



# The Possibility of Establishing an Iraqi University Business Incubator and Its Expected Impact on Entrepreneurship: An Analytical Study in a Sample of Iraqi Universities

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## **Authors' contributions**

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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## **ABSTRACT**

**Aims:** This research aims to determine the extent to which Iraqi universities can establish university business incubators that affect the orientation of university students in a sample of Iraqi universities towards entrepreneurship.

**Study Design:** The research adopted the descriptive analytical method to describe the research variables and interpret the results.

**Place of Study:** This research was applied to a sample of 11 Iraqi government engineering and agricultural universities in northern, central and southern Iraq, which were selected due to their

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importance in providing the industrial and agricultural sector in Iraq with skilled human resources and project ideas that promote economic growth, as well as having university incubator units that seek to activate them.

**Methodology:** A sample representing the indigenous community was selected. Its size reached (160) individuals from the administrative leaders, heads of departments and teaching staff in the researched universities. The researcher relied on an electronic questionnaire designed with (kobotoolbox) as the main tool, and a set of statistics was used, represented by (mean, standard deviation, coefficient of variation, simple regression), and the research data was analyzed using (SPSS V.28).

**Results:** The research results showed a positive moral relationship to between all dimensions of university business incubators on entrepreneurship at the level of Iraqi public universities, and all research hypotheses were acceptable.

**Conclusion:** The findings indicate that there are possibilities for the Iraqi universities discussed to activate the work of university business incubators at an average rate that can be worked on and developed through the adoption of models of work mechanisms to benefit from international experiences in this field.

*Keywords: University business incubators; entrepreneurship; economic growth.*

## 1. INTRODUCTION

The twentieth century witnessed a great development of the concept of practical progress, which was greatly reflected in the labor market, as it does not depend on the individual successes achieved by scientists individually, as was the case previously at the hands of Edson and other scientists, but rather on research programs provided by universities and adopted by governments and the private sector. This is because the economic capacity of any country is represented by its knowledge stock, as scientific and technological knowledge in some countries is estimated at 80% of its economy [1,2,3]. This means that the business market and economy have become linked to the concept of the educational community and the research it provides that can represent an opportunity for the individual to establish his project by the requirements of the labor market. Today, the labor market faces rapid changes competitive challenges, and a lack of clarity in the future vision, which affects the ability of new entrepreneurs to establish and present new and distinct projects that can result in products and services that meet the needs of the labor market, which was largely reflected in the limited number of opportunities available to them to work and establish their projects and thus the high unemployment rates in general and among university graduates in particular. Improving the performance of entrepreneurs and enabling them to establish their entrepreneurial projects and provide products and services that meet the needs of the labor market need more efforts in the field of development, empowerment and

capacity building. Researchers and business management experts in the developed world have recognized this problem and worked to find ways and means to help new entrepreneurs improve their performance in establishing their projects and ensuring their success. It resulted in the establishment of development centers and university business incubators that had a great impact in directing the compass of scientific research within universities and directing it towards serving the labor market by providing solutions and treatments that resulted in projects that provide products and services that meet the needs of consumers in it.

## 2. METHODOLOGY

### 2.1 Research Problem

University education is the basic key to a country's progress and development and the starting point for society's progress and economic prosperity. Therefore, development in the university education system is indispensable because of its significant impact on economic and societal development. Since many Iraqi universities suffer from challenges and changes in the surrounding environment, this is reflected in their level of performance in directing the scientific research compass to meet the needs of the public and private business market. This was largely reflected in the level of its students and their weakness in establishing their entrepreneurial projects and engaging in the business market. This made the general trend of university graduates to engage in government employment due to the lack of job opportunities

in other economic sectors, which resulted in a significant increase in the percentage of unemployed as a result of the weakness of the government in meeting the increasing demand for government jobs. This challenge imposed on universities the need to look to the future to develop their roles by contributing to linking scientific research to the needs of the business market, and to achieve this linkage, it is necessary to establish an entity that works to strengthen the relationship between universities and the business market. It directs students' research and enables them to develop solutions and address gaps by providing the requirements and needs of the labor market. This entity is known today as (a university business incubator). Accordingly, this research seeks to identify the possibility of establishing an Iraqi university business incubator that contributes to the development of the culture of university students and their orientation towards entrepreneurship, and how to work with it by raising the following questions:

1. Are decision-makers aware of the importance of having a university business incubator that can contribute significantly to supporting the national economy and reducing the phenomenon of unemployment?
2. What is the level of availability of the dimensions of university business incubators and the dimensions of entrepreneurship in the researched universities?
3. What is the relationship of influence between university business incubators and its dimensions in entrepreneurship?

## **2.2 Research Importance**

The importance of the study is derived from addressing topics of great importance that have a role in raising the level of performance of the services provided by Iraqi universities and their ability to provide research and development of new entrepreneurs in a way that contributes to the establishment of entrepreneurial projects that meet the needs of the Iraqi business market, which are somewhat few, especially in the Arab countries in general and Iraq in particular, as well as its importance in finding effective and practical solutions to address the problem of unemployment that threatens university students after they graduate from universities, which contributes significantly to helping governments reduce the burden of employment in the public

sector and the spread of the phenomenon of disguised unemployment. The research also contributes to building the knowledge framework of the current research variables (university business incubators and entrepreneurship). Its results can be used to develop the work of the researched Iraqi universities, as well as to provide a knowledge accumulation that can serve as a starting point for other researchers to enrich this topic in future studies.

## **2.3 Research Objectives**

1. Providing those interested in university business incubators and entrepreneurship with theoretical and practical information that reflects the real reality of university practices and the availability of the possibilities of applying the concept and mechanisms of university incubators and their reflection on the entrepreneurial requirements for the establishment of new projects, which enables the Ministry of Higher Education to benefit from them in the current and future circumstances.
2. Testing the relationship between the study variables represented by (university business incubators, and entrepreneurship) in the light of analyzing the responses of university officials to the questionnaire paragraphs, which largely reflect the reality of the study variables.
3. Highlighting the mechanisms of work of university incubators across their three stages (before incubation, during incubation, and after incubation), as well as identifying the most important international experiences.
4. Reaching a realistic model that links the components of the model and the influential elements and how to implement them through the components of the model in line with the field reality of Iraqi universities.
5. Provide a set of information, conclusions and recommendations to the researched universities in light of the practical results of the research.

## **2.4 Research Hypotheses**

In the context of the proposed problem and the research objectives, hypotheses were formulated and developed in a way that clarifies the problem and helps answer all its questions, which are as follows:

- 1- The first main hypothesis (H1): There is a statistically significant effect of university business incubators on entrepreneurship at the level of the Iraqi universities studied, and the following sub-hypotheses emerge from this hypothesis:
- 2- Sub-hypothesis (H1.1): There is a statistically significant effect of the (idea development) dimension in entrepreneurship at the level of the Iraqi universities investigated.
- 3- Sub-hypothesis (H1.2): There is a statistically significant effect of entrepreneurship's (training and guidance) dimension at the level of the Iraqi universities investigated.
- 4- Sub-hypothesis (H1.3): There is a statistically significant effect of entrepreneurship's (networking) dimension at the level of the Iraqi universities studied.

## **2.5 Research Model**

The hypothetical study model expresses the basic idea of the study and clarifies the nature of the relationship between its main and subsidiary variables. A review of the intellectual outputs and scientific literature related to the main and subsidiary variables of the study resulted in the design of a hypothetical model that shows the nature of the relationship between the main variables and the sub-dimensions of the study and clarifies its hypotheses and intellectual and philosophical premises. For an understanding of the study model, see Fig. 1, which shows the interactive variables of the study.

## **3. LITERATURE REVIEW**

### **3.1 University Business Incubators**

#### **3.1.1 The concept of university business incubators**

The term incubator is derived from incubation, which means providing care and support to those who need it. It converges in its concept with the concept of medical incubators in maternity and children's hospitals, in which premature babies are placed and need a set of medical devices that help them overcome their difficulties, such as incomplete growth and difficulty breathing for those born before the completion of 9 months, and then leave the incubator after the competent doctor gives them a medical certificate confirming their health and ability to grow without assistance [4]. University business incubators

follow the same approach in embracing those who have ideas and university entrepreneurs who aspire to establish projects that provide new and advanced products and services that meet the needs of the market, which contributes to technological, economic, and social development in the countries where these incubators are established. Universities occupy a central position in the economic growth of any country through their active role in moving the wheel of research, development, and innovation. Since then, many advanced economies in the world have established university incubators to support innovative projects and enhance the economic system [5]. It works to improve learning methods and direct scientific research to meet the needs of the market, which contributes to the creation of new job opportunities that help reduce the burden on the government in addressing the phenomenon of increasing unemployment. From this, we can describe university business incubators as centers that provide services, support, and guidance, and encourage university entrepreneurs towards new projects based on technology and innovation and help establish them [6]. It is defined by [7] as centers established by universities that include a group of experts, mentors, and investors, who provide their services, such as guidance and networking, office spaces, administrative services, knowledge, and experience, to help develop university entrepreneurs and meet their needs to establish their own projects. It is also defined by Zuhair, [8] (8) as integrated service institutions affiliated with universities, which work to provide programs, activities, and services to university students, and guide them towards entrepreneurship and innovation, and help them develop their ideas and turn them into successful entrepreneurial projects, and provide support and advice on how to manage, develop and develop them so that they can survive, continue and grow. From the above, it is clear to us the importance of business incubators as an important means that contributes to pushing university entrepreneurs and enhancing their capabilities to establish their entrepreneurial projects. They work to strengthen the links between education and development on the one hand and the business world on the other [9], as shown in Fig. 2.

#### **3.1.2 How university business incubators work**

Business incubators provide their activities and programs according to a specific work

mechanism, and as shown in Fig. 3, it consists of a set of stages (pre-incubation stage, incubation stage, post-incubation stage), which entrepreneurs and beneficiary companies must

go through from the first moment they submit an application for admission. Nomination to join the business incubator until the end of the program and graduation from it [10].

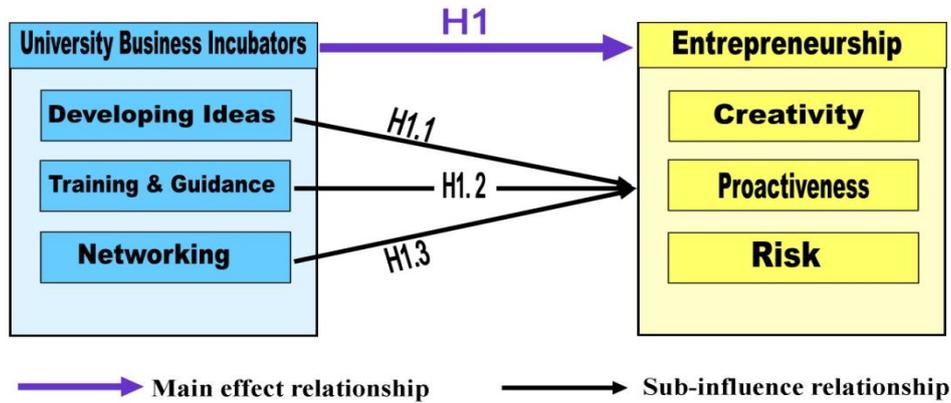


Fig. 1. Conceptual model of research

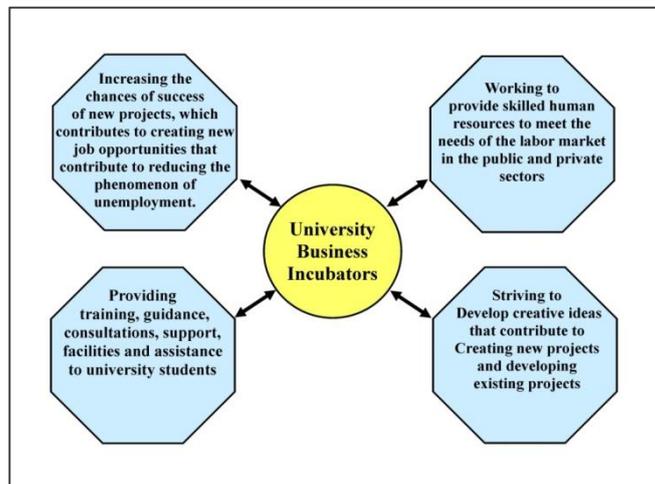


Fig. 2. The importance and objectives of business incubators in promoting entrepreneurship

Source: Prepared by the researcher based on the opinions of the researchers



Fig. 3. Steps and mechanism of work of university business incubators

Source: Prepared by the researcher based on the opinions of the researchers

### **3.1.3 The first stage: pre-incubation**

This stage mainly relates to the procedures for registering entrepreneurs and interviewing them by the incubator's management with the aim of analyzing their investment project idea and evaluating its suitability for application and compatibility with the requirements of the labor market [11]. This stage consists of the following steps:

- 1- Assessing the needs of the labor market: This step is the incubator's focal point in achieving its goals. It includes assessing the labor market and identifying its needs and the amount of the gap between supply and demand for products and services, as this step is the basis for evaluating entrepreneurs' ideas and their future projects [12].
- 2- Submitting nomination requests to join the incubator: This step includes receiving requests and nominations to join the incubator, as this step is the entry point into the incubator. The studies presented by [7] indicate that one of the most important criteria that business incubators take into consideration when approving submitted applications and selecting candidates to participate in their programs is the incubator's ability to bring about a positive change in the capabilities of entrepreneurs. In addition, entrepreneurs must be prepared to accept change and adapt their work to what the change process requires, in a way that ensures the transformation of their ideas into projects that meet the needs of the labor market.
- 3- Reviewing and sorting applications: This stage is considered accurate and critical, so it depends on the reviews and recommendations provided by program developers, mentors, investors, and evaluations of the technical team in the business incubator [13]. Each business incubator has its own considerations and standards in the process of evaluating and accepting applications, but all business incubators agree on one point of view they accept viable ideas that they believe can add value to them, so they can refuse to accept good ideas because they are not applicable for reasons It is related to the potential of the business incubator and its orientations, whether in terms of experts, financial capabilities, or

specialization, but most business incubators focus on projects that can bring about a radical change in the labor market in a way that achieves local and international economic growth [14].

### **3.1.4 The second stage**

Incubating and including entrepreneurs in the incubator. This stage continues from the beginning of joining the business incubator until the graduation stage and the implementation of the project on the ground in the labor market. During this period, the incubator works to provide its services, namely preparing and implementing the training and guidance programs that entrepreneurs need to develop their ideas and innovations and transform them into applicable projects in the market. The work, and then work to market it and help obtain funding for its implementation [15]. This stage consists of the following steps:

4. Designing training and guidance programs: After the application sorting stage, programs are prepared and prepared that help meet the needs of the entities benefiting from the incubation process in accordance with the results of the reviews and recommendations of mentors and experts. It has become clear that incubation programs add the greatest value in identifying the target market, offering value, and selecting product features, and this is essential for owners of emerging ideas and organizations. In addition, they meet the needs of entrepreneurs in addressing business mistakes and stumbles at the beginning of establishing their companies and include identifying The training and advisory agenda, the start and end times, and the experts and mentors who will provide practical training workshops. The presence of mentors, guides, program developers, and experts is considered an element of the strength that is added to the incubator and the first thing that beneficiaries of incubation programs ask about [16].
5. Forming a beneficiary team and forming groups: After the program design stage, the beneficiaries are divided into homogeneous teams and groups according to their needs presented in the application for enrollment in the acceleration programs. What distinguishes

this stage is that the program begins for the group at the same time and graduation takes place at the same time specified for the program. This method helps in exchanging expertise and experiences among the beneficiaries as well as strengthening the bonds between them. All of this contributes to revitalizing the training sessions in a way that benefits everyone. The number of the team is determined according to each program separately [17].

6. Intensive training camp: After the completion of the division of groups and teams benefiting from incubator programs, the process of presenting the designed programs takes place inside halls, office spaces, and laboratories prepared for this purpose, through which entrepreneurs mix with each other, and with mentors and training experts, in which a safe environment is provided for exchange ideas and methods, as well as their importance in forming relationships and networking with those with experience and expertise [7], as business incubators provide a range of types of support, which include organized training seminars and workshops, as well as individual assistance, including guidance and business advice according to the needs of entrepreneurs [18].
7. Duration of programs within the business incubator: The team of entrepreneurs who benefit from incubation programs remains within the business incubator for a specific period of time, ranging between (2-3) years depending on the nature of the program in which it participates and the period of time it requires [16].
8. Closing event (Graduation Day): At the end of their training programs, business incubators hold a marketing conference for their completed projects, where they invite stakeholders from investors, local and international supporting bodies, and government institutions to view models of entrepreneurs' projects and the progress they have achieved as a result of their participation in incubation programs. This event usually attracts hundreds of potential venture capitalists and investors, as it is a useful opportunity for them to obtain ideas for entrepreneurial projects that they can purchase or enter into partnership with the entrepreneurs [19].

### **3.1.5 The third stage: post-incubation**

It is the final stage for entrepreneurs within the incubator, where their projects are implemented and the desired goals are achieved, and the project's activity expands and emerges in the business world as a creative idea. At this stage, consultations (legal, marketing, administrative, financial, etc.) are provided to the entrepreneurs to ensure expansion. The project, its growth, and its ability to compete in the labor market in the labor market [20].

9. Providing consultations: The stage of starting operation and launching the project in the labor market is one of the stages most exposed to market changes due to the amount of competition that emerging projects may be exposed to at the beginning of their establishment. Once entrepreneurs realize the complexity of leading a business, the need and importance of consultations increase. They can obtain it from investment experts [21].
10. Wages and the financing mechanism for business incubators: Many incubators are owned by the public sector and non-profit organizations, and a few of them are owned by the private sector. Therefore, the programs and services provided are for appropriate fees, and in some business incubators it can be through a share of the shares of the projects and companies resulting from the programs. Business Incubators. Due to the services they provide to her [22].

## **3.2 Dimensions of University Business Incubators**

### **3.2.1 Dea development**

University business incubators, through their programs, enable entrepreneurs to change or develop a new product or service or work mechanisms, or to introduce new marketing means [23]. The importance of creative ideas lies in developing the competitiveness of future entrepreneurial projects, improving their efficiency, and developing their ability to work. This requires a system that helps to develop ideas consisting of expert organizations (incubators) that create the necessary conditions to stimulate creative ideas among entrepreneurs in a way that transforms them into innovations

that can be applied on the ground [24], in order to meet the needs of the labor market. This process is carried out through experts and specialists who subject these ideas to examination according to a series of criteria for the purpose of overcoming them and identifying the successful ideas for the purpose of developing them and transforming them into entrepreneurial projects according to the mechanism shown in Fig. 4 [25].

### 3.2.2 Coaching & mentoring

University education plays an important role in providing students with information, knowledge, and skills according to the specializations on which they are based. On the other hand, university business incubators invest in the capabilities existing within universities and harness them in helping university students be successful entrepreneurs who can establish their pioneering projects by training and guiding them to gain a group. Of the scientific skills and competencies necessary for them in the business market [26]. University business incubators are crucial support mechanisms to encourage and grow new companies in their early stages by training and guiding their owners and enabling them to overcome the variables of competition in the business market [27]. Training and guidance programs are one of the most important services business incubators provide. Most entrepreneurs who join business incubators often lack the necessary experience to enable

them to establish their projects and they urgently need training and guidance programs on the legal, financial, administrative, marketing, and public relations aspects. In addition, existing projects need training and guidance programs to address the work gaps and pitfalls they face to accelerate work and achieve the desired goals. Training and guidance are the cornerstone of the success and sustainability of entrepreneurial companies, as entrepreneurs cannot make their investment decisions unless they are provided with the necessary knowledge and skills [16].

### 3.2.3 Networking

Networking is an essential element through which university business incubators seek to connect entrepreneurs with other relevant organizations and actors in the local area, including investors, financial and entrepreneurial institutions, and business development services, leading to building a network of relationships with others to benefit from external expertise that may be expensive or difficult to access [28]. Incubators always provide entrepreneurs with access and meet with experts, investors, stakeholders, and decision-makers, by holding relevant conferences, seminars, and exhibitions [16]. Build strong partnerships with external support organizations, including universities, business and development agencies, nonprofits, financial institutions, and investors. It will give entrepreneurial entrepreneurs access to more specialized knowledge and expertise [18].

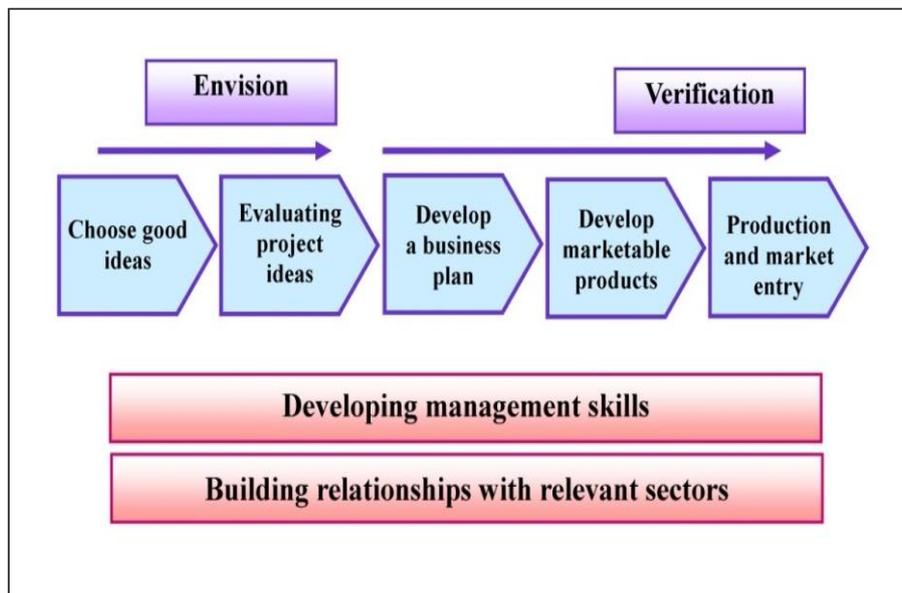


Fig. 4. Stages of developing creative ideas for emerging projects within business incubators

### **3.3 Entrepreneurship**

Entrepreneurs face rapid competitive changes and challenges in the business market. It requires them to take the corner of creativity and initiative as well as create opportunities and seize them to ride the waves of risks that can accompany projects at the beginning of their journey and ensure their growth and continuity in the business market. Entrepreneurial projects are the locomotive that takes the economy of any country towards growth and prosperity. Countries that pay special attention to entrepreneurship are more developed and able to solve the economic problems they face. Entrepreneurship is one of the important and promising fields in the economies of industrialized countries, developed and developing alike, as it makes an effective contribution to the development of local communities. It is truly the nucleus of the first projects in building business organizations of all kinds. It contributes to creating job opportunities and reducing unemployment, as well as the entry of entrepreneurs into new fields of work, which results in the creation of new products and services and thus new markets [29]. Entrepreneurship is a common vocabulary for many people, and it is a topic that occupies a prominent place on the research agenda for scientists in a variety of backgrounds and disciplines, a topic that has aroused the interest of many people from various professions including scientists, educators, and policymakers. The high-value innovations and products that enter the market every day are the results of entrepreneurial efforts, making entrepreneurship development a key strategy for achieving sustainable social and economic development [30]. The source refers to [31] indicates that the beginnings of the spread of the term entrepreneurship in the economy were in the eighteenth century as a result of the movement towards economic resources and increased production to maximize profits. The term entrepreneurship has gained great popularity by teaching entrepreneurship in the faculties of American business administration. It was defined by [32] as a systematic creative process or method used by the individual or business organization aimed at achieving added value and developing the work in line with the needs and desires of the business market. It was also defined by [33] as a way to explore the opportunities available in the market and find ways to obtain the necessary resources and invest them efficiently to achieve long-term goals and profits [34] promises them as behaviors that

include showing initiative and creative thinking, organizing social, and economic mechanisms in the search for new opportunities, perseverance and the desire to succeed, self-confidence to turn resources and situations into practical profit, and acceptance of risks and failure.

### **3.4 Dimensions of Entrepreneurship**

#### **3.4.1 Creative**

Creativity is one of the vital topics that attract the attention and interest of writers and researchers in various fields of knowledge. The historical roots of the term creativity go back to the Latin word (*Nouvs*), which means (new). There have been many and varied definitions given by writers and researchers to the concept of creativity [35] defined it as “finding new ways of thinking and learning that fundamentally change the organization’s operations and outcomes,” and [36] sees creativity as “how to think outside of traditional contexts while conjuring all forms of adventure by adopting Change processes and its support to achieve creative transformations in the projects’ environment and operations, as well as their outputs to their environment.” Creativity is an important source for increasing productivity and creating business value [37], through its work to reshape ideas in a way that results from their application in a new product or service that can contribute to solving a problem and meeting the needs of the labor market [38]. [39] believes [40] that creativity is the starting point for entrepreneurship through its focus on abandoning traditional practices and adopting the concept of innovation and experimentation, which results in new services, products, or processes. While [41] believes that creativity is the initiative shown by the individual to go out of the ordinary in the sense of the problem that occurs in the surrounding work environment and his ability to think outside the box to find effective solutions to address it, which leads to the development of production and reduce costs. Where creativity within scientific institutions works to transform knowledge into products, services, or processes and put them into practice in the business market [42].

#### **3.4.2 Proactiveness**

Proactivity in the business market refers to the capabilities of entrepreneurs and entrepreneurial organizations to take the initiative to discover and seize new opportunities or enter new markets and lead competitors instead of following them in

the business market [43] and sees [44] proactivity as a process through which individuals seek new job opportunities, whether alone or within organizations, without looking at the resources they currently possess. They are interested in monitoring trends and determining the future needs of customers in the business market in a way that enables them to anticipate changes in their applications [41], as well as the challenges they can face that can be transformed into new opportunities, and [45] stated that the organization should be proactive in providing new products and services to markets if it adopts proactive measures related to the following concepts:

1. Seize market opportunities that have nothing to do with the organization's current operations.
2. Seeking to offer unique products and services that differ from competitors.
3. Strategic planning to determine the stage of regression that the product is going through.

## **4. RESULTS AND DISCUSSION**

### **4.1 Descriptive Analysis of Research Variables and Dimensions**

#### **4.1.1 Descriptive analysis of business incubator dimensions**

Table 1 shows the summary of the results of the dimensions of the independent variable (university business incubators), as it was measured through 13 paragraphs that included three dimensions (idea development, training and guidance, networking), and through the answers of the research sample, which number(160) respondents, as it is clear that this variable achieved an agreement rate of (62.26%), with an average evaluation level, while the percentage of disagreement was (37.74%), and the arithmetic mean was (3.113), with a standard deviation of (0.819), and the coefficient of difference was (26.300), which confirms that the university business incubators variable obtained an average evaluation level based on the responses of the study sample. To rank the relative importance of the dimensions of the secondary university business incubators in the field at the level of the Iraqi universities studied, the results showed that the training and guidance came in the first order, and then came after the development of ideas in the second order, and finally came after networking in the third order.

#### **4.1.2 Descriptive analysis of the dimensions of entrepreneurship**

Table 2 shows the summary of the results on the dimensions of the entrepreneurial variable, as it is clear that this variable achieved an agreement rate of (59.42%), with an average evaluation level, while the disagreement rate reached (40.58%), and the arithmetic mean was (2.971), with a standard deviation of (0.851), and the coefficient of difference was (28.640), which confirms that the entrepreneurial variable obtained an average evaluation level based on the responses of the study sample. To rank the relative importance of the dimensions of the sub-entrepreneurship variable in the field at the level of the Iraqi universities examined, the results showed that creativity came in the first order, then came after initiation in the second order, and finally came after risking in the third order.

### **4.2 Testing and Analysis of Research Hypotheses**

In this part, hypotheses will be tested between the study variables represented by university business incubators as an independent variable with its three dimensions (idea development, training and guidance, and networking), and entrepreneurship as a dependent variable with its three dimensions as well (creativity, principle, and risk). Hypotheses will be tested through simple and multiple linear regression analysis and path analysis, to determine the possibility of judging the acceptance or rejection of the hypothesis. Table 3 shows the analysis of the impact of the dimensions of university business incubators on entrepreneurship. Table 3 shows the results of analyzing the impact of university business incubators in entrepreneurship, as the extracted value (F) achieved a value of (572.753), and this indicates that there is a positive moral impact of university business incubators in entrepreneurship, which indicates that Iraqi universities if they want to achieve entrepreneurship, should use university business incubators, which is one of the contemporary administrative means and works as an appropriate strategy in unstable and turbulent environments, as it will give the researched universities the ability to reach good levels of entrepreneurship. As shown by the value of (t) extracted, which is (23.932), the impact of the teacher ( $\beta$ ) is a real impact, as increasing the impact by one unit will lead to an increase in entrepreneurship by (92%), as the university

**Table 1. Indicators of the descriptive analysis of the dimensions of the university business incubators variable**

This service allows customers to issue a permit	Dimensions of university business incubators	Arithmetic Mean	Standard Deviation	Coefficient of Variation	Agreement percentage %	Percentage of disagreement	Relative importance
1	Idea Development	3.089	0.836	27.050	61.78	38.22	2
2	Coaching & Mentoring	3.250	0.853	26.240	65.00	35.00	1
3	netting	3.000	0.971	32.360	60.00	40.00	3
Dimensions of university business incubators		3.113	0.819	26.300	62.26	37.74	

**Table 2. Indicators of the descriptive analysis of the dimensions of the entrepreneurial variable**

This service allows customers to issue a permit	Dimensions of the Entrepreneurship Variable	Arithmetic Mean	Standard Deviation	Coefficient of Variation	Agreement percentage %	Percentage of disagreement	Relative importance
1	Creative.	3.245	0.850	26.200	64–90.	35.10	1
2	Initiative	2.825	903	31.980	56.50	43.50	2
3	Risk	2.843	0.949	33.370	56.85	43.15	3
Dimensions of the Entrepreneurship Variable		2.971	0.851	28.640	59.42	40.58	

**Table 3. Analysis of the impact of the dimensions of university business incubators in entrepreneurship**

Approved Variable	Dimensions of university business incubators		(R)	(R2)	Adj (R2)	(F)	T	Sig	Decision/ Interpretation	
Entrepreneurship	Idea Development	(α)	0.506	0.784	0.614	0.611	251.260	15.851	0.000	The validity of the hypothesis, that is, the existence of a moral impact of the dimensions of university business incubators in entrepreneurship
		(β)	0.798							
	Coaching & Mentoring	(α)	0.331	0.814	0.663	.660	310.163	17.611	0.000	
		(β)	0.812							
	NETWORKING	(α)	0.734	0.851	0.724	0.722	413.629	20.338	0.000	
		(β)	0.746							
	University Business Incubators	(α)	0.106	.885	0.784	0.782	572.753	23.932	0.000	
		(β)	0.920							

*Source: SPSS V.28 Outputs.*

business incubators variable was able to explain (78%) of the changes in entrepreneurship. This proves the validity of the first main hypothesis, which states that (there is a significant impact of university business incubators on entrepreneurship).

## **5. CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 Conclusions**

1. University business incubators are an expert entity affiliated with universities that provides a series of programs and facilities (idea development, training, guidance, networking) that help in building and launching companies and entrepreneurial projects by supporting university students, nurturing their creativity and innovations, and directing their research towards meeting the needs of the business market.
2. Entrepreneurship is a dynamic process that carries a combination of creativity based on the presence of self-motivation towards creating new ideas, finding innovative solutions, and taking risks, through which the necessary resources and skills can be mobilized to build business plans that enable universities to create creative ideas and skilled and advanced human resources that help in developing an environment. Business in the public and private sectors.
3. The results of the descriptive statistical analysis of the study variables concerning the independent variable, university business incubators in the investigated universities, showed an average level of evaluation for the variable as a whole, based on the responses of the study sample members. To arrange the relative importance of the dimensions of the variable of sub-university business incubators in the field at the level of the Iraqi universities studied, the results showed that the training and guidance dimension came in first place, then the idea development dimension came in second place, and finally the networking dimension came in third place. By reviewing the answers at the paragraph level, the researcher can The interpretation of this result in terms of universities having the capabilities to establish university business incubators, and they need to

develop their performance and organize their work in some practices that are essential to the work of university business incubators.

4. The results of the statistical analysis of the study variables concerning the dependent variable, entrepreneurship in the investigated universities, showed that the results of the study sample's responses came at an average rating level, and the order of relative importance of the dimensions of the sub-variable of entrepreneurship was in the field at the level of the Iraqi universities studied. The results showed that the creativity dimension came in order. The first, then it came after starting in the second order, and finally, it came after taking risks in the third order. By reviewing the answers to the questionnaire paragraphs regarding entrepreneurship, the researcher interprets this result by saying that the investigated universities have activities and practices that they can develop by benefiting from the global experiences that were mentioned in the chapter. The second and third sections are in a way that enables it to direct the compass of university education towards entrepreneurship.
5. The results of the statistical analysis for testing the hypotheses showed that there is a positive significant effect of the dimensions of university business incubators on entrepreneurship at the level of the Iraqi universities studied, as the variable of university business incubators was able to explain a percentage (79%) of the changes that occur in entrepreneurship. This indicates that if Iraqi universities want to achieve entrepreneurship, they should use university business incubators by enhancing their practices, developing ideas, training and mentoring university students, and building a network of relationships with stakeholders in the business market, which will give the investigated universities the ability to reach good levels. In its orientation towards entrepreneurship.

### **5.2 Recommendations**

1. The need to direct the attention of government agencies to provide support to universities to establish business

incubators and activate their work in Iraqi universities because of their great impact in directing the compass of university education towards entrepreneurship and the establishment of pioneering projects that contribute to providing new job opportunities that contribute to economic development and help in The elimination of unemployment.

2. The need to direct the attention of university leaders to the need to invest the capabilities and strengths they possess in developing their practices and activities following the work mechanisms of university business incubators to raise the level of their students and university research to keep pace with the requirements of the public and private business market.
3. Iraqi universities can benefit from grants provided by international donor organizations such as (United Nations organizations and the European Union) to finance programs and activities related to business incubators.
4. The importance of being open to global experiences in the field of business incubators and benefiting from their expertise through establishing partnerships and twinning with business incubators in reputable international universities.

## CONSENT

As per international standards or university standards, Participants' written consent has been collected and preserved by the author(s).

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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