

## The support of the technology incubators in creativity and development of Egyptian heritage crafts

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### **Abstract :**

The Department of Interior Design and Furniture at the Faculty of Applied Arts, Helwan University, is adopting an incubator specialized in the field of heritage furniture, and its primary goal is to establish companies specialized in the design and production of Egyptian furniture and interior design supplements to support traditional industries. And protect it from extinction, as well as the use of modern technologies in manufacturing methods and new materials used as an added value to enrich designs and products of a local character without affecting the Egyptian identity.

It provides job opportunities for graduates and specialists, whether in local or international production or marketing, which must match the desires of consumers in general, and the desires of some other groups that are interested in owning local products in particular, such as tourists and others.

The incubator is also concerned with marketing the products internally and externally, provided that these activities within the country include artisan centers, tourist markets, hotels, museums, airports, ports, public parks, exhibitions and festivals. As for external marketing, it is represented in e-marketing and external participation in exhibitions, conferences, international markets and others.

The heritage designs were distinguished and associated with handicrafts and traditional industries, where the manufacturer relies on his individual mental and manual skills, using the raw materials available in the local natural environment or the imported raw materials, and recently and in light of the tremendous technological development in the production and manufacturing processes and innovation The newly developed materials and designers' innovations have made it possible to develop these crafts to compete with the local and international market in this field.

The incubator includes within its work team, academic professors specialized in training and preparing human cadres, consultants in the field of development projects, and entrepreneurs in the field of establishing companies and securing administrative and legal aspects.

### **Key words :**

Incubators, Technology incubators, heritage crafts.

**الملخص:**

يتبنى قسم التصميم الداخلي والأثاث بكلية الفنون التطبيقية- جامعة حلوان ، حاضنة متخصصة في مجال الأثاث التراثي ، وهدفها الأساسي تأسيس شركات متخصصة في تصميم وإنتاج الأثاث المصري ومكملات التصميم الداخلي. لدعم الصناعات التقليدية. وحمايتها من الانقراض وكذلك استخدام التقنيات الحديثة في طرق التصنيع والمواد الجديدة المستخدمة كقيمة مضافة لإثراء التصاميم والمنتجات ذات الطابع المحلي دون التأثير على الهوية المصرية. توفر فرص عمل للخريجين والمتخصصين ، عن طريق تأسيس شركات لإنتاج أثاث تراثي و مكملات التصميم الداخلي ، و تقديم الدعم الفني و المالي و الإداري ، سواء في الإنتاج أو التسويق المحلي أو الدولي ، لإنتاج منتجات تتناسب مع رغبات المستهلكين بشكل عام ، ورغبات بعض الفئات الأخرى التي تهتم بامتلاك المنتجات المحلية بشكل خاص ، مثل السياح وغيرهم .

كما تعنى الحاضنة بتسويق المنتجات داخليًا وخارجيًا على أن تشمل هذه الأنشطة داخل الدولة مراكز الحرفيين والأسواق السياحية والفنادق والمتاحف والمطارات والموانئ والحدائق العامة والمعارض والمهرجانات. أما التسويق الخارجي فيتمثل في التسويق الإلكتروني والمشاركة الخارجية في المعارض والمؤتمرات والأسواق الدولية وغيرها. تميزت التصاميم التراثية وارتبطت بالحرف اليدوية والصناعات التقليدية ، حيث يعتمد الصانع على مهاراته الذهنية واليدوية الفردية ، باستخدام المواد الخام المتوفرة في البيئة الطبيعية المحلية أو المواد الخام المستوردة ، ومؤخرًا وفي ظل التكنولوجيا الهائلة في عمليات الإنتاج والتصنيع والابتكار أصبح من الممكن تطوير هذه الحرف لتنافس السوق المحلي والعالمي في هذا المجال باستخدام الخامات المطورة حديثًا وابتكارات المصممين. تضم الحاضنة ضمن فريق عملها أساتذة أكاديميين متخصصين في تدريب وإعداد الكوادر البشرية ومستشارين في مجال المشاريع التنموية ورواد أعمال في مجال تأسيس الشركات وتأمين الجوانب الإدارية والقانونية.

**الكلمات الدالة:**

حاضنات ، حاضنات تكنولوجية ، حرف تراثية.

**Introduction:**

Despite the spread of modern design of homes from the outside and the development of modern designs and decorations from the inside until it reached the point of simplicity, but the heritage depth began to seep into the residents of the houses in the way of highlighting the furniture, but some are keen to have within the rooms of the house a heritage connotation embodied in a painting or masterpiece or through a corner to sit.

Heritage corners in homes are considered by some as beauty and pride, and nostalgia for the heritage home gave designers an opportunity to draw inspiration from heritage and employ it in popular spaces and vocabulary added to the modern design of the house, as if this heritage is a renewal and resurrection of an existing spirit that has been brought back to life and became more beautiful than all innovations.

Heritage decor has psychological dimensions that only those who interact with it know it, and these days we notice something that calls for pride that heritage has become an inseparable part of home decor and heritage pieces are present in every corner of the house, so that some people put in their homes a special corner for the heritage in which they gather all Pieces related to heritage symbolizing the previous ancestral lives.

The heritage designs were distinguished and associated with handicrafts and traditional industries, where the manufacturer relies on his individual mental and manual skills, using the raw materials available in the local natural environment or imported raw materials.

The importance of handicrafts and traditional industry is reflected in that it indicates aspects of the national identity of the country producing crafts and handicrafts, and Egypt can achieve great material gains from its interest and support for handicrafts, as the volume of global trade in handicrafts and traditional exceeds \$ 100 billion.<sup>1</sup>

Many countries have realized the importance of investing their handicraft heritage, and have set up thousands of workshops and factories. And thus to the creation of hundreds of thousands and perhaps millions of job opportunities for their youth, and to the opening of markets for the disposal of their products everywhere, which made them transform from poor countries, or countries that consume what others produce, to rich countries from the proceeds of exporting their abundant products of handicrafts to different parts of the world, In addition to their deepening of the cultural dimension as countries with a civilized heritage, they make them stand firmly in front of the developed countries in the era of globalization, with no competitive advantage other than their popular innovation.

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1-[http://www.sharkia.gov.eg/Entities/civilized\\_heritage/Crafts.aspx](http://www.sharkia.gov.eg/Entities/civilized_heritage/Crafts.aspx)

The Faculty of Applied Arts, Helwan University seeks through the Entrepreneurship Club at Helwan University, a project funded by the Academy of Scientific Research and Technology, to spread awareness of the concept of entrepreneurship and the culture of free work, encourage production and development, promote entrepreneurship and innovation, enhance their competitive capabilities and qualify them to establish entrepreneurial projects. To develop the skills of aspiring entrepreneurs, to spread the culture of innovation and entrepreneurship among them and to provide all their needs to be successful entrepreneurs and future leaders, as well as to implement many goals that include building an entrepreneurial culture to develop motivation to self-employment, and to provide a positive environment to embrace creative ideas and pioneering work for students And graduates inside and outside the university, as well as support creators, and entrepreneurs in various fields and contribute to creating a stimulating environment for entrepreneurs to support innovation and achieve entrepreneurship and community leadership.

The Department of Interior Design and Furniture at the College adopts an incubator specialized in the field of heritage and the tourism industry under the title (Helwan University Technology Incubator for Egyptian furniture ( HUTI-EF It aims to train and develop the skills and capabilities of craftsmen and specialists in the field of arts, and non-specialists and willing to establish medium, small and micro projects - Especially for the younger generations from them - to find a permanent source to supply this sector with what it needs in terms of skilled manpower .. that guarantees the continuity and circulation of expertise and craft skills in the field of contemporary furniture industry with a heritage character and Egyptian identity .. to deal with handicrafts as a national heritage that needs to be preserved, and as an industry It provides opportunities for work, whether in production or marketing, which must suit the desires of consumers in general, and with the desires of some other groups that are interested in the acquisition of handicrafts in particular, such as tourists and others. With the possibility of

integrating these industries with modern technologies if necessary, and the means are available as a result of development The technology that has imposed itself in all fields, without prejudice to the cultural impac/t and the Egyptian identity.

The incubator includes within its work team academic professors who specialize in training and preparing human cadres, consultants in the field of development projects, entrepreneurs in the field of establishing companies and securing the administrative and legal aspects

The incubator is also interested in marketing the products internally and externally, provided that these activities inside the country include craftsmen centers, tourist markets, hotels, museums, airports and ports, public parks, exhibitions and festivals .. As for external marketing, it is represented in electronic marketing and external participation in exhibitions and conferences. And international markets and others.

### **Research question:**

- 1-Traditional and heritage crafts are small enterprises that face competition that weaken them and can sometimes lead to their suspension; so they have to be supported, because of the role they play in supporting the Egyptian economy.
- 2-What is the role of technology incubators in Egypt in supporting heritage crafts?
- 3-What are the most important factors for the success of incubators in the field of traditional furniture and crafts in Egypt to help them keep up with developments, and to increase their competitiveness.
- 4-What are the relevant authorities that care about incubators in Egypt and do they have a role in diversifying economic activity?
- 5-Do universities have a fundamental role in the development of industrial and technological incubators?

### **Goals and Objectives:**

- 1.Explain the importance of handicraft and traditional industries in Egypt's economic industry.
- 2.Highlight the importance of incubators economically and socially, and their goals and types.
- 3.Define the role of incubators in promoting small enterprises in the field of heritage furniture and handicrafts.
- 4.Study the reality of incubators in Egypt and Arab countries in the field of traditional crafts.
- 5.A study of the success measures of business incubators in Egypt.

### **Limits:**

- 1.Topic Limits: studying the role of technology incubators in supporting creativity and development of heritage crafts
- 2.Location Limits: In Egypt
- 3.Time limits: in contemporary time .

### **Methodology:**

This study adopts the analytical approach in relation to the theoretical background of the concept of local development, handicrafts and industries, and the role of business incubators in this development. It also adopts the case study approach to monitor and analyze the project of establishing a technology incubator affiliated to the Department of Interior Design and Furniture - Faculty of Applied Arts - Helwan University

**The first topic :Search terms and concepts****1.Traditional industries, handicrafts and local development: concept and role (1)**

a. The concept of Traditional industries and handicrafts can be classified within the framework of small and medium enterprises

By reviewing some literature that attempts to approach the concept of industries, handicrafts and heritage, we find that there is a wide variety and diversity between definitions and each other. Some definitions define handicrafts as "those industries that the craftsman practices, relying on his individual mental and manual skills that he has acquired." From the development of his practice of craft work, using raw materials available in the local environment or imported raw materials, so that they are dealt with in production manually or using some number and simple tools" (Ibrahim, 2015), while others define it as "activity or a group of activities." that would produce high-quality goods without being governed by specific standards or systems", and defined as "those industries that depend on the manual skills of workers or that use only simple tools, and these industries are based on a main idea of: Manually converting simple raw materials into manufactured products that reflect a local heritage and culture, and are marketed as an economic commodity.

These products carry heritage and religious expressions and features in most cases Also, "they are simple handicrafts that do not require many machines and people, but require skill and experience" (Mady and others., 2014).

Crafts and handicrafts are of great importance, as they are among the activities that contribute to export and a source of foreign income and hard currency, and among the activities that carry out positive publicity for countries outside, contribute to providing job opportunities and participating in solving unemployment problems, where large numbers of manpower work with it, playing a developmental role in promoting the local environment in which the craftsman works. He may employ the local resources in which he lives to convert them to other materials, to preserve the identity of the community and the characteristics of the local environment. (Abdul Latif, 2016) Traditional industries and handicrafts also have a set of diverse objectives between the economic, tourist, cultural and social.

**2-Local development: concept and importance**

The concept of local development is defined as a part of regional development. The concept includes the meanings of self-growth, rediscovery of local resources, relying on self-capacities in the development process, and innovative solutions to local problems. The local development model is based on four elements

Basic, local entrepreneurs, activity of local institutions, expansion outside the local framework, building a regional economic structure based on local initiatives.

local development also means "a process in which partners from the government and business sectors as well as the non-governmental sector work collectively in order to create better conditions for economic growth and job creation".

**The role of handicrafts in local development:**

There are many trends related to local development, but it comes at the top of that part related to employment and providing job opportunities, especially in the aspect of professions, and heritage crafts.

The emergence of traditional industries and handicrafts is one of the products of the environment in which people live, where the distinctive customs and traditions of each local community appear and preserve its distinctive characteristics. Despite the increased opportunities for expansion of handicrafts and handicrafts in the third world countries, especially in those countries that have an ancient history and civilization, there are still many restrictions that impede achieving the desired goal. (Mohamed Hasan, 2020)

**The economic importance of handicrafts:**

The economic importance of handicrafts can be summarized in the following:

- 1.The possibility of creating greater job opportunities by allocating fewer resources compared to the requirements of other industries and their ability to absorb and operate large numbers of manpower with low educational qualifications.
- 2.Take advantage of local raw materials, especially those available in economic quantities.
- 3.As a mother and housewife, a woman can practice the craft at the times that suit her, and in the places she chooses, or even in her home.
- 4.Low costs for training, due to its reliance mainly on the method of on-the-job training, as well as its use of mostly simple and uncomplicated techniques.
- 5.Flexibility in spreading in the various governorates and regions of the Republic where raw materials are available, leading to the achievement of balanced development between rural and urban and reducing the phenomenon of internal migration and the growth of new productive societies in remote areas.
- 6.Flexibility in production and the ability to provide products according to the needs and demand of the consumer or the tourist. (Areeb Muhammad,2011)

The volume of local market consumption of handicraft products recorded about 22 billion pounds during 2018, of which 3% was a formal sector, and the rest was an informal sector, according to statements by Mosad Omran, head of the Chamber of Handicrafts at the Federation of Egyptian Industries, to Al-Shorouk.

According to the head of the chamber, Egypt exports about 15% of the volume of production, while the local market consumes about 85%.

The volume of Egyptian exports of handicraft products amounted to about \$186 million in 2018, compared to about \$165 million in 2017, according to Omran. The chamber also aims to increase its exports within a strategy to develop the sector to \$450 million by 2025.( Mohamed Al-Mohem,2019)

**The impact of developing traditional crafts on promoting heritage tourism:**

The crafts and handicrafts sector plays a positive and effective role in tourism development due to the reasons for encouraging visitors and tourists to buy traditional products and keep them as souvenirs or distribute them as gifts. In the survival of these crafts, where it is noted in general

that any tourist (individually or in a group) when visiting any country, his desires lie in acquisition of handicraft products from that country. (Mohamed Hassan, 2020)

### **Obstacles facing the owners of traditional crafts:**

- 1.The lack of a unified system regulating the work mechanisms of the small productive sector, lending policies, tax and incentive policies, as well as rehabilitation policies and extension services.
- 2.Lack of technical support and training in specialized centers for skills development
- 3.The lack of financial support encourages the continuation of the profession
- 4.Unavailability of capital to start private production projects
- 5.The marketing problem, which projects suffer from, due to the difficulty in competing with large companies and other foreign companies that import similar products.
- 6.Inability to market products online
- 7.Lack of experience in project management
- 8.The lack of demand for traditional products as opposed to imported ones
- 9.The shortage in some production requirements, especially in raw materials.
10. The lack of support provided by the government to projects in terms of tax exemptions and reductions in customs.
11. Weakness in the infrastructure of the environment due to the availability of the road network and the high costs of transportation and electricity.
12. The shortage of skilled and trained labor.

By looking at the problems that can lead to the failure of small projects, we can control some of them and thus ensure that the project does not fail. For example, if specialized courses are held in the art of corporate management for those in charge of managing projects and heritage crafts, this will be useful for them in making decisions, as well as providing Vocational and marketing training by specialized institutions and centers, which improves product quality and helps local and international marketing, and also can protect the nascent small industries for a limited period from the intensity of competition and then remove protection from them, all of this will have a great impact in supporting the economy. (Mohamed Hassan, 2020)

And according to Egypt's Vision 2030, which aims at economic development and linking it to knowledge, innovation and scientific research by investing in people, building their creative capabilities, stimulating innovation, spreading its culture, supporting scientific research and linking it to education and development. Many development institutions have begun to provide support and appropriate funding for small and medium projects to contribute to the advancement of the Egyptian economy, which was represented in the form of incubators for emerging companies.

Incubator: It is an integrated work system that works to provide all the necessary means to increase the success rate of small projects by providing a place equipped with all capabilities, and the incubator is managed by a specialized department. (Heikal, Mohammed, 2013)

**Definition of business incubators**

It is defined by the European Union Center for Strategic Affairs and Service Evaluation as “an organization that contributes to the process of creating successful companies by providing them with a comprehensive and integrated package of support, including granting them incubator space, and business support services.” (Centre for Economic and Social Services, 2010)

It is also known as an integrated work system that provides all means from a suitable equipped place where all the capabilities required to start the project are available. This system is managed by a specialized department that provides all kinds of support necessary to increase the success of small projects to which it is affiliated, and to overcome difficulties and problems that lead to their failure and inability to fulfill their obligations . (Atef Al-Shirawi, 2005)

It was also defined as (a development institution that works to encourage and support young people with creative ideas who do not have the financial resources or high experience to realize their projects and ideas. During the incubator period, work and technical, administrative, productive, marketing, financial and legal advisory services are provided, leading to the establishment of a company and possibly the start of production and actual work within A specified period of time (Abdullah Al-Hajri, 2016).

**The importance of business incubators: ( Amal El-Sayed, 2018)**

Contribute to employing the results of scientific research, innovations in the form of small projects that make them capable of being converted into production.

Contribute to the development of human resources and solve the problem of the unemployed and those looking for suitable work.

It works to establish and support small production or service projects that depend on the application of appropriate technology and modern innovations.

Provides scientific advice and feasibility studies for small projects.

Linking small and innovative projects to the productive sectors and the market movement and its requirements.

Help small projects in facing the administrative, financial, technical and marketing difficulties that usually face the establishment stage.

**The second topic: The National Program for Technology Incubators in Egypt:( Amal Hashem,2020).**

The national program for technology incubators is a link in a continuum and strategic chain to encourage and develop technological innovations, support graduation projects, technology transfer offices, and national initiatives and campaigns, all of which are tributaries to feeding these incubators with the outputs of scientific research and innovations.

**The concept of technology incubators:**

Technological incubators are scientific and technological support units, which are established in cooperation with universities and research centers, and aim to benefit from scientific research and technological innovations, and turn them into successful projects, that is, the marketing of science and technology through contracts and agreements made between the financial and



business community and scientific research applications. Through partnership and cooperation, because the problem of financing these start-up projects is considered one of the most important problems facing the innovator, given the lack of self-resources on the one hand, and the novelty of ideas and the uncertainty of their success on the other hand, which causes difficulty in obtaining bank loans, here comes the role of technology incubators Which is represented in facilitating the access of its affiliates to various sources of funding that are suitable for this type of establishment during the incubation period, and incubators bear the greater part of the institution's fixed costs, in terms of headquarters, office equipment, computers, laboratories, laboratories and their equipment, in addition to services, infrastructure requirements and networks Communications, therefore, technology incubators can support the efforts of society in establishing sustainable development Real technology and revitalization of scientific research.

The activity of these incubators began since the establishment of the Social Fund for the Development of Business and Technology Incubators in March 1995, and 15 diverse incubators were established until 2002, which are classified as follows ():

- Incubators based on simple technology to provide services or light manufacturing.
- Incubators that depend on projects with knowledge and information, such as the incubator of Mansoura, Tala and Assiut (incubators for ordinary industries and distinctive crafts of high quality).
- Technological incubators in universities and scientific and technological centers, including Al-Tebeen incubator and Mansoura University.
- Specialized incubators for information and biotechnology in Alexandria Governorate.

The Social Fund for the Development of Business and Technology Incubators has taken upon itself to finance these projects within the framework of the incubator, and to provide an integrated package of services that are directly related to reducing the difficulties and obstacles facing small projects, until the projects are able to be self-reliant ().

Then the idea of establishing incubators to sponsor technological projects began, which has been implemented since 2005 in the Smart Village, through the launch of a program for this purpose affiliated with the Information Technology Industry Development Agency (ITIDA), and in September 2010 the virtual technology incubator of the Technology Innovation and Entrepreneurship Center "TIEC" was opened. In the Smart Village, with the aim of promoting creativity and entrepreneurship in the communications and information technology sector, and expanding the provision of incubator services provided to reach all governorates.

To complement this goal, the Academy of Scientific Research and Technology has launched an ambitious program since 2013 that relies on several axes to activate this role again based on technological and economic developments and includes:

-Participatory Innovation Program: It is a model that aims to link all segments of society - especially remote and marginalized places - with innovative ideas and solutions to existing local challenges. This program uses a methodology that has been developed to identify challenges and their priorities, and also uses an electronic platform to link them to simple innovations to facilitate, activate and follow up on the implementation of those innovations. .

Graduation Projects Program for Engineering and Science Students: It aims to provide financial support to students to transform their graduation project ideas into prototypes, in addition to

giving them some skills in the field of entrepreneurship. The program aims during 2015 to address a larger number to include agriculture, veterinary medicine, applied arts and fine arts. and others. Any graduation project for Egyptian universities is based on competitive conditions. The program also encourages students to participate in developing solutions to the challenges available through participatory innovation.

National initiatives and campaigns: It is the post-scientific research stage that seeks to identify the national challenges facing the existing Egyptian governorates and industries, where the Academy presents applicable Egyptian economic and technological models to solve this problem, by providing financial support to the scientific team with the most viable solutions for application.

With the increasing success of these national initiatives and campaigns, the Academy of Scientific Research and Technology saw the need to contribute to transforming success stories into emerging technology companies, through the "Intilaq" program, which aims to explore new ideas and embrace their owners from researchers, innovators, entrepreneurs and final years students in universities Egyptian (graduation projects), providing the appropriate environment and material, technical and logistical support for distinguished technological ideas to reach emerging technological companies in order to transform these ideas into commercial products with competitive ability to achieve the goal of the knowledge economy.

It is worth noting that the Academy has made good steps in this field, as it contributed during the period from 2013 to supporting the establishment of 5 emerging technology companies from the graduation projects funded by the Academy, namely (Rozoor - Masir - Plastic Silos - Simplex - Self-extinguishing of the fire) and is assisted by the various Academy sectors. Related companies such as Technology Transfer Offices, Innovation Development Authority and Patent Office .

### **"Intilaq" program**

Dr. Ashraf El-Shehy, Minister of Higher Education and Scientific Research, announced on October 1, 2015, the launch of the national program for technological incubators (Intilaq) in the regional development research centers of the Academy of Scientific Research and Technology in the governorates of: Sohag, Tanta, New Valley, Damietta, Zagazig and Suez as a first stage, (Nahed Mohamed, 2015) in cooperation with A number of universities, the Ministry of Technical Education and the Ministry of Industry, as follows:

- 1.The technological incubator in the regional center in Damietta, and gives priorities to the furniture industry - dairy - handicraft and traditional industries.
- 2.The technological incubator in the regional center in Tanta, which gives priority to the textile industries.
- 3.The technology incubator in the regional center in the New Valley, which gives priority to the food and agricultural industries, green technology, and handicraft and traditional industries.
- 4.The technology incubator in the regional center in Sohag, which gives priority to new and renewable energy, handicrafts and the environment prevailing in the region, and the food and electronic industries.
- 5.The technology incubator in the regional center in Zagazig, which gives priority to waste recycling, food industries and water treatment.

6.The technology incubator at the Suez Canal Universities, and priority is given to electronics, marine and petroleum industries, advanced industries and fish farming.

The (Intilaq) program aims to qualify and support the establishment of (10-15) emerging technology companies each year through an incubation period ranging from (3-12) months according to the technology used, and the incubation period can reach two years in special cases determined by the program's advisory committee In cooperation with the "Bedaya" program of the General Investment Authority, some civil society institutions and the private sector.

### **Plan and fund the "Intelaq" program**

The Academy of Scientific Research and Technology selects innovative ideas, which have an economic return, and provides them with technical support and assistance in manufacturing the first model and preparing feasibility studies through the following steps:

- Training and qualifying entrepreneurs and innovators whose projects are accepted through the project funded by the Academy for the General Authority for Investment at a cost of EGP 2 million annually.

Financing the winning projects in the final stages to support the establishment of emerging technology companies with financial grants of a maximum of 150,000 pounds for the company. This funding is used as a monthly reward for those in charge of the project during the incubation period, developing and manufacturing the first model, preparing feasibility and market studies, and attending innovation and entrepreneurship exhibitions The company's promotional materials and operating expenses in the launch phase, bearing in mind that this financing is not considered a loan and this is what distinguishes the program.

- Holding participatory workshops to identify 100 local projects that can be converted into economic and financial opportunities through entrepreneurs' companies and graduation projects.

From this standpoint and through the foregoing, the current study is planning to establish a technology incubator affiliated to the Department of Interior Design and Furniture, Faculty of Applied Arts, Helwan University, with the support of the Academy of Scientific Research in the Field of Egyptian Furniture Identity and Heritage Supplements to support young graduates and workers in traditional industries And Heritage crafts to create their own startups, and to address the obstacles they face in order to continue their success.

### **Objectives of the incubator**

1.Incubating companies that meet local and global needs through innovations made by these companies in the field of contemporary furniture of a heritage character, provided that they have economic and social feasibility.

2.Stimulating innovation and creativity among students, graduates, craftsmen and hobbyists in the field of traditional crafts for furniture.

3.Creating a new generation of entrepreneurs who are able to employ their scientific knowledge in establishing innovative projects specializing in the furniture craft.

4. Providing all the tools and techniques, all kinds of technical and material support, and the development of administrative and innovation capabilities for emerging companies in the field of furniture craft in order to grow, stabilize and succeed.
5. Overcoming the obstacles and problems facing the emerging companies, in cooperation with all governmental or private bodies and agencies.
6. Contacting experts and scholars to conduct the necessary research on handicrafts in the field of furniture.
7. Communicating with youth centers and civil society organizations in order to contribute to the creation of trained and qualified cadres in these trades.
8. Linking the incubated projects inside the incubator with each other to benefit from their experiences and overcome their weaknesses while achieving a set of social goals in order to develop human resources and solve the unemployment problem.

### Business Model of the Incubator:

The incubator adopts several specialized axes under the umbrella of Helwan University technological Incubators (HUTI) Office with a focus on Egyptian Furniture Identity; each of which includes a number of sub-fields aimed at enriching innovative ideas and product diversity, shown in the following table:

<p><b>Key Partners</b></p> <ul style="list-style-type: none"> <li>• Wood &amp; Furniture Chamber.</li> <li>• Federation of Egyptian Industries</li> </ul> <p>Mentors</p> <ul style="list-style-type: none"> <li>• STDF</li> <li>• University Top Management</li> </ul> <p>Private sector</p> <ul style="list-style-type: none"> <li>• Mehrez and krema</li> <li>• Pinocchio furniture</li> </ul> <p>CSR ( Corporate Social Responsibility) participants</p>	<p><b>Key Activities</b></p> <ul style="list-style-type: none"> <li>• Testing the validity of business ideas</li> <li>• Link experienced mentors to entrepreneurs.</li> <li>• Providing training and mentorship to entrepreneurs.</li> </ul>	<p><b>Value Proposition</b></p> <ul style="list-style-type: none"> <li>• Creating Safe environment for entrepreneurs.</li> <li>• Ability to access wide share networks.</li> <li>• Generating fund from successful ideas that create goods and services to be distributed.</li> <li>• Generating job opportunities, that help solving unemployment problem.</li> <li>• Technology focus products and services.</li> <li>• Entrepreneurial climate.</li> <li>• Creating role models for the rest of the university students and staff.</li> </ul>	<p><b>Customer Relationships</b></p> <ul style="list-style-type: none"> <li>• Business to customer</li> <li>• (B2C) in furniture design and production</li> </ul>	<p><b>Customer Segments</b></p> <ul style="list-style-type: none"> <li>• Staff.</li> <li>• Students.</li> <li>• Graduate students.</li> <li>• Innovators from Helwan region/ South Cairo region)</li> </ul>
<p><b>Cost Structure</b></p> <ul style="list-style-type: none"> <li>- Salaries</li> <li>- Validation and testing</li> <li>- Purchases for enhancing our labs</li> <li>- Creation of Fab-lab</li> <li>- Payment for Mentors</li> <li>- facilities</li> <li>- Equipment</li> </ul>		<p><b>Revenue Streams</b></p> <ul style="list-style-type: none"> <li>• Startup spin off profit created from equity or revenue share.</li> <li>• Events/ workshops</li> <li>• Start-ups buyout/sale.</li> </ul>		

**Suggested Location & Total Area:**

Incubator Client (Startup) Office Space: will be located at Helwan University technology based incubators premises at Helwan University Campus - Building No. 8.

□ Incubators Technical services will be located at the Faculty of Applied Arts – Helwan University as follows:

- Prof. Dr. Ahmed Zaqzouq Hall: The incubator headquarters, reception and design consulting center

- Furniture Art and Design Center: used to present and market ideas/ prototypes

- Incubator Fabrication Lab.: The workshop of the Department of Interior Design and Furniture in addition to the specialized workshops of the faculty of Applied Arts - Helwan University: used in training and making models in the presence of the current machines and adding a CNC machine, engraving and laser cutting of multiple materials and work banks and the number and machinery needed for handicrafts

**2. Offered Services for Startups companies:**

- 1- Providing investment services related to the feasibility study of projects
- 2- Providing financial, administrative and marketing support and advice
- 3- Providing technical, financial and logistical support to small enterprises
- 4- Providing administrative or technical training for the institution's employees by the incubating institution or private bodies.
- 5- Promoting academic knowledge and the required courses to develop the skills of the work team in order to be able to compete.

**3. Incubator activities:**

1. Providing pre-incubation services, especially for non-specialized groups, who wish to establish medium, small and micro enterprises in the field of furniture and its supplements.
2. Conducting introductory workshops on the activities of the Intilaq program and the incubator
3. Providing an environment conducive to innovation, training and holding meetings
4. Participating in exhibitions, forums and the like
5. Providing incubation services, such as:
  - A place equipped to work with a suitable work environment
  - Weekly meetings with experts in entrepreneurship
  - Presenting ideas periodically to investors and business leaders for the purpose of continuous evaluation
  - Connecting companies with potential clients locally and internationally.
  - Establishing a day to present the ideas to the Day Demo investors with appropriate media coverage
  - Communicating with companies after the incubation period in order to obtain financing
  - An integrated training program that includes:
    - Market research
    - Creation of a business model
    - Selection and rationalization of business ideas

- Packaging of products
- Branding
- Startup Lean
- Financial planning and management Planning
- How to obtain an investment fund raising
- Managing teams
- The art of communication
- The art of casting out investors

#### 4.Desired outcomes:

- 1.Establishing start-up companies in the field of heritage furniture and traditional crafts.
- 2.Preparing trained human cadres capable of entrepreneurship and medium, small and micro industrial projects.
- 3.Creating contemporary furniture and accessories bearing the Egyptian character and promoting it to contribute to the tourism industry.
- 4.Creating economical and multi-functional furniture that meets the needs of the local and tourist market.
- 5.Manufacturing of distinguished furniture using traditional crafts and available local and imported materials.
- 6.Training on traditional crafts and facing the challenges of the craft industries.
- 7.Innovative thinking to meet the different tastes of consumers.
- 8.Providing job opportunities, whether in production or marketing, that are compatible with consumers' desires.
- 9.Using the mental, and technical skills of craftsmen in the field of furniture industry.
10. Establishing a brand for furniture products.
11. Aspiring to international competition by achieving product quality, packaging and marketing.

#### 5.Target Segments:

The incubator targets several groups with different skills and capabilities united by the desire to establish companies specialized in the field of design, implementation and marketing of Egyptian identity furniture products, and its supplements to enter the labor market and increase investment opportunities, and these categories are as follows:

1. The specialists are graduates of art institutes and faculties in the field of design and innovation.
2. Craftsmen in the field of carrying out handicrafts related to heritage furniture and its supplements.
3. Non-specialists and those wishing to establish medium, small and micro enterprises in the field of furniture and its supplements. Due to the different skills and their diversity, the incubator is designed to cater for these differences and take advantage of the strengths resulting from them, including multiple activities and fields, the richness and diversity of ideas, the increase in job opportunities and the outputs to be as follows:

- Training each group separately, according to the specialized and appropriate fields for each category
- Providing the opportunity to merge more than one group to form partnerships in various fields, such as design and implementation, according to the available capabilities and the trainees' ability to interact and integrate.

#### **6. Expected Partners and Stakeholders from the Eco-system:**

- Wood & Furniture Chamber.
- Furniture Export Council.
- Industry Modernization Council (IMC).
- Small, Medium and Micro Enterprises Development Agency (MESMEDA).
- Appliance.
- Mehrez and krema.
- Pinocchio Furniture.
- La Roche.
- A group of projects that work to develop the furniture industry in Egypt.

#### **7. Business Partner:**

We selected Mahi K. Al-Jazzar as a business partner for the project for the following reasons: She is a well-versed professional in SMEs development, growing startups, and entrepreneurship. She has an accumulated experience of 17+ years, where she had mastered operations and also worked in marketing communications. Mahi Al-Jazzar is currently consultant for clients from the government, education sector and civil society on programs for SMEs and startups as well as marketing communications strategies. In 2010, Mahi Al-Jazzar started her extensive exposure in the SMEs, startups and entrepreneurship ecosystem, where she held various roles with multiple key players. Her participation ascended from co-founding Bedaya Center for Entrepreneurship & SMEs Development, then the first government center to cater for this segment, to starting the first SMEs clinics program, running startup incubators, managing entrepreneurial programs and leading European-funded projects. On her journey from 2010-2020, Mahi Al-Jazzar worked with Misr ElKheir Foundation on managing GESR Technological Incubator and Social Innovation Lab; The American University in Cairo on strategizing initiatives for Innovation, Entrepreneurship and Communication to celebrate AUC educational excellence in its new centennial; Central Bank of Egypt on Nilepreneurs initiative Business Advancement; Alexandria University on the Artificial Intelligence Incubator (AIM), and current consultant with the Wadhvani Foundation on the Advantage program for SMEs supporting the sustainability and creation of more jobs. Mahi Al-Jazzar had also led diverse endeavors on various fronts, from research, policy advocacy, training, strategy setting and implementation to full program and team management. She started and managed three startup incubators, completed numerous funded projects, facilitated 2000+ non-financial consultations to Egyptian MSMEs, mentored 1000+ startups, provided 600+ business and MarCom consultations to enterprises and startups, assisted over 120 startups in raising seed funding and 14 startups to secure investments of different series. In addition to that, Mahi Al-Jazzar lectures

on PR and digital marketing at both levels undergraduate studies at MIU and postgraduate studies with RITI, capitalizing on her MSc in International Applied Communication from the UK and BA in Mass Communication from Cairo University

### **8.Revenue Streams and Sustainability:**

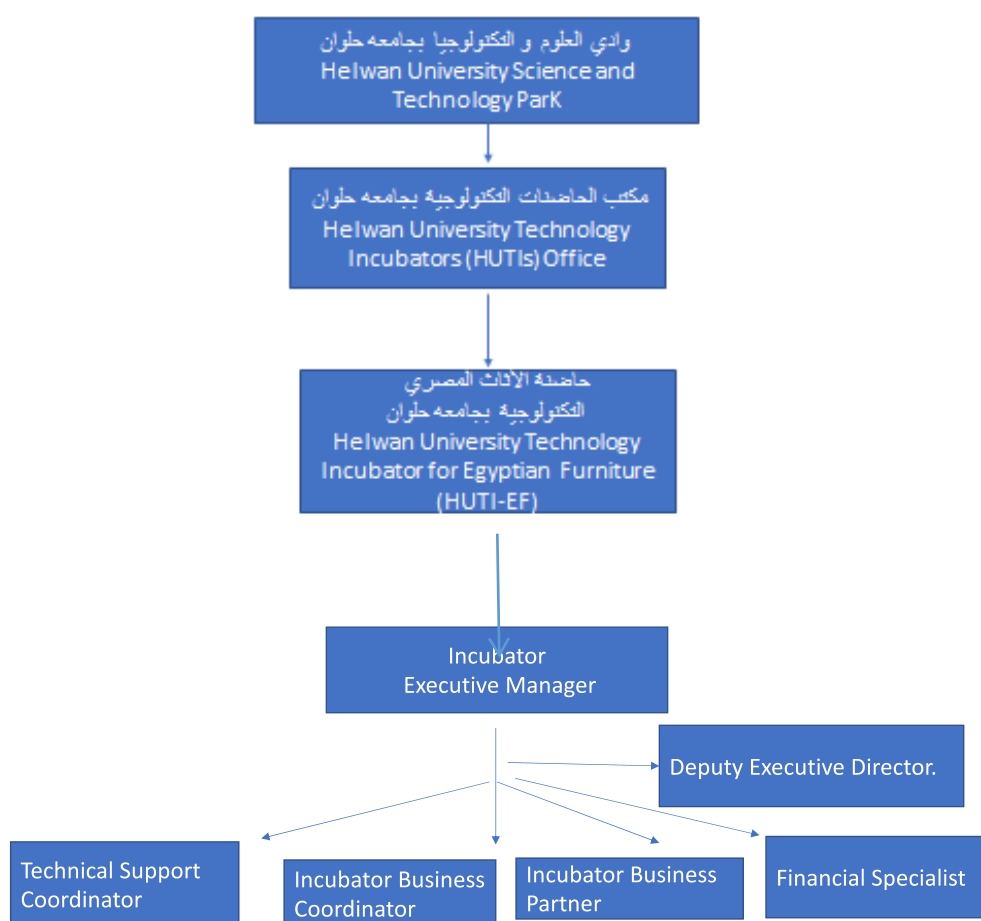
HUTI-EF is aiming at initiating start-ups that will eventually generate business by selling products and by designing new spaces that has a market demand, where this will generate revenue and also be sustainable, as market demand will be met and profit will be generated, also providing job opportunities and securing employability as well as profit generation. The Incubator will target training and developing the skills and abilities of craftsmen and specialists in the field of arts, and non-specialists and those wishing to establish medium, small and micro enterprises, especially for the younger generations of them, to find a permanent source to supply this sector with what it needs in terms of skilled workforce. Continuation and circulation of expertise and craftsmanship in the field of contemporary furniture industry with a heritage character and Egyptian identity, to deal with handicrafts as a national heritage that needs to be preserved, and as an industry that provides opportunities for work, whether in production or marketing, matching the desires of consumers in general, as well as those of other groups interested in owning handicrafts in particular, such as tourists. It will also include the top two trainees on the incubator coaches list for providing future training. Beneficiaries will be able to market their products inside the country in each of the artisan centers, tourist markets, hotels, museums, airports and ports, public parks, exhibitions, and festivals. As for external marketing, it is represented in electronic marketing and foreign participation in exhibitions, conferences, international markets and others

### **9.Team work, Responsibilities & Structure:**

HUTI Office is committed to support the newly established specialized Egyptian Furniture Incubator at the Faculty of Applied Arts in the followings:

- Developing and improving strategic incubator strategic plan
- Supporting the business operations of the incubator.
- Supporting development of incubator companies.





**Organogram for HUTI-EF within Helwan University Structure**

The following table clarifies HUTI-EF team members as illustrated in the organogram and their responsibilities.

S	Title	Responsibilities
1	<b>Incubator Executive Manager:</b>	<ul style="list-style-type: none"> <li>• Develop strategies into operation; monitor the progress of the team, supervise the development of the enterprises; identify the network of support and the exchange of products, services and information; do business which strengthens the enterprises and promotes the start-up of new ones</li> <li>• Responsible for the management of facilities, management of staff and trainees, management of marketing for incubated companies, management of the accounting and finances of the incubator.</li> <li>• Reports to HUTI office manager.</li> </ul>
2	<b>Deputy Executive Director:</b>	<ul style="list-style-type: none"> <li>• Support incubator's manager.</li> <li>• Assist the executive director with strategic planning and coordination of the organization's programs, projects, and policy positions.</li> <li>• Manage the organization in the absence of the executive director.</li> </ul>

3	<p><b>Business Partners (Consultant Committee):</b></p>	<ul style="list-style-type: none"> <li>• Consists of professional business services suppliers, with business experience and educators who are willing to provide advice and assistance to entrepreneurs, to provide managerial and technical areas.</li> <li>• This group is also responsible for analysing the performance of the incubated companies, providing strategic planning and business planning, as well as responding to questions in areas of finance, accounting and marketing.</li> </ul>
4	<p><b>Technical Support Coordinator</b></p>	<ul style="list-style-type: none"> <li>• Communicate with the community</li> <li>• Conduct the orientation sessions in the community, and training arrangement.</li> <li>• Organize courses for the training of the entrepreneurs and provide them with skills</li> <li>• Supervise technical workers who are proficient in dealing with machines and tools in the carpentry workshop and its maintenance.</li> <li>• Supervise and directing carpentry work</li> <li>• Control warehouses,</li> <li>• Manufacture prototypes and finish them.</li> </ul>
5	<p><b>Incubator Business Coordinator</b></p>	<ul style="list-style-type: none"> <li>• Responsible for all admin work related to incubator activities and Office functions ; answer phones, reception services. Administrate the support services for the entrepreneurs.</li> <li>• Link the beneficiaries to market and open marketing windows.</li> <li>• Proactively look for opportunities to improve the sales process; work with start-up leads regularly to identify gaps and opportunities to enhance productivity and efficiency.</li> </ul>
6	<p><b>Financial Specialist</b></p>	<ul style="list-style-type: none"> <li>• Look after the billing of the expenses made by each of the companies; and carry out the control of the leasing contracts.</li> <li>• Source, implement, and support the revenue technology stack, and evaluate the effectiveness of those capabilities.</li> <li>• Prepare Annual Operating Plans and forecasts</li> <li>• Analyse performance of actual results vs plan and forecasts</li> <li>• Build long range financial models.</li> <li>• Develop key performance metrics to guide the business.</li> <li>• Create management reports.</li> <li>• Partner with management to achieve financial goals.</li> </ul>

**Annex 1: Gantt chart and Logical Framework Matrix (LFM)**

Task No.	Task Title	Start Date	End Date	Duration (Months)	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	Expected measurable outcomes of successful implementation of the task
1	<b>Constructing HU technology incubator (HUTI) premises</b> Infrastructure, High Speed Internet, Modern Furniture, Office Equipment's, Air Conditionings	1/3/2021		3													- Well equipped Site suits incubator activities. (Co-working Space, Meeting Rooms, Fab. Lab., Cafeteria, Rest rooms)
2	<b>Marketing activities for HUTI-EF</b>			3													- Dynamic Web based platform. -Face book page -Printed materials - Info sessions
3	<b>Launching HUTI-EF</b>			1													-Full operating facility
4	<b>Announcing first call for incubation</b>			1													Number of submitted requests for incubations
4	<b>Announcement wining startups</b>			1													
5	<b>Boot camp</b>			1													-preincubation for 10 companies



Task No.	Task Title	Start Date	End Date	Duration	M25	M26	M27	M28	M29	M30	M31	M32	M33	M34	M35	M36	Expected measurable outcomes of successful implementation of the task
14	Pitching ( presentation by companies and justification by judges)			1													Selection of 7 startups for Incubation
15	Incubation for 9 months																7 Viable companies ready to land in market
16	DEMO day																Presentation for graduated startups
17	Evaluation of the second Year Achievements																Annual Report of HUTi-EF
18	Marketing activities for HUTi			3													- Dynamic Web based platform. -Face book page -Printed materials - Info sessions
20	Announcing third call for incubation			1													Number of submitted requests for incubations
22	Announcement wining startups			1													
23	Boot camp			1													-preincubation for 10 companies



### Annex 3: List of Equipment and Specifications

#### a.Available Equipment and Tools

Equipment/Tool	Model	Use	Number	Condition
<b>surface planer machine</b>	Italian ACNR PF 400 English	It scrapes and straightens the surfaces of the boards, vertically and horizontally, as they are used in other work such as making cornices	2	The machine is equipped with a scraping arm at oblique angles. The machine is equipped with a protective cover that covers the drum set and the euro motor for protection
<b>Ornament machine molding machine</b>	Italian SICAR Moulder sicar 715 Toupie sf 715	They are used in making rugs, ornaments, and cornices with moderate or curved lines, and may be used in other works such as the tenon, dado joint, and the cornices	2	1-Weapons must always be sharp and securely fastened before starting work. 2- Ensure that the weapons are covered by insurance and protection cover.
<b>Thickness machine</b>	English Wadkin, SCM s63 Italian SICAR	It is used after straightening the surfaces and letters of the wood on the cartridge machine to determine the required thickness and width.	2	Maximum working thickness: 225 mm Minimum operating thickness: 5 mm Feeding speeds: 11 - 6 m / min Cast pinch dimensions: 410 x 700 mm Wood drawing motor: 4 HP 1
<b>Bandsaw</b>	E 600 Wadkin	This machine facilitates a great deal of sawing all the wood	2	The diameter of the tray: 260 mm Maximum cutting depth: 70 mm Cutting width: 1100 mm Spin speed: 3000 rev / min

<b>Router machines</b>	CT11002 Italian	This machine cuts and engraves on wood, metals, aluminium and copper, and shape them by computer	1	- The ability to design complex graphics easily and in a short time.
<b>Wood press</b>	M ROTHSCHILD & CO CAIRO	Adhesion of large flat and curved surfaces to the veneer layers	1	- The work to be pressed must not be pressed too hard, so that it will not be damaged.
<b>Hand scroll saw</b>	Italian-made brand SICAR model: 650 S	It is used for internal and external bends sawing and wood discharging	2	Arcite is used if the thickness of the wood is more than 6 mm, but the design is simple.
<b>Wood lathe</b>	Wadkin made in Italy	It Forms wood	1	The formation is done by lathing pens, and these pens are varied from a material stiffer than the body to be shaped.
<b>Vertical mortise machine</b>	Wadkin made in Italy	Percussion machines are used to make a hole (pit) in the wood,	2	Pinch dimensions: 235 x 430 mm The longitudinal run of the vehicle: 100 mm • The cross-section of the vehicle: 300 mm Vehicle vertical run: 190 mm
<b>The grinding stone machine</b>	Wadkin NV300 grender	The grinding stone machine is used for sharpening; it often contains two grinding discs, one fine and the other coarse.	1	Tighten bolts and tool rest. Use engine oil to lubricate the engine. Replace the abrasive stone if it is corroded and make sure that the stone is well installed.
<b>Tongue machine</b>	Italian	It is used to connect the pieces of wood with mortise and tongue joint.	1	Begin the threading process according to the specified mark by pushing the table towards the cutting



				head, until the piece of wood passes into the cutting head.
<b>Table Saw</b>	Wadkin	It is used for cutting boards and timber	1	Considering the safety and security factors for the quick moving blade, and to have a sufficient distance around a machine
<b>The saw milling and grooving machine</b>	old	The saw milling and grooving machine is used to sharpen the band saw weapon used in cutting wood.	1	The teeth of the weapon are sharpened and flattened simultaneously without the need to change the installation process.

\*The equipment needs maintenance

#### b. Required Equipment List

Required equipment	Justification for its purchase	Price/Fee (L.E.)	Related Activity
<b>Automatic Machine</b>			
CNC Router Machine	Wood Carving and Engraving and cutting	١٠0000(local)	Training and empowering business leaders on Modelling Cutting on Latest Way
Laser Cutting Machine	Cutting Many Materials Like Wood , Acrylic and Steel	14٠٠00 (imported)	Training and empowering business leaders on Surfaces Cutting on Latest Way
3D printer	Forming 3d shapes	15000(imported )	Training and empowering business leaders on Modelling ant prototypes Latest Way
Automatic Edge Banding Machine	Gluing the edges of the wooden Boards by Edge Band	2٣٠000(imported)	Skill training to deal with sticking edges in a modern way

Electrical and Hand tools			
<b>Electrical Equipment and tools</b>	Training in mechanical methods of cutting, drilling and sanding wood	6000 L.E(3*2)	Training and empowering business leaders on Electrical and Hand tools technology in the furniture industry
electric sander/ electric planer/ electric drills			
<b>Hand Tools</b>			
<b>Solid Woodworking Workbench</b>	surface area for your work and to secure your work piece.	٦000(2units)	
<b>Measurement, adjusting and mark tools</b>	Training on Measurement, adjusting and mark tools	3000L.E(6*2units)	
<b>Wooden, metal and laser measuring tape/ The wooden Caliper/ البوكوتو The Caliper/ Slitting tool or Marking Gauge / water balance/ Chalk line/ Sliding angle t-bevel</b>			
<b>Sawing and cutting tools</b>	Cutting and sawing wood	4٠٠٠L,E(4*10 units)	
<b>Hand and Back saw/ Tenon Saws/ veneer saws/ Curved and Coping saws</b>			
<b>Drilling &amp; carving Tools</b>	Cutting, Chopping Paring, Scraping	4000 L.E(4*10 units)	
<b>Bench Chisel Set for working wood and Mortise Chisel</b>			
<b>Planer Rasps Tools</b>	Plane the edges of the wood to a smooth finish.	500 L.E	
<b>Planer/ Rasps</b>			
<b>Hammering, Connecting and jaw Tools</b>	Carpentry works	6000(6*10 units)	
<b>Claw hammer/ Mallet/ Pliers/ Woodworking Clamps/ nails/ Sharpening Tools</b>			
<b>Total Automatic Machine Electrical and Hand tools</b>		<b>515,500 L.E.</b>	

## Project Team

\*Detailed CVs are attached

Team	Role the projet
Prof. Maha Elhalaby	PI of the project
Dr. Soad Mahmoud	Co-PI of the project
Dr. Rania Mosaad	Member
Dr. Ebtessam Mohamed	Member
Dr.Ehab Essawy	Director of Technology Incubator Office (Consultant member)
Dr. Noha Abozaid	Member
Ms. Mahy El Gazzar	Business Partner

## 18. Annex 4: Profiles of the partners

- **Shady Shall Factory:** Chairman of the Board of Directors: Fawzi Abu Shall

Production of all wooden products

Address 11 Cairo-Alexandria Road qualiobia

- **Raouf el badry factory**

Chairman of the Board of Directors:

Eng / Ali Raouf Al-Badry

Director of procrastination: Osama Saad Activity: Production of all wood products, pressing and production of all types of furniture doors

Address: 5 Muhamed el sageer Street\_ Masr el Kadima

- **Company mehrez and kerima**

Chairman of the Board of Directors: Dr. Khaled Khalaf Mahrez,

Deputy Director of the Board of Directors: Dr. Hanan Karima

Activity: A company specializing in the production of home furniture, lighting and accessories Most of the works are inspired by historical and contemporary artistic trends such as ancient Egypt, Islamic style and folklore to create a mixture of heritage appearance and international quality. Address:14/12 El swara street el mohandeseen

- **Mohm company**

Chairman :Eng Islam Abdel Hady

Activity: A company specializing in the production of contemporary wooden and metal furniture. The company was established in 1974, where a line aimed at young people to build a house for them. The furniture is designed to be durable and economical.

Adress: 63 Nabeel El Waked Street- Ard El Golf, Nasr city, Cairo.

**The third topic : The extent of the beneficiaries' awareness of the role of technology incubators in supporting creativity and developing heritage crafts in Egypt****Study tool:**

The study in this part relied on the analytical study by collecting information and data about the phenomenon, and then analyzing and interpreting it using the questionnaire as a study tool.

**Study community:**

The study population consists of a random sample of graduates and students of art faculties of different specializations, and their number is (58) individuals who participated in the questionnaire via the Internet.

**Sources of collecting information and data:**

The study relied on collecting information and data by designing a questionnaire on the Google Form website that addresses a number of questions to answer the study's inquiries directed to the concerned persons, and it was published on the social networking sites of the beneficiaries and stakeholders, and then the results were analyzed directly.

The most important questions that were answered in the questionnaire were the following:

It was divided into two parts. The first part is concerned with the general data of the sample members includes:

- 1- What is the educational level of the sample members?
- 2- What is the exact specialization of the sample members?
- 3- What is the gender of the sample members?

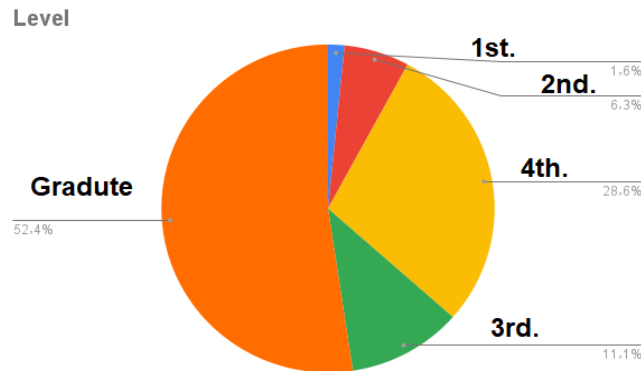
The second part is concerned with accurate information on the subject of the study, and is summarized in the following:

- 4- Do you have knowledge of the reality of incubators in Egypt in the field of traditional crafts?
- 5- Do you have knowledge about the importance of handicrafts and traditional industries in the economic industry in Egypt?
- 6- Did you know that heritage decor has psychological dimensions that only those who interact with it know?
- 7- Are you keen that inside the rooms of the house there is a heritage sign that is embodied in a painting or a masterpiece or through a seating corner? \*
- 8- Do you hope to be a partner in supporting creativity and developing heritage crafts in Egypt.
- 9- Do you hope to have a small project in the field of furniture and heritage crafts?
- 10- Do you know what is the role of technology incubators in Egypt in supporting heritage crafts?
- 11- Do you know the competent authorities that care about incubators in Egypt?
- 12- Do universities have a key role in developing industrial and technological incubators?

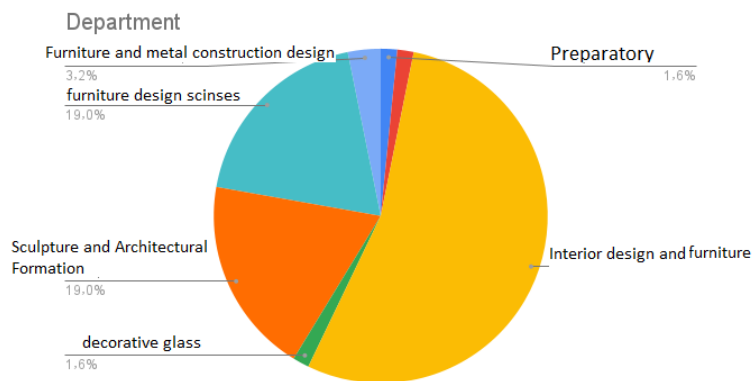
### Results Analysis:

For the questions of the first group, which include general data about the sample members, the answers were as follows:

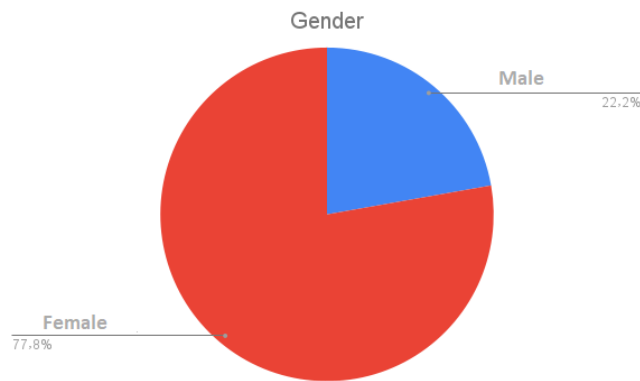
1- Regarding the academic level: the highest category was 52.4% of the graduates, followed by the final year students 28.6%, then the third year students 11%, then the second year students 6.3%, and finally the first year students 1.6%. This reflects the graduates' interest in the study axis more.



2- As for the exact specialization of the sample members: the highest percentage of interior design and furniture specialization was 54%, followed by furniture design sciences 19%, then sculpture and architectural formation 19%, then furniture and metal construction design 3.2%, glass 1.6%, other 1.6%. Which reflects the interest of the delicate disciplines of interior design, furniture, furniture design sciences and sculpture as the focus of the study.

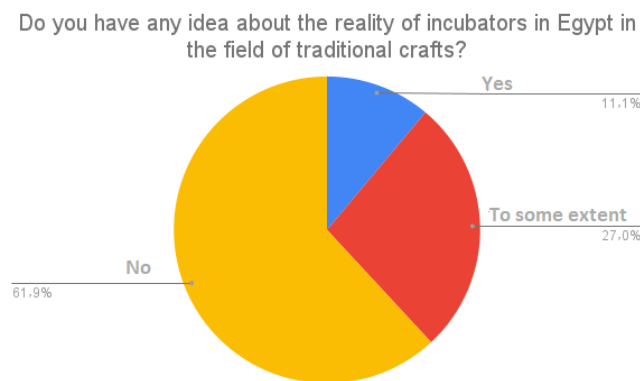


3- As for the gender of the sample members, it was found that females are more interested than males in the subject of the study, reaching 77.8% for females compared to 22.2% for males.

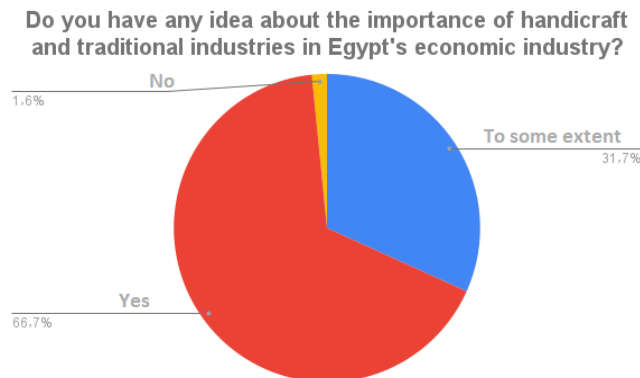


As for the second part of the questionnaire, which is concerned with accurate information on the subject of the study, it was as follows:

4- Do you have knowledge of the reality of incubators in Egypt in the field of heritage crafts? The largest percentage was 61.9% indicating that they did not know about incubators in Egypt, compared to 11.1% who knew, while about 27% knew to some extent, but were ignorant of the details.

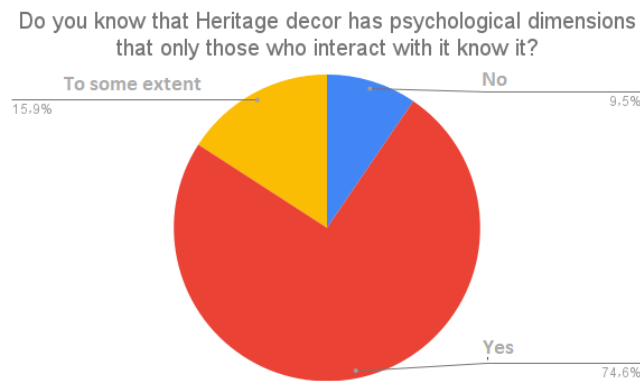


5. Do you have knowledge about the importance of handicrafts and heritage industries in the economic industry in Egypt? The answer was 66.7% who know versus 1.6% who do not know, while about 31.7% hesitated. The study suggests that this is due to the lack of interest of some sample members in producing handicrafts and traditional industries in Egypt.



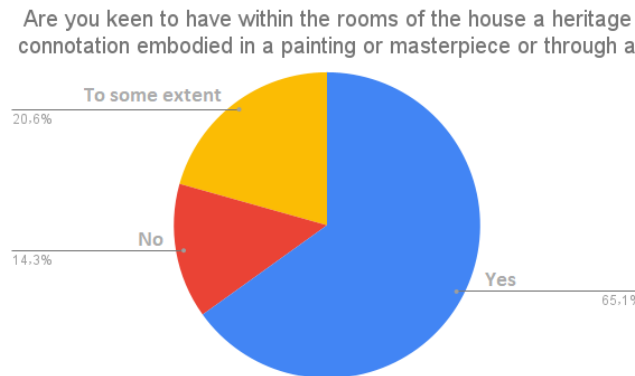
6- Did you know that the heritage decoration has psychological dimensions that only those who interact with it know? The answer was the approval of about 74% of the sample members

compared to 9.5% who did not agree / while about 15.9% of the sample members hesitated, which reflects the cultural dimension of the heritage crafts among the sample members

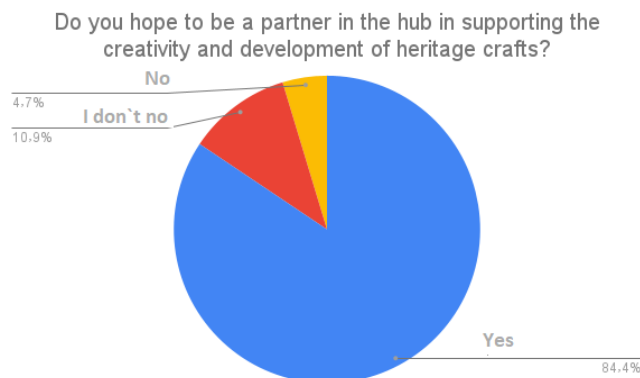


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7. Are you keen that inside the rooms of the house there is a heritage sign that is embodied in a painting or a masterpiece or through a seating corner? , the results were that 65.1% are keen on this, compared to 14.3% who are not keen, while about 20.6% hesitated, which reflects the interest of a large group of sample members in heritage artworks, whether they are acquired or manufactured, which has a positive impact on the user psychologically and economically.

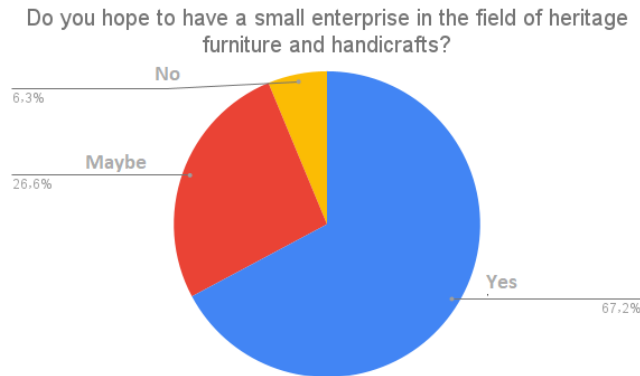


8- Do you hope to be a partner in supporting creativity and developing heritage crafts in Egypt? The vast majority of 84% agreed, which reflects the study sample's interest in supporting creativity and developing heritage crafts because of its impact on the national and global economy.

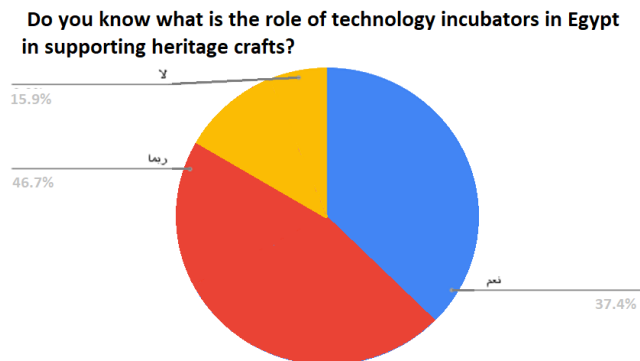


9- Do you hope to have a small project in the field of furniture and heritage crafts? A large percentage was 67.2% agreeing, compared to 6.3% who did not agree, while 26.6% hesitated.

This is due to the desire of many to establish small projects in the field of furniture and heritage crafts due to their awareness of their importance and the economic return that accrues to them because of them.



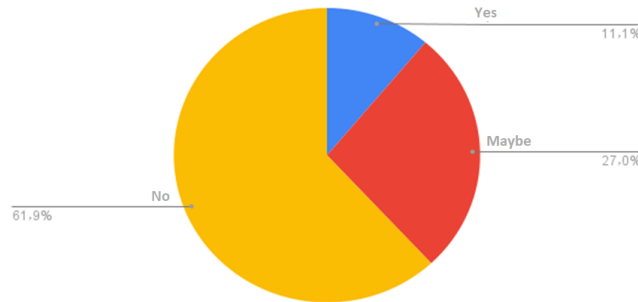
10- Do you know what is the role of technological incubators in Egypt in supporting traditional crafts? A small percentage of the sample members was 37.4% who knew the role of technological incubators in Egypt, while a smaller number 15.9% were ignorant of this role and the vast majority 46.7% hesitated to answer .. This reflects the lack of sufficient awareness of the extent of the role played by technology incubators in the process of supporting and developing traditional crafts, and helping small projects to face the administrative, financial, technical and marketing difficulties that usually face the establishment stage.



11- Do you know the competent authorities that care about incubators in Egypt?, and a small percentage of 11.1% knew compared to a large percentage of 61.9% who did not know, while 27% of the sample members hesitated to answer, and this reflects the lack of awareness of the concerned authorities that care about incubators in Egypt As a result of the lack of publicity and advertising and the lack of spread of its effectiveness among specialists and those with interests.

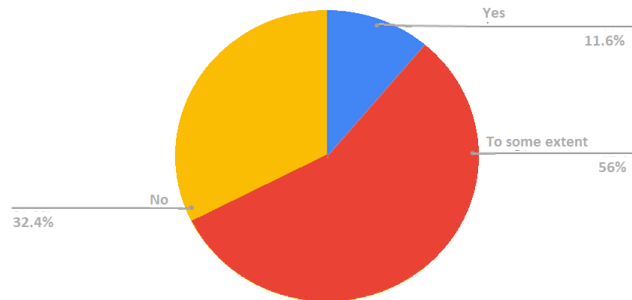


Do you know the competent authorities that care about incubators in Egypt?



12- Do universities have a key role in developing industrial and technological incubators? A small percentage of 11.6% was aware of the role of universities in developing incubators, compared to 32.4% who were not aware of this role, while the vast majority hesitated to answer, which reflects the lack of sufficient awareness of the role that universities provide in developing technological incubators. And industrial, scientific and technical support, follow-up of incubators, contribute to the development of human resources, and support small production or service projects.

Do universities have a key role in developing industrial and technological incubators?



### The research results:

- 1- Crafts and handicrafts are of great importance, as they are among the activities that contribute to export and a source of foreign income and hard currency, and among the activities that carry out positive publicity for countries outside, contribute to providing job opportunities and participating in solving unemployment problems.
- 2- The economic importance of handicrafts can be summarized in the possibility of creating greater job opportunities by allocating fewer resources compared to the requirements of other industries and their ability to absorb and operate large numbers of manpower with low educational qualifications, Take advantage of local raw materials, Low costs for training, as well as its use of mostly simple and uncomplicated techniques.
- 3- The crafts and handicrafts sector plays a positive and effective role in tourism development due to the reasons for encouraging visitors and tourists to buy traditional products and keep them as souvenirs or distribute them as gifts.
- 4- Obstacles facing the owners of traditional crafts: Lack of technical support and training in specialized centers for skills development, The lack of financial support encourages

the continuation of the profession, Unavailability of capital to start private production projects, The marketing problem, which projects suffer from, Lack of experience in project management.

5- The importance of business incubators: Contribute to employing the results of scientific research, innovations in the form of small projects that make them capable of being converted into production, Contribute to the development of human resources and solve the problem of the unemployed, Provides scientific advice and feasibility studies for small projects, Linking small and innovative projects to the productive sectors and the market movement and its requirements, And help small projects in facing the administrative, financial, technical and marketing difficulties that usually face the establishment stage.

6- The survey, which was conducted on a random sample of graduates and students of colleges of applied arts, resulted in a large group of graduates, mostly females in the field of interior design and furniture, interested in craft industries, especially heritage, because of their clear economic impact, but most of them were ignorant of the role of technological incubators in supporting and developing these crafts, and the role of universities in the success and development of incubators in Egypt.

### Recommendations:

1. The study recommends the necessity of paying attention to traditional crafts due to its great importance.
2. The necessity of spreading technological incubators more widely in universities and educational institutions, as universities have an effective role in developing incubators and providing them with scientific and technical support and the ability to provide practical training for trainees, which saves time, effort and money.
3. The necessity of announcing technology incubators in an expanded manner among the community of beneficiaries and emphasizing the role they provide for start-up companies, especially in the field of heritage crafts, because of their effective impact on the development of national income and the Egyptian economy.
4. It is necessary to follow up and support the incubated companies in all fields to ensure their continued success.

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