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The Role of Business Incubators in Promoting Entrepreneurship in Iraqi Universities

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Abstract

The researchers sought to ascertain the role of business in fostering entrepreneurship at the University of Tikrit, Iraq. To achieve this objective, they administered a questionnaire comprising 37 items to a simple random of (300) male and female staff at the university, from which the necessary questionnaires for valid analysis were extracted. The findings revealed that the prevalence of business incubators in Iraqi universities is high, whereas the level of entrepreneurial practice is average. The study revealed a statistically significant effect at the ($\alpha = 0.05$) significance threshold for business incubators throughout its aspects, including consulting services and administrative and secretarial services, human resource development services, general services) in fostering entrepreneurship across its dimensions (entrepreneur characteristics, supportive leadership, entrepreneurial culture, policies and procedures) in Iraqi universities. The report advocated for the consideration of employee perspectives in Iraqi institutions through the organization of open meetings at all levels. The administration of Iraqi institutions should consider employee recommendations and provide rewards upon their implementation. The management must engage in discussions with staff to foster entrepreneurship at Iraqi institutions.

Keywords: *Business incubators; entrepreneurship.*

Introduction

Business incubators is a relatively new phenomenon that began in the late 1950s via a family in the state of New York in the United States of American who rented a headquarter and established a project which had submit advice and support to those who would want to establish a new business. Business incubators experienced a rapid and steady development at early stages in the eighties, and up today, so the idea of Business incubators has proved its great success in to support projects where the major countries and the grand international organizations have been adopting it as a distinctive mechanisms of economic development, This shows that the goal of business incubators is to reduce the failure rate of new businesses, as they work to create a favorable environment for starting small businesses .

The idea of Business incubators originated as a result of diligent seeking for some Countries to develop business centers , so the growing interest of countries at encouraging creativity , thinking and innovation and transfer and use of technology, and the United States of America was considered the beginning emergence of Business incubators, where was created the first business incubators in 1959 in the Batvia industrial center , city of New York ,when one

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of the companies had converted its headquarter that Stop working to a Leasing center that leased rooms as business offices for individual who wished to build up their business with a submit of advice to them .

Section One: Methodology and Previous Studies

1- The Study Problem

The relationship between the prerequisites of the labor market and the outputs of education is one of the factors that directly affecting economic growth, and at the same time It is one of the most significant issues confronting nations globally that looking to employ the economics knowledge within sustainable productive applications, where the Iraqi Republic aimed by the vision of 2030 at improving the quality and the applications of higher education, Increasing the effectiveness of scientific research and encouraging creativity and innovation, as it represents the outputs of higher education, whereas the outputs of education represent the realistic level of the effectiveness of the education system, and it also reflects the real development of the cultural structure of society, preparing qualified educational outputs for competition and positive production requires, as the educational institutions loaded with high specialized capabilities that take into account the actual needs of the labor market, and bridge the gap between the nature of higher education outputs and the requirements of the labor market, and gear to to guide graduate students towards career and professional options appropriate to the aspirations of society in all integrals. This led to the emergence of the study's dilemma, which was reflected in the following questions:

a. What is the level role of business incubators in Iraqi universities ?
b. What is the level role of entrepreneurship in Iraqi universities ?
c. What impact do business incubators have on fostering entrepreneurship at Iraqi universities?

2- Importance of studying:

The current the studying is important for the following reasons:

Theoretical importance:

This study contributes theoretical insights that furnish the Arab library with novel knowledge regarding the significance of business incubators in fostering entrepreneurship within Iraqi colleges. The theoretical framework and Prior research discussed in the current study are anticipated to bridge the existing gap in the literature regarding the role of business incubators in fostering entrepreneurship within Iraqi universities. This gap has arisen due to a notable deficiency, as observed by the researchers in the published studies, particularly those focusing on business incubators.

3- **The practical importance:**

The significance of this study arises from its focus on the societal context within Iraqi universities, which is crucial for enhancing growth and development, thereby propelling progress in Iraq. This study is regarded as one of the initial field investigations, to the best of the researchers's knowledge, that will be conducted. In Iraq, the focus is on the role of business incubators in fostering entrepreneurship within Iraqi universities. This may assist the examined universities in leveraging the findings and understanding applicable practices, as well as identifying necessary enhancements. Consequently, this elevates the engagement of their personnel with business incubators and enhances their performance through improved and expanded initiatives.

4- The study objectives

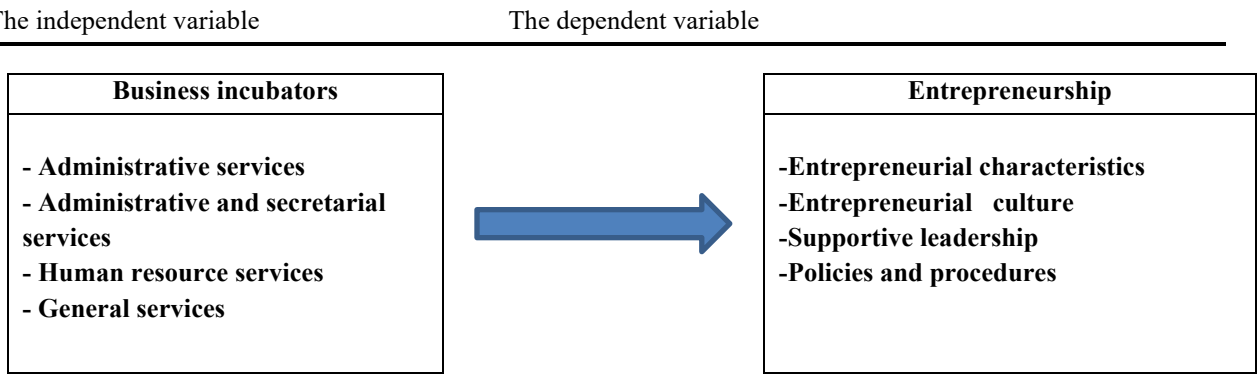
The primary aims of the current study are:

a. Determining the business incubators' level in their dimensions (consulting services, administrative and secretarial services, human resource development services, public services) of entrepreneurship in Iraqi universities .
b. Determining the business incubators' level in Iraqi universities.
c. Assessing the degree of entrepreneurship inside Iraqi universities.
d. Get to know business incubators in promoting entrepreneurship in Iraqi universities.

5- Study model

Figure (1): The researchers has constructed a model encompassing the principal variables pertinent to the current study, which include the following: independent variable (business incubators), dependent variable (dimensions of business incubators), and (consulting services, administrative services). Secretarial and human resource development services, together with the creation of a model that delineates the key factors to be examined in this study, in accordance with the stated problem and objectives of the research. General services; the study model also encompassed the dependent variable (entrepreneurship), with its dimensions represented by entrepreneur qualities, supporting leadership, entrepreneurial culture, and rules and procedures.

Figure(1) study model



Source: Prepared by the researchers based on the following studies:

Research addressing the aspects of the independent variable: a study [1].

Research addressing the aspects of the dependent variable: a study [2].

6- Study hypotheses

Based on the factors identified by the researchers in the study model, which this investigation aims to analysis for their relationships, the following hypothesis has been said:

H01 : First Main Hypothesis:

There is no statistically significant effect for business incubators in promoting entrepreneurship in Iraqi universities .

From this hypothesis, the following sub-hypotheses emerge.

H01-1 : There is no statistically significant effect for Consulting services in promoting entrepreneurship in Iraqi universities .

H01-2 : There is no statistically significant effect for administrative and secretarial services in promoting entrepreneurship in Iraqi universities .

H01-3 : There is no statistically significant effect for human resource development services in promoting entrepreneurship in Iraqi universities .

H01-4 : There is no statistically significant effect for public services in promoting entrepreneurship in Iraqi universities .

7- The limits of the study

a. Temporal limits: The temporal parameters of the present investigation were confined to the year 2021-2022.
b. Spatial limits: The study was confined to Iraqi universities.
c. Human limits: This research focuses on the staff of Iraqi universities, specifically Tikrit University..
d. Scientific limits: This research focused on assessing the role of business incubators in fostering entrepreneurship within Iraqi universities, grounded in the existing studies relevant to the research model.

8- Study determinants

The generalisation of the findings of the present research occurs in consideration of the following limitations:

- Credibility and reliability of the research

- The precision and impartiality of the responses from the research sample participants to the questionnaire items specifically designed for this study.

9- **Study definitions**

A collection of topics and terminology pertinent to the study was utilised, as follows:

Business incubators: is an institution existing by itself that has by character a legal entity, provides a range of Services and facilities for small institutions and help them on transcend fatigues Stage take off[3].

Entrepreneurship: It is a dynamic process bases on change and creativity that requires a creative energy , and a subjective desire towards creating and adopting new ideas, innovative solutions, as well as the ability to prepare plans, Include the ability on the willingness to take risks, and mobilize the necessary resources for creative skills, which requires a basic skill to build action plans [4].

10- Previous studies

First: Arabic studies:

A study (Wadan & Wahab, 2020)[1]. entitled*"the impact of business incubator services on development in the small and intermediate institutions development- a study of the reality of Institutions in Valley district"*

This study explored the vital need for business incubators among SMEs in the El-Oued region. Findings indicate that business incubators provide essential services that significantly enhance project continuity and success rates by transforming innovative ideas into viable economic ventures. While global trends underscore the necessity of this sector, the study highlights a critical shortage of supportive infrastructure and incubation facilities for non-incubated local institutions.

A study (Al-Sawalhi, 2020)[2], entitled *"The reality of entrepreneurship in Palestinian Information Technology companies"*

This study analyzed entrepreneurship within Palestinian IT companies in Gaza using a descriptive-analytical approach. Based on a survey of 129 employees (97.7% response rate), findings revealed a high level of entrepreneurship in the sector. The study recommends establishing specialized entrepreneurship centers, diversifying funding sources, and involving innovators in project profits to sustain growth.

Second: Foreign Studies

A study (Zeebaree & Siron, 2017)[5], entitle *"The impact of entrepreneurship guidance on competitive advantage managed through a subsidy financing in small and intermediate-sized of enterprises*"

This study investigated the correlation between entrepreneurial orientation and competitive advantage in SMEs in Iraq's Kurdistan area, with financial support serving as a mediating variable. The current study adopted a descriptive and analytical approach to the study sample, revealing a positive association between entrepreneurial traits and competitiveness. The findings underscore the crucial need of financial assistance in improving these elements. Therefore, the report advises that policymakers implement contemporary systems that priorities and incorporate entrepreneurship to stimulate economic development via the SME sector.

A Study (Prominent,2015)[6] titled *"The impact of business incubators on survival"*

The objective of the investigation was to assess the impact of business incubators on entrepreneurs in the capital region. South Africa's Cape Town Where conducted to address the following issues: the incidence of unemployment in South Africa and the failure of small institutions. The following recommendations were issued by the study: The business incubators should initiate marketing campaigns and programs that are designed to increase awareness of their programs. Entrepreneurs who are successful should not disregard the programs of business incubators; rather, they should complete the incubation programs and not regard them as a waste of time.

Section Two: Theoretical Background

First: Business Incubators

The concept of business incubators has its roots in the 1950s. Since 1959, Initially, the first private business incubator was established in New York, followed by a public incubator in Philadelphia in 1964, the concept began to spread at a slow pace within business models [7]. Business incubators have become a new phenomenon in many countries worldwide, appearing in various models affiliated with universities, government institutions, and private sector organizations [8].

"A business incubator is defined as an institution or program designed to support the growth and development of startups in their early stages by providing a range of resources and services to entrepreneurs. This contributes to helping them exploit opportunities and overcome the obstacles and challenges they face" [3]. It is a strategic system that provides added value through a package of services to support entrepreneurs and host institutions, enhancing their ability to survive, grow, and develop performance within a unified, interconnected system known as the entrepreneurial ecosystem [9].

The incubator is the entity that "manufactures" new companies, conducting the incubation process within the institutions it houses by identifying personnel, services provided, customers, and the value-creation process [10]. These organizations provide office space and centralized services at affordable prices to hosted institutions [11], such as shared reception facilities, information technology, legal consultancy, and facilitating access to venture capital through real estate and new enterprise support [12].

Furthermore, it is defined as a strategic intervention system or an integrated platform that works to support entrepreneurs and startups in their early stages, transforming them from the idea phase to growth through virtual links or flexible office spaces, networks, and experts, with the aim of reducing failure [13]. A University Business Incubator (UBI) is an organization that universities have established to facilitate economic development and technology transfer by serving as a conduit between academic research and commercialization. It provides the requisite resources to enhance market survival rates. [8].

According to the modern concept of business incubators, they can be defined as a "black box" that applies a strict selection strategy for entrepreneurs and provides value-added activities including monitoring and resource provision to ensure the transformation of ideas into successful and sustainable companies [14].

Business incubators aim to support innovation and transform ideas into new innovative projects, enabling them to secure funding and creating networking opportunities among entrepreneurs [3]. They also provide sustainability for hosted institutions and increase their chances of success through infrastructure, support services, and communication networks [15].

The importance of business incubators lies in reducing the failure that may affect institutions. They support new projects by delivering knowledge and services that add new value[16]. Business incubators provide financial and administrative support, as well as the physical and logistical resources and services necessary for all parties to communicate with entrepreneurs [17]. They also work to mitigate the failure that may afflict institutions [18].

Business incubators are considered essential tools in providing physical and administrative resources, office space, and shared services; they also contribute to providing consultancy for the institutions within them [10].

Due to the advantages offered by business incubators, universities today have become more attracted to them. The vision of universities now focuses on building University Business Incubators (UBIs) as a means and response to the rapid development in entrepreneurship policies and the increasing need for universities to act as a supportive party providing an effective means to enhance innovation [18].

Business incubators in public universities have become highly important as they represent the bridge connecting academic institutions with other sectors, including industries and services. Universities acknowledge the significance of cultivating talent and promoting innovation for faculty, students, and businesses. An entrepreneurial ecosystem is established through institutions, bolstered by technology and communication networks that connect academics, educators, and entrepreneurs [3].

Business incubators work to improve the quality and economic value of university patents. Through the flow of knowledge between innovators, academics, and market participants, collaboration between academic institutions and other organizations leads to positive outcomes resulting from joint cooperation between academics and entrepreneurs [19].

Second: Entrepreneurship

Entrepreneurship is considered a vital act for economic growth and is used to enhance entrepreneurial qualities in individuals, leading to increased research and educational interest in the field [20]. Entrepreneurship in education is a modern field that began to be taught academically in the late 1970s and early 1980s, coinciding with the growing interest in small projects and self-employment. Unemployment contributed to boosting interest in it as a means to support economic growth, as it is considered an important educational and societal tool. Entrepreneurship has been defined as "the ability to find a business idea and turn it into reality, or to study and exploit economic opportunities, making education a fundamental element in mastering these processes" [21].

The concept of entrepreneurship has spread significantly in higher education institutions, where it contributes to improving the performance of new projects, supporting economic development, and equipping students with entrepreneurial competencies. This enhances their participation in entrepreneurial activities and the transformation of ideas into projects; therefore, Further research is necessary to comprehend the influence of entrepreneurship on higher education students [22].

The cognitive evolution of entrepreneurship as a notion has broadened to encompass entrepreneurship in higher education. This enhances student and university entrepreneurship in addressing labour market concerns by training youth with skills and knowledge, while promoting innovation and collaboration to resolve issues and establish a sustainable entrepreneurial culture [23].

Entrepreneurship is associated with value generation and the attainment of economic and social advancement. It is predominantly dependent on human capital, cultivated through education and training. The expertise and educational background of entrepreneurs enhance the success of companies and elevate the likelihood of entrepreneurial achievements. Multiple studies affirm a favorable correlation between education and entrepreneurial outcomes, underscoring the significance of investing in entrepreneurship by universities, governments and organizations [24].

University entrepreneurship refers to the integration of entrepreneurial concepts and skills within curricula to prepare students with the ability to transform ideas into scientific projects. It focuses on developing creativity, innovation, adaptation to the labor market, and contribution to the development of various work environments [25]. The concept of entrepreneurship in universities has evolved, where it is now viewed as an important tool for supporting the economy by fostering a culture of business creation and measuring the influence of this education on students' entrepreneurial concepts and competencies [26].

University entrepreneurship integrates entrepreneurial knowledge, skills, and practices within the teaching and learning processes. The goal is to prepare students to establish new projects and innovate, focusing on developing learners' abilities to generate ideas, solve problems, and apply creative thinking, which facilitates economic growth and reduces unemployment [27].

University entrepreneurship significantly contributes to equipping youth to confront the challenges of a progressively intricate global economy, particularly due to globalization and technology advancements that necessitate entrepreneurial skills and innovative ideas for competition. Consequently, the incorporation of an entrepreneurship curriculum in higher education has become essential to equip students with the business acumen necessary to navigate economic fluctuations and capitalize on emerging possibilities [28].

Moreover, entrepreneurship is a skill that can be learned; teaching it increases the chances of establishing projects after graduation compared to those who did not receive this type of education. Entrepreneurship programs help students acquire planning, communication, and self-assessment skills, making them more attractive to the labor market [29]. University entrepreneurship also develops students' knowledge, skills, and attitudes and is strongly linked to the formation of entrepreneurial intentions, which are the best predictor of entrepreneurial behavior. These intentions are linked to personal, environmental, and demographic factors such as education, experience, and gender [30].

University entrepreneurship is currently considered very important in education because many individuals seek to establish their own projects. Furthermore, possessing an entrepreneurial mindset is crucial, as it provides the individual with attitudes, values, and skills that help succeed in managing projects, taking risks, and making bold decisions [31]. Entrepreneurial competency significantly contributes to the advancement of entrepreneurial concepts. The Theory of Planned Behavior is extensively utilised to elucidate entrepreneurial behavior among students. Furthermore, incorporating positive psychological variables facilitates a more profound comprehension of the genesis of entrepreneurial ideas among students [32].

Section Three: Research Methodology

Study Approach

This study used an analytical and descriptive technique to address the research issues and evaluate the validity of its hypotheses, focusing on the causal linkages between business incubators and entrepreneurship.

The study population and its sample size

The researchers has selected the basic random sample method for the University of Tikrit in the Republic of Iraq, since it is a homogeneous community, the researchers selected (351) male and female employees from the total population of (4051) employees of Tikrit University (Sekaran & Bougi, 2010) , which was represented (55%) by the percentage of the recovered questionnaires, and the suitable for statistical analysis have reached (300) resolutions.

Data collection sources

The researchers used two sources to collect data in order to achieve the study's objectives:

Primary sources:

The researchers s will utilise the questionnaire to gather preliminary data for the study, structuring it and organizing its sections to facilitate the measurement of study variables, informed by prior research on the topic and relevant theoretical literature concerning the study variables.

Secondary sources:

Secondary sources will be gathered from books, relevant magazines on the issue, and other articles available on the Internet.

Statistical methods used

A number of statistical methods were used in the SPSS program to analyze the study data. These methods include the following:

- Frequencies and percentages were used to determine the characteristics of the respondents.

- Arithmetic means and standard deviations were used to determine the levels of agreement among the research sample regarding the study variables and their various dimensions.

- Correlation coefficients and regression analyses were used to determine the effect of the independent variable on the dependent variable.

- Cronbach's alpha coefficient was used to ensure the reliability of the research instrument.

Description of the characteristics of the study sample

Table (1) examines the data of the study sample and its distribution based on demographic and functional factors (gender, age, educational qualifications, experience, and frequencies and proportions of job titles among the members of the study sample).

Table (1): Frequencies and Percentages According to the study variables

	Categories	repetition	percentage
Gender	Male	239	97.7
	Female	61	20.3
Age	Under 25 years old	52	17.3
	From25-under 35 years old	149	49.7
	from35-under 45years old	78	26.0
	45 years old and above	21	7.0
Job title	President of the university/ vice president/ assistant of president	3	1.0
	Dean/deputy dean/dean assistance	4	1.3
	Faculty member	14	4.7
	Head of department	16	5.3
	Administrative	263	87.6
Work experience	Less than ten years	47	15.7
	10 to less than 15 years	107	35.6
	15 to less than 20 years	98	32.7
	20 years and above	48	16.0
Educational level	Diploma and less	17	5.7
	Bachelor	195	65.0
	Master	68	22.7
	Doctor	20	6.7
	Total	300	100.0

Source: Statistical Analysis Program (SPSS).

Table (1) indicates that:

The sample comprised (239) males, constituting (79.7%), and (61) females, representing(20.3%).

The highest proportion of individuals in the distribution based on work experience was (35.6%) for those with (10-15) years of experience, while the lowest proportion, at (15.7%), was for individuals with less than 10 years of experience. This may be attributed to the university's focus on retaining highly experienced employees and its recruitment policy.

The educational attainment of bachelor's degree holders constituted the largest distribution percentage at (87.6%), while the lowest percentage was observed for those with a diploma or lower, at (5.7%). This may be due to the university's aim in retaining personnel who possess at least a bachelor's degree .

The educational attainment of a bachelor's degree exhibited the highest distribution percentage at (87.6%), while the lowest proportion was recorded for diploma and lower levels at (5.7%), This may be due to the university's aim in retaining personnel who possess at least a bachelor's degree .

The distribution of individuals by job title indicates that the highest percentage (65.0%) corresponds to the title of "administrative," whereas the lowest percentage (1.0%) pertains to the titles of "university president," "vice president," and "assistant president," potentially reflecting the university's focus. The poll drew more employees than other job titles in the Directorate of Education, indicating that the male participants in the sample outnumber the female participants.

The results of the study questions

The primary inquiry: What is the functional role of business incubators in Iraqi universities?

The arithmetic means and standard deviations of the business incubators' levels (consulting services, administrative and secretarial services, human resource development services, public services) in Iraqi universities were derived. The table below demonstrates this.

Table (2) shows the arithmetic means and standard deviations of the businesses, ranked in descending order based on the arithmetic means.

Table (2)

1	4	Consultancy Services	4.09	.334	high
2	3	Administrative and secretarial Services	3.85	.745	High
3	2	Human Resource Development Services	3.74	.829	High
4	1	General Services	3.61	.578	average
			3.80	.409	high

Source: Statistical Analysis Program (SPSS).

Table (2) indicates that the arithmetic means varied between (3.36) and (4.09). The After Consulting Services ranked highest with a mean of (4.09), while Consulting Services ranked lowest with an average of (3.36). Business Incubators had an overall arithmetic mean of 3.80.

The arithmetic means and standard deviations of the study sample estimations were computed for the paragraphs of each dimension individually, as detailed below:

The first dimension: Consulting Services

Table (3) arithmetic means and standard deviations pertaining to a dimension Consulting services are organized in descending order based on arithmetic means.

Table (3)

Rank	Figure	Paragraph	SAM	Standard Deviation	Level
1	1	The University benefit from its project of the economic and technical feasibility studies	3.54	1.116	average
2	3	The university is subject to counseling in the field of finance and providing financial resources	3.36	1.173	average
3	4	The university benefits from consultations regarding management and documentation	3.35	1.194	average
4	5	The university benefits from specialized technical and scientific advice	3.34	1.370	average
5	2	The university needs social security and insurance	3.19	1.022	average
		Consulting services	3.36	1.087	average

Source: Statistical Analysis Program (SPSS).

Table (3) shows that the arithmetic averages ranged between(3.19 - 3.54), where came Paragraph No. (1) , which states: the University benefits from the its project of the economic and technical feasibility studies " with a mean of (3.54), while paragraph No. (2), which states "the University is subject to consoling in the field of finance and providing financial resources with mean of(3,36) . In the last rank, with a mean of (3.19) , and the mean of the dimension of consulting services as a whole was (3.36).

The researchers may explain this result that the university administration considers the feasibility study as a guide for the investor, and based on the results of the feasibility studies, the investor can see the available opportunities, and compare between them, and show new ideas that deserve more study detailed at the university, and at the end provide a level of safety for their investment of the desired funds.

The second dimension: administrative and secretarial services

Table (4) arithmetic means and standard deviations related to the dimension of administrative and secretarial services arranged in descending order by arithmetic averages

Table (4)

Rank	Figure	Paragraphs	SAM	Standard deviation	level
1	7	The University requires administrative training for its employee	4.14	.873	high
2	8	The University requires to provide the computer services, word processing and text translation	3.86	.658	high
3	9	The University requires photography and printing business	3.66	1.026	average
4	10	The telephone, fax and the internet service included electronic international information networking are available at the University	3.58	1.158	average
5	11	The University requires the procedures of social security and insurance	3.55	1.025	Average
		Administrative and secretarial services			High

Source: Statistical Analysis Program (SPSS).

Table (4) shows that the arithmetic means ranged between (3.34-4.14), where paragraph No. (7), which states that "the university requires administrative training for its employees," came in the highest average (4.14), while paragraph No. (11), which states that "the university requires social security and insurance procedures," came in last place, with an arithmetic mean (3.34), and the arithmetic mean at the end for administrative and secretarial services as a whole was (3.61).

The researchers may explain this result that workers in Iraqi universities do not implement any orders or decisions quickly made by the director , which creates a good organizational climate in Iraqi universities that works to create cooperation among workers and to complete the tasks entrusted to them with the least time and effort.

The third dimension: human resource development services

Table (5) arithmetic means and standard deviations related to the dimension of human resource development services arranged in descending order by arithmetic averages.

Table (5)

Rank	figure	Paragraph	SAM	Standard deviation	Level
1	12	The university has to train its employee to be able to perform their tasks	4.09	.783	High
2	13	The university has to keep up with development of labor and production fields	3.96	1.019	High

3	14	The university has to care about professional health and safety for the employee who work in it	3.84	1.134	High
4	15	Does the institution benefit from the intellectual institutions services such as universities school and studies offices?	3.69	1.221	High
5	16	The university participates in open days through the activities for the diversity and exchange of experiences in outer perimeter of the university.	3.67	1.08	Average
		Human resource development services	3.74	.892	High

Source: Statistical Analysis Program (SPSS).

Table (5) shows that the arithmetic means ranged between (3.47 - 4.09), as it was stated in paragraph No. (12) which states that "the university must train its employees to be able to perform their tasks", with an arithmetic mean of (4.09), while it was stated in paragraph No. (16), which states: " The university participates in open days through the activities available for diversity and exchange of experience in the outer perimeter of the university ", in the last place, with a mean of (3.67) , and the mean of the stimulus dimension as a whole was (3.74).

If the researchers is eager to train his employee continuously, and motivate him to achieve a promotion at work, and earn greater wage than before due to his ability to learn continuously, then the researchers could find this result as the employee would learn the skills and information he needs to compete with others at work in the future, and get a promotion, or earn more, so that he is motivated to work and learn, at an ongoing basis.

The dimension Fourth: public services

Table (6) arithmetic means and standard deviations of a dimension of public services in order of arithmetic average (descending order).

Table (6)

Rank	Figure	Paragraph	SAM	Standard deviation	Level
1	17	The university has a suitable location and the following facilities are available (hardware, software ,IT services, network communication software)	4.11	.781	High
2	18	The university has public relation office and has mechanisms to develop that.	4.03	.805	High
3	19	The university has a reference information library	4.02	.805	High
4	20	The university encounters legal and administrative difficulties due to its establishment and registration	3.92	1.172	High
5	21	The university can receive support from from funding institutions	3.72	1.205	High
		General services	3.85	.745	High

Source: Statistical Analysis Program (SPSS).

Table (6) shows that the arithmetic averages ranged between (3.60 - 4.11), where came paragraph No. (17) , which states that " The university has a suitable location and the following facilities are available (hardware, software ,IT services, network communication software)", and with a mean of (4.11), while paragraph No. (21) was stated that," The university can receive support from funding institutions " In the last rank with an arithmetic average of (3.92) ,

and the arithmetic mean of the creativity dimension as a whole was (3.85). The researchers explains the result that the Iraqi universities administration is working to provide more information about the people dealing with it, and the possibility of referring to it at any time, which contributes tat providing time and effort for people, as they can obtain any information while they are in their homes .

Second: what is the level of entrepreneurship in Iraqi universities ?

Entrepreneurship

The dimensions of entrepreneurship (entrepreneur characteristics, supportive leadership, entrepreneurial culture, policies and procedures) have been used to extract the arithmetic averages and standard deviations of entrepreneurship and the table below shows this.

Table (7) arithmetic means and standard deviations of the employees' performance on each of the dimensions of the study (entrepreneur characteristics, supportive leadership, entrepreneurial culture, policies and procedures) in descending order based on the arithmetic averages.

Table (7)

Rank	Figure	Paragraph	SAM	Standard deviation	Level
1	3	Entrepreneur ‘s characteristics	3.71	.858	High
2	2	Supportive leadership	3.69	.731	High
3	1	entrepreneurial culture	3.39	1.139	average
4	4	Policies and procedures	3.24	1.143	average
		Entrepreneurship	3.62	.555	Average

Source: Statistical Analysis Program (SPSS).

Show Table (7) that arithmetic average may be ranged Between (3.39 - 3.71) , Where came distance entrepreneur’s characteristics in first, the arithmetic average reached (3.71) , while came policies and procedures in last rank and average of arithmetic is reached (3.39), and came the whole dimension at (3.62). researchers explains that the entrepreneur Knows his goals well and works hard to achieve it, Where his wish of Success is higher than average people, so knowing too, that success in the world of businesses is not easy and not as hard too, and these things are relative and depend on his will . And therefore he can overcome the difficulties and obstacles that could face him.

The arithmetic means and standard deviations of the estimates of the study sample members were calculated on the paragraphs of each dimension separately, as they were as follows:

The first dimension: Characteristics of an entrepreneur

Table (8): Arithmetic means and standard deviations of leadership characteristics, ranked in descending order according to the arithmetic mean.

Table (8)

Rank	Figure	Paragraph	SAM	Standard deviation	Level
1	1	The co-worker at the university have friendly relation with each other	3.52	1.225	Average
2	2	The employees of the university trust their ability to turn ideas into action	3.36	1.184	average

3	3	The employee of the university have the ability to discover and invest in new opportunities	3.35	1.370	Average
		Characteristics of entrepreneur	3.39	1.139	Average

Source: Statistical Analysis Program (SPSS).

Table (8) shows that the arithmetic averages ranged between (3.34 - 3.52), where came paragraph No. (1) , which states that " The co-worker at the university have friendly relation with each other ", with a mean of (3.52), while paragraph No. (3) came , which states: " The employee of the university have the ability to discover and invest in new opportunities " . In the last rank, with an arithmetic mean of (3.34) , and the arithmetic mean of the dimension of the entrepreneur's characteristics as a whole was (3.39).

The researchers explains that the employees' effort is translated into the physiology of the worker's body, who does everything that is entrusted to him, so that the manager can provide financial or moral incentives, and the effort exerted can motivate the workers, and this in itself makes him more efficient at work.

The second dimension : supportive leadership Table (9) Arithmetic averages and standard deviations of a dimension Supportive leadership is ranked in descending order by arithmetic mean.

Table (9)

Rank	Figure	Paragraph	SAM	Standard deviation	Level
1	4	The university is characterized by flexibility and rapid response to the changes that occur in the business environment	4.14	.873	High
2	5	The university is working to include entrepreneurship in its strategic plan	3.86	.658	High
3	6	The university embraces the employee with distinguished pioneering ideas to turn their ideas into projects	3.66	1.026	Average
4	7	The university seeks to bring about integration among its components to enhance the principles of initiative in putting forward entrepreneur ideas	3.58	1.158	Average
5	8	The university directs the appropriate scientific knowledge to the leading individuals to invest it in the best way.	3.55	1.025	Average
6	9	The university markets its entrepreneur ideas to the relevant authorities to obtain marketing opportunities	3.54	1.058	Average
		Supportive leadership	3.69	.731	High

Source: Statistical Analysis Program (SPSS).

Table (9) indicates that the arithmetic means varied from 3.53 to 4.14, with Paragraph No. (4), which asserts that "The university is characterized by flexibility and rapid response to changes in the business environment," attaining a mean of 4.14, while Paragraph No. (9) which states, "The university promotes its entrepreneurial concepts to pertinent authorities to secure marketing opportunities," received the lowest rank with an average score of (3.53), while the overall mean of the capacities dimension was (3.69 .(

The researchers delineate the perspectives of the Iraqi university administration toward change and the necessary circumstances for its successful implementation. It necessitates understanding the factors that facilitate successful transitions, the essential messages individuals require, the optimal timing and sources for these communications, the most effective moments for imparting new skills, and the methods for training employees to exhibit new behaviors.

The Third Dimension : Entrepreneurial Culture

Table (10) presents the arithmetic means and standard deviations related to the dimension of entrepreneurial culture, arranged in descending order according to the arithmetic means.

Table (10)

Rank	Figure	Paragraph	SAM	Standard deviation	Level
1	10	The university administration has an entrepreneur culture that help to secure opportunities for innovation and creativity	3.96	1.019	High
2	11	The university focuses to attract individuals with high experienced knowledge	3.84	1.134	High
3	12	The university evaluates its The university focuses to attract individuals with high experienced knowledge entrepreneurial work in a manner commensurate with its performance standards		1.089	Average
4	13	The university provides an entrepreneurial cultural environment that encourage employees to learn entrepreneurial work methods		.771	Average
		Entrepreneurial culture		.858	High

Source: Statistical Analysis Program (SPSS).

Table 10 indicates that the arithmetic means varied from (3.47) to (3.96). Paragraph 10, which asserts that "The university aims to attract individuals with extensive expertise," received a mean score of 3.96. Conversely, paragraph 13 states, "The university fosters an entrepreneurial cultural environment that encourages employees to adopt entrepreneurial work methods." The final rank had a mean of (3.47), whereas the overall mean for the factor of entrepreneurial culture was (3.71).

The researchers explains that the administration of Iraqi universities is interested in the Center of Excellence for Innovation and Entrepreneurship using methodological methods that encourage creativity and innovation in all its programs, as the center seeks to find new methods and a new perception of education and training youth on creativity and innovation, which is consistent with the visions and aspirations for the future in order to build a bright future for the youth of Iraq .

Testing the hypotheses of the study

The main hypothesis (Ho): There is no statistically significant effect at the significance level ($\alpha \leq 0.05$) of business incubators, encompassing dimensions such as consulting services, administrative and secretarial services, human resource development services, and public services, on the promotion of entrepreneurship, which includes dimensions such as entrepreneur characteristics, supportive leadership, entrepreneurial culture, and policies and procedures, within Iraqi universities.

To validate this hypothesis, a multiple regression analysis was conducted to assess the influence of business incubators, encompassing dimensions such as consulting services, administrative and secretarial services, human resource development services, and public services, on the promotion of entrepreneurship, which includes dimensions like entrepreneur characteristics, supportive leadership, entrepreneurial culture, and policies and procedures, within Iraqi universities, as illustrated in the subsequent tables:

Table (11) Regression Analysis of the Effect Business incubators in relation to the various aspects of entrepreneurship

Table (11)

independent variable	Beta	T value	T statistical significance	R link	Explained various R2	F value	Statistical significance F
Consulting services	.065	7.440	.000	.995	.989	5621.791	.000
Administrative and secretarial services	.728	84.474	.000				
Human Resource Development Services	.462	46.857	.000				
General services	.063	7.461	.000				

Source: Statistical Analysis Program (SPSS).

Dependent variable: Business Incubators

Table (11) shows that there is a significant and statistically significant effect at the significance level (α = 0.05) of the impact of business incubators on its dimensions (consulting services, administrative and secretarial services, human resource development services, public services) in promoting entrepreneurship in its dimensions (entrepreneur characteristics, supportive leadership, entrepreneurial culture) policies and procedures) in Iraqi universities .

Where the correlation coefficient R (0.995) and the coefficient of determination of the explained variance R 2 reached (0.989), meaning that business incubators with their dimensions (consulting services, administrative and secretarial services, human resource development services, public services) explained (98.9 %) of the variance ,the incident on entrepreneurship in its dimensions (entrepreneur characteristics, supportive leadership, entrepreneurial culture, policies and procedures) in Iraqi universities.

Which suggests that the null hypothesis is rejected and the alternative hypothesis is accepted (" there is a statistically significant effect at the significance level ($\alpha \leq 0.05$) for business incubators with their dimension (consulting services, administrative and secretarial services, human resource development services, public services) in promoting entrepreneurship. The size of its dimensions (entrepreneur characteristics, supportive leadership, entrepreneurial culture, policy and procedures) at the Iraqi universities.

It also served to address the sub-hypotheses as seen below:

H01-1 : There is no statistically significant effect for Consulting services in promoting entrepreneurship in Iraqi universities .

To validate this hypothesis , simple regression analysis of the effect of consulting services was used In promoting entrepreneurship in Iraqi universities, as shown in the following table:

Table (12): Analysis results regression Simple to measure the impact of consulting services in promoting entrepreneurship in Iraqi universities .

Table (12)

independent variable	correlation coefficient R	Determination Coefficient R2	Standard coefficient		T Value	F value	Statistical function
			β	standard error			
Consulting services	.336	.110	.171	.028	6.151	37.832	.000

Source: Statistical Analysis Program (SPSS).

Dependent variable: Entrepreneurship

The table demonstrates that the percentage of explained variance in entrepreneurship was 11%, signifying that consulting services contributed to this variance. A statistically significant effect of consulting services was also identified. In promoting entrepreneurship in Iraqi universities, the F-value of (37.832) and a statistical significance of (0.000)indicate the rejection of the null hypothesis and the acceptance of the alternative hypothesis, which asserts that there is a statistically significant effect at the significance level ($\alpha \geq 0.05$) for consulting services. The promotion of entrepreneurship at Iraqi universities is driven by the university administration's advantage from the feasibility of economic and technical studies for its projects, enabling it to profit from administrative consulting and documentation.

H01-2 : There is no statistically significant effect for administrative and secretarial services in promoting entrepreneurship in Iraqi universities .

To validate this hypothesis, basic regression analysis was employed to assess the impact of administrative and secretarial services on the promotion of entrepreneurship at Iraqi institutions, as illustrated in the subsequent table:

Table (13) : Analysis results regression Simple to measure the effect Administrative and secretarial services in promoting entrepreneurship in Iraqi universities

Table (13)

independent variable	correlation coefficient R	Determination Coefficient R2	Standard coefficient		T Value	F value	Statistical function
			β	standard error			
Administrative and secretarial services	.929	.862	.892	.021	43.201	1866.369	.000

Source: Statistical Analysis Program (SPSS).

Dependent variable: leading businesses

The aforementioned table indicates that the explained variance is 0.862, pertaining to the administrative and secretarial services. Provide an elucidation for (86.2%) of the variance in entrepreneurship within Iraqi institutions. A statistically significant effect was also identified for administrative and secretarial services. The results demonstrated that the effect of F (1866.369) on promoting entrepreneurship in Iraqi universities is statistically significant at the significance level ($\alpha \leq 0.05$), leading to the rejection of the null hypothesis and acceptance of the alternative hypothesis, which posits that there is a statistically significant effect at the significance level ($\alpha \leq 0.05$) of administrative and secretarial

services in fostering entrepreneurship in Iraqi universities. The university administration considers the positive relationships among employees, thus necessitating administrative training for its workforce.

H01-3 : There is no statistically significant effect for human resource development services in promoting entrepreneurship in Iraqi universities .

To validate this hypothesis, a simple regression analysis was conducted to assess the impact of human resource development services on fostering entrepreneurship at Iraqi institutions, as illustrated in the subsequent table.

Table (14): Results of simple regression analysis to measure the impact of human resource development services in promoting entrepreneurship in Iraqi universities .

Table (14)

independent variable	correlation coefficient R	Determination Coefficient R2	Standard coefficient		T Value	F value	Statistical function
			β	standard error			
Human resource development services	.699	.487	.468	.028	16.871	284.624	.000

Source: Statistical Analysis Program (SPSS).

Dependent variable: Entrepreneurship

The aforementioned table indicates that the explained variance was 487, representing(48.7%) of the variance in entrepreneurship attributed to human resources development services. A statistically significant influence of human resource development services on entrepreneurship in Iraqi universities was identified, as shown by a F value of(284.624).The statistical significance of (0.000) indicates the rejection of the null hypothesis and the acceptance of the alternative hypothesis, which asserts that there is a statistically significant effect at the significance level ($\alpha \leq 0.05$). Human resource development services in fostering entrepreneurship within Iraqi institutions. The researchers suggest that the university administration need training for its personnel to effectively fulfil their responsibilities, and the institution must remain informed about advancements in the sectors of work and production to enhance these human resources.

H01-4 : There is no statistically significant effect for public services in promoting entrepreneurship in Iraqi universities

To validate this hypothesis, a simple regression analysis was conducted to assess the influence of general services on the promotion of entrepreneurship in Iraqi universities, as illustrated in the subsequent table:

Table (15): Results of simple regression analysis to measure the impact of general services in promoting entrepreneurship in Iraqi universities

Table (15)

independent variable	correlation coefficient R	Determination Coefficient R2	Standard coefficient		T Value	F value	Statistical function
			β	standard error			
General services	.460	.209	.343	.038	8.949	80.88	.000

Source: Statistical Analysis Program (SPSS).

Dependent variable: entrepreneurship

The aforementioned table indicates that the explained variance was Public services contributed (20.9%)to the variance in entrepreneurship among Iraqi universities, as illustrated in the table (209). A statistically substantial impact of public services on the promotion of entrepreneurship at Iraqi universities was identified, as evidenced by a F value of(80.088). The results for general services in promoting entrepreneurship in Iraqi universities revealed a statistical significance of (0.000), This helps us reject the null hypothesis and accept the alternative hypothesis, which states: There is a statistically significant effect at the significance level ($\alpha \leq 0.05$) of general services in promoting entrepreneurship in Iraqi universities. The researchers may elucidate this outcome, as the requisite headquarters is accessible for Iraqi universities, equipped with the following resources: hardware, software, IT services, and network communications. Additionally, Iraqi universities have designated personnel for general relations and possess the mechanisms for development.

Conclusions and Recommendations

In this chapter, we review the summary of the findings of the field study after surveying the respondents' opinions regarding (the role of business incubators in promoting entrepreneurship in Iraqi universities) And provide some recommendations and suggestions in the light of the results of the study.

First: Conclusions

The research has yielded the subsequent findings:

1- The sample contained a higher proportion of males than females, attributable to the university's preference for appointing and employing males over females.

2- The age group of 25 to less than 35 years old constituted the biggest percentage of the distribution of individuals based on the age variable. The lowest percentage of the age variable was among individuals aged 45 years and older, potentially reflecting the university's preference in retaining younger personnel.

3- The largest proportion corresponded to the distribution of individuals based on the job title variable (administration), whilst the lowest percentage pertained to the variable (university president/vice president/president assistant), This may be attributed to the university's focus in recruiting administrative employees more than other job titles, indicating that the male representation in the sample exceeds that of females.

4- The study indicated a high prevalence of business incubators in Iraqi universities, corroborating the findings of Wadden Entrance (2020), which reported a significant level of business incubator practices in the development of small and medium enterprises, as evidenced by the reality of institutions in the Valley State.

5- The study indicated that the amount of entrepreneurial practice at Iraqi universities was ordinary, contrasting with the findings of Al-Sawalhi (2020), which reported a high level of entrepreneurship in Palestinian IT enterprises in the Gaza Strip.

6- There exists a statistically significant effect at the(0.05)level of significance for business incubators, encompassing dimensions such as consulting services, administrative and secretarial services, human resource development services, and general services, in fostering entrepreneurship, which includes dimensions like entrepreneurial characteristics, supportive leadership, entrepreneurial culture, and policies and procedures, within Iraqi universities.

Second: Recommendations

In light of the preceding findings, the researchers propose the following recommendations:

It is essential to consider the perspectives of employees in Iraqi institutions by conducting open discussions at all levels.

The Iraqi universities administration must consider staff recommendations and provide rewards accordingly.

The necessity for the administration to engage in discussions with staff to foster entrepreneurship within Iraqi universities.

The administration must emphasis the organization of regular meetings for all employees at Iraqi universities to facilitate dialogue and the exchange of ideas, thereby fostering the generation of innovative concepts that enhance entrepreneurship among staff.

This includes implementing a suggestion and complaints box for university personnel, promoting teamwork, minimising bureaucratic obstacles, and ensuring equitable treatment of employees without bias or discrimination.

Conduct analogous studies regarding business incubators to ascertain their impact on other factors within the education sector or other domains.

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