and potential implications for decarbonization Raimund Bleischwitz * , Miying Yang, Beijia Huang, Xiaozhen XU, Jie Zhou, Will McDowall, Philip Andrews-Speed, Zhe Liu, Geng Yong , Resources, Conservation and Recycling , Volume 183, August 2022.

Figure No¹¹. (1) Stages of reaching a sustainable industrial system in China



- The form prepared by researcher

The Malaysian experience:

Malaysia has many elements that have made it achieve remarkable progress at the economic and social level in particular, and at the international level in general. Where it was able to exploit its national resources and employ them optimally, and work to establish a qualified infrastructure for the planned projects, until it became a modern industrial country capable of competing internationally in several fields, especially Precision Industries, which reflects the extent of the technical development of the state.

The development experience in Malaysia has proved that universities and research centers have the ability to support and develop the industry sector by providing research in this aspect.

¹¹ - The form prepared by researcher .

Dr. Eman Mahrous Mohamad Al Mahdi

The Malaysian government has developed two long-term plans to support and develop the industrial sector¹²:

- The first: national plan is called the plan 2000-1996, in which it focused on the activation and development of small industries that are oriented to meet the needs of the Malaysian domestic markets, where several support programs were developed and implemented specifically targeted at small companies with a high growth rate, and the government encouraged small export-oriented enterprises through export support and financing mechanisms.

The second: national plan 2005-1996 : the policy of industrial zones was adopted as business incubators, which in turn focused on the activation and development of specialized production and manufacturing projects in some productive sectors that are considered export sectors such as specialized service companies, specialized research and development companies, equipment manufacturing companies, advanced packaging companies, specialized companies, and the number of those companies reached 31 companies working in Information Technology and Multimedia, an example of this :

Malaysian Technology Development corporation MTDC¹³ Malaysian Technology Development

Which was established in 1997, with the aim of employing the studies of universities and research centers in supporting and developing the industry sector by linking those studies with the labor market, and that company took over the incubation of new projects.

Also, the technological innovation center (UM-MTDC Technology Innovation Center) works in the fields of manufacturing advanced communications and electronics technologies.

From the above, it is clear that the state has given full support to the private sector to qualify it to lead the development process. She was able to use her resources to the best of her ability without wasting them. This is due to its strong support to the education sector to ensure access to trained technical personnel capable of absorbing all technical developments through dedicated programs on advanced manufacturing systems, communication networks and

¹² - Dr. Nadia Fadel Abbas "the development experience of Malaysia from 2000 to 2010".International Studies. Fifty-fourth issue, 2012.

¹³ - Dr.Naghm Hossein Naama "the role of business incubators in microfinance-experiences of some countries" The Journal of Administration & Economics No. 112 – 2017 .

Dr. Eman Mahrous Mohamad Al Mahdi

the right ways to use energy that ensure the preservation of the environment from the risks of pollution caused by the use of all types of energy to achieve sustainable development.

With the aggravation of the negative effects of climate change on the less developed countries in general from rising temperatures, different patterns of rainfall as well as sea levels, and the many weather-related disasters, which have become a major threat to agriculture, food and water supply. In June 2017, Malaysia launched the world's first Islamic green bond as part of a package of policies supporting the Malaysian Green Finance Program, as the program aims to encourage investments in green or sustainable projects through the development of Islamic green finance markets in Malaysia first, followed by the Association of Southeast Asian nations.

Monetary instruments should be attractive to traditional investors if they generate reasonable risk-adjusted returns, are properly marketed, and provide financing for an environmentally sustainable project, especially attractive to investors who pay special attention to the environment.

Monetary instruments provide investors with a high degree of confidence that their funds will be used for a certain purpose, as there are environmentally friendly investment products.

The global knowledge and Research Center has partnered with public and private sector institutions in Malaysia and other regions to develop modern and integrated services and markets. Through this partnership, the new green Islamic finance¹⁴ initiative was launched, adding a new and innovative financial product that can be used all over the world.

- Results from these experiments:

Both China and Malaysia have been able to transform the weaknesses of their economic systems into strengths through the optimal utilization of the resources available to them .each has exploited the human element as an engine for the development path by qualifying it to receive all that is new technically, and voluntarily in according to the requirements of various production projects and activating the frameworks of transformation of the circular economy to ensure sustainable development.

¹⁴ - worldbank.org/ar/voices/eastasiapacific/Malaysia

The results of previous experiments can be summarized in the following points:

- 1-the main success factors of business incubators in these countries lie in :
 - Provide the necessary infrastructure for the establishment of these projects
 - Having clear goals for the planned projects.
 - Continuous support for scientific research and development centers.
 - Availability of the necessary funding sources for these projects.
- 2-emphasizing the correlation of the factors affecting the size and growth of small and medium enterprises with the elements of the economic reform program adopted by the state.
- 3-the need to maximize the role of small and medium-sized industries in creating technology and dealing with it as a producer of technology, not just its future and applied.
- 4-the importance of transformation of the circular economy lies in reducing costs, preserving capital, achieving the highest possible return, attracting investor confidence, reducing the negative economic savings resulting from traditional economic patterns, which can be controlled through the application of digital transformation systems and artificial intelligence applications to ensure the optimal use of materials and ensure their sustainability .
- 5-the success of the development path in any country is related to the compatibility of development plans and projects with the advanced technological environment.

But despite the fact that Egypt has some of these elements, according to the Doing Business Report issued by the World Bank¹⁵ for 2018/2019, which pointed to the ten economies that have achieved the greatest improvement in the degree of doing business are Saudi Arabia, Jordan, Togo, Bahrain, Tajikistan, Pakistan, Kuwait, China, India and Nigeria. Egypt has moved away from the classification for several reasons, the most important of which are:

¹⁵ - World Bank " Business Report 2020 - continuing the pace of reforms" October 2019 .
<https://www.albankaldawli.org>

Dr. Eman Mahrous Mohamad Al Mahdi

- The lack of regulations and flexible legal bases that support and help small and medium enterprises.
- Not providing sufficient awareness about the importance and culture of self-employment.
- The absence of an information base on which these projects rely in planning future production stages to ensure the preservation of environmental components and their effective use.

The deficit of a mechanism for coordination between government agencies and private sector institutions to achieve a future vision of a sustainable development role.

- Limited number of business incubators.

Despite the development of programs and plans for lending to small and medium-sized enterprises, loan donors still tend to lend to large projects and finance the government deficit.

Therefore, it requires the restoration of the National private sector in order to become able to achieve sustainable development, through a more effective private sector administratively, organizationally, technically, socially and environmentally.

- Conclusion :

After the researcher addressed the economic impact of business incubators in Egypt, the requirements for activating their role, the most important challenges that prevent reaching their goals, and ways to pass them were presented . In order to transform the circular economy, the following are the most important results and recommendations of the study :

First: the results of the study :

- Maximizing the role of business incubators is not achieved as a supporter of Economic Development Goals, except by working to take all necessary measures to protect and support small and medium-sized enterprises in order to help them increase the volume of their production and with a quality that qualifies them to compete in the international market, and then ensure continuity .
- Linking the increase of the effectiveness of the representation of small and medium-sized enterprises in decision-making increases the chances of success of the development leadership of the private sector in general.

Dr. Eman Mahrous Mohamad Al Mahdi

- The priority within the incubators should be for industries that use modern technology in the production process, as well as focusing on the production of import alternatives, with attention to technological incubators and keenness to consolidate their relations with universities and research centers
- The use of international expertise in the management of business incubators guided by the owners of successful experiences in this field.
- The number of small or medium enterprises enrolled in business incubators is a measure of the success of the incubator as well as the ability of those projects to continuously develop.
- The ability of the incubators to develop their financial, administrative, marketing and environmental performance, is mainly related to the success of the incubator.
- The need for the reform process to be carried out gradually and regularly to ensure the optimal exploitation of all the advantages enjoyed by any country, with the ability to adapt to all regional and international changes that may be affected by national economies.
- Paying attention to the development of human resources and providing the necessary support to suit the labor market.

Second: recommendations:

The development path of the state should work on four main axes, which are as follows:

- * The first axis: building an information base with the state about the private sector in general and all the parties concerned with dealing with it (led by the government) in order to properly assess the performance of the private sector, and develop performance control systems.
- * Second axis: improving the business environment, and establishing a joint cooperation framework between the government and the private sector, as both complement the other in the importance of the transition to a circular economy.
- * Third axis : supporting and developing the industrial sector in general and small and medium enterprises in particular (led by the private sector) in order to address the phenomenon of the missing middle, and supporting the competitiveness of entrepreneurs by maintaining the work environment and depend on renewable energy sources .
- * Fourth axis : updating the investment map, to be based on artificial intelligence technologies, and employing it to create a database on the

Dr. Eman Mahrous Mohamad Al Mahdi

location of inputs of environmentally friendly industries, to give the best possible return and compatibility, face the variables of the external environment and predict future operations to determine the long-term trend, to ensure the direction of resources to good investment opportunities, avoiding risks and overcoming weaknesses, and building on the elements of strength to ensure a competitive position by achieving effectiveness and efficiency in implementation .

* The state has already issued the Waste Management Regulation Law No. 202 of 2020, and the Waste Management Regulatory Authority, in cooperation with the Ministry of Commerce and industry, has developed the "Green Mark" system, which is granted to the factory when designing their products in a way that reduces the generation of waste and the products are marked To introduce the consumer to environmentally friendly products, this comes to stimulate an increase in the proportion of recyclable inputs and reduce industrial waste, in preparation for the establishment of new permanent logistics zones for a sustainable development path, which aims to maximize the profitability of producers and businessmen and achieve the maximum possible benefit to consumers on the one hand, society and the environment on the other new logistics services during the Seventies period in the cities of England and Germany to deal with the repercussions of these Disadvantages and the creation of environmentally compatible logistics services in addition to its compatibility with the economic and social dimensions on which the traditional logistics system was built in order to achieve a competitive advantage with other companies, this new concept may be represented in green logistics¹⁶, which requires updating the investment map in line with this goal . Logistics areas through which it is possible to promote the basic objectives of the circular economy, represented in reducing costs, in addition to preserving capital to ensure the highest possible return. We can draw on the Malaysian experience with regard to the logistics services industry, which is based on e-commerce, where small and medium-sized industries represent the largest part of it.

Logistics zones are one of the important tools through which it is possible to control the phenomenon of the missing middle in the Egyptian industrial and commercial structure to ensure the creation of economic entities capable of

¹⁶ - Dr.Abeer Ahmed Mohamed Abdel qawy "formulation of an integrated environmental framework for the application of the principles of the green entrance in new logistics areas "lecturer at the Department of urban planning - Faculty of regional and urban planning - Cairo University Journal of Urban Research, Vol. 19, Jan 2016 .

competing in international markets based on the management of supply chains more effectively, environmentally and technically compatible.

- Linking the sources of funding for incubators with granting for innovative projects that are more related to sustainable development thinking.

قائمة المراجع

أولا : المراجع العربية .

• دوريات ومؤتمرات علمية :

- إيمان محروس المهدي , رساله دكتوراه بعنوان " دور القطاع الخاص الوطني والأجنبي في نمو الاقتصاد المصري - خلال الفترة من ١٩٧٠ إلى ٢٠١٠ بين الواقع و المأمول -" كلية التجارة جامعة المنصورة - يناير ٢٠١٨ .
- البنك الاهلى المصرى " المنشآت الصغيرة و المتناهية الصغر فى ظل القانون رقم ١٤١ لسنة ٢٠٠٤ " النشرة الاقتصادية , العدد الرابع , المجلد السابع والخمسون .
- البنك الدولى " تقرير ممارسة الاعمال ٢٠٢٠ - مواصلة وتيرة الاصلاحات " اكتوبر ٢٠١٩ .
- سمير زهير الصوص " بعض التجارب الدولية الناجحة فى مجال تطوير المشروعات الصغيرة و المتوسطة " السياسات والتحليل و الاحصاء - مكتب محافظة قلقيلية ٢٠١٠ . المعهد العربى للتخطيط . د. محمد عدنان " قضايا التنمية فى الاقطار العربية " ٢٠٠٣ .
- محمد محمود عطوة يوسف " تقييم آثار برنامج الاصلاح الاقتصادي على SME,S فى بعض الدول النامية من حيث الانتاج والتوظيف والانتاجية فى قطاع الصناعات التحويلية مع دراسة التجربة المصرية " المجلة المصرية للدراسات التجارية . كلية التجارة جامعة المنصورة ٢٠٠٣ .
- محمد محمود عطوة يوسف " دراسة العلاقة بين : الاستثمار الأجنبي المباشر ومناطق التجارة الحرة " مع الإشارة إلى الاقتصاد المصري " المجلة المصرية للدراسات التجارية . كلية التجارة جامعة المنصورة ٢٠٠٨ .
- مؤتمر دعم وتنمية الاقتصاد المصرى " استراتيجية التنمية المستدامة رؤية مصر ٢٠٣٠ و أطار الاستثمار متوسط الاجل ٢٠١٤/٢٠١٥ - ٢٠١٨/٢٠١٩ مارس عام ٢٠١٥ .
- نادية فاضل عباس " التجربة التنموية لماليزيا من عام ٢٠٠٠ - إلى ٢٠١٠ " دراسات دولية . العدد الرابع والخمسون ٢٠١٢ .
- نغم حسين نعمه " دور حاضنات الأعمال فى تمويل المشاريع الصغيرة - تجارب بعض البلدان " The Journal of Administration & Economics العدد ١١٢ - ٢٠١٧ م .
- وزارة المالية " تعزيز القدرة التنافسية للمنشآت الصغيرة والمتوسطة فى مصر " أطار سياسى عام وخطة عمل نوفمبر ٢٠٠٤ .

Secondly: foreign references.

* Periodicals and scientific conferences:

- Almas Heshmati " A Review of the Circular Economy and its Implementation" IZA DP No. 9611 , December 2015
- Conference on support and development of the Egyptian economy " sustainable development strategy Egypt Vision 2030 and medium – term investment framework 2014/2015-2018/2019 March 2015.
- Daniel A. Kukla " Competitive Strategy of Private Equity " Working Paper , September 2010
- Dima Jamali" Success and failure mechanisms of public private partnerships (PPPs) in developing International Journal of Public , Sector Management Vol. 17 No. 5, 2004 pp. 414-430
- Edward M.Geaham "DO Export Processing Zones Attract FDI and its benefuts: the Experience from China " International Economics and Economic Policy ,2004
- Eman Mahrous EL Mahdi, PhD thesis entitled " The role of the national and foreign private sector in the growth of the Egyptian economy - during the period from 1970 to 2010 between reality and hope "– Faculty of Commerce, Mansoura university - January 2018 .
- Eric S. Maskin " Mechanism Design : How to Implement Social Goals " February 2008 .
- Lall, s. 2000 strengthening SME for international competitiveness . working paper no 44 cairo : The Egyptian center for economic studies (ECES) .
- Malaysia, Ministry Of Foreign Affairs, Vol 32,1999.
- Ministry of Finance "enhancing the competitiveness of small and medium enterprises in Egypt" general policy framework and Action Plan November 2004 .
- Mohamed Mahmoud ATWA Youssef "assesses the effects of the economic reform program on SME, S in some developing countries in terms of production, employment and productivity in the manufacturing sector with a study of the Egyptian experience"

- Egyptian Journal of Business Studies . Faculty of Commerce, Mansoura University, 2003.
- Mohamed Mahmoud ATWA Youssef "studying the relationship between: foreign direct investment and free trade zones" with reference to the Egyptian economy " Egyptian Journal of Business Studies . Faculty of Commerce, Mansoura University, 2008.
 - Murad, Ali . Knowledge economy and a course in achieving economic and social development in the Arab countries . The Cooperation Council for the Arab states of the Gulf. Faculty of Economics, Commercial Sciences and higher education, University of Zain /Algeria .2014
 - Nadia Fadel Abbas "the development experience of Malaysia from 2000 to 2010" International Studies. Fifty-fourth issue, 2012.
 - Naghm Hossein Naama "the role of business incubators in microfinance-experiences of some countries" The Journal of Administration & Economics No. 112 – 2017 .
 - National Bank of Egypt "small and micro enterprises under Law No. 141 of 2004" economic bulletin, fourth issue, volume Fifty-seventh.
 - PRL , Responsible investment and sustainability outcomes in china current practice and policy recommendations, july 2023
 - Samir Zuhair Alsous "some successful international experiences in the field of small and medium enterprises development" policies, analysis and statistics – Qalqilya governorate office 2010 . Arab Institute of planning. Dr. Mohamed Adnan "development issues in the Arab countries" . 2003.
 - The circular economy in China: Achievements, challenges and potential implications for decarbonization Raimund Bleischwitz * , Miying Yang, Beijia Huang, Xiaozhen XU, Jie Zhou, Will McDowall, Philip Andrews-Speed, Zhe Liu, Geng Yong , Resources, Conservation and Recycling , Volume 183, August 2022.
 - World Bank “Business Report 2020 - continuing the pace of reforms" October 2019 .

Websites have been used :

- <http://www.idsc.gov.eg>
- <http://www.sis.gov.eg>
- <http://www.worldbank.com>

الأثار الاقتصادية لحاضنات الأعمال ودورها في تعزيز التحول للاقتصاد الدائري في الاقتصاد المصري

د. إيمان محروس محمد المهدي

الملخص

تهدف الدراسة إلى توضيح الدور التنموي لحاضنات الأعمال في اقتصادات الدول الأقل نمواً ، وكيف يمكن إعداد هذه الحاضنات لضمان التحول الآمن للاقتصاد الدائري مسترشداً في ذلك بالتجربة الصينية والماليزية في هذا الصدد ، وتتناول الدراسة متطلبات تحقيق ذلك ، وأهم التحديات التي تواجه الاقتصاد المصري ، وكيفية التغلب على تلك التحديات بهدف تحقيق التنمية المستدامة .

وركزت الدراسة على القطاع الصناعي في مصر وفي البلدان قيد الدراسة المقارنة. مع إيضاح آلية دعم وزيادة القدرة التنافسية للصناعة الوطنية أمام المنتجات الأجنبية من خلال زيادة الأثر الاقتصادي للمشاريع الكبرى في الأسواق الدولية من خلال التركيز على الجانب البيئي من قبل المنتجين من خلال الانتقال إلى اقتصاد دائري قائم على تحسين مستوى تدفقات المواد والطاقة والحد من النفايات والسيطرة عليها.

الكلمات المفتاحية: حاضنات الأعمال ، الاقتصاد الدائري ، التنمية المستدامة.