

## RESEARCH ARTICLE



# The Role of Higher Education Institutions in Offering and Supporting Innovation and Innovation Systems: Facts and Challenges

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### Abstract

The present study attempts, using the descriptive analytical approach, In the study and analysis of the current situation of innovation and entrepreneurship.

To activate the university's innovation system, and ways to strengthen the creativity system at Imam Abdulrahman ben Faisal University, the services provided by the, through general education of services provided by the University Agency for Innovation and Entrepreneurship.

One of the most important findings of the study, weak activation of the university's creativity system represented by the lack of sufficient attention to raise awareness among the faculty and students and to enhance their creative sense, lack of motivational factors to encourage creativity at the university,, and carry out innovative work in all areas of its specializations.

The study therefore recommends more financial and non-financial support and better integration of resources.

To bridge the current gaps in the foster environment and address the innovation and entrepreneurship challenges faced by Imam Abdul Rahman University.

**Key words:** 1.Innovation. 2.invention 3.Creativity. 4.Entrepreneurship

## 1 | INTRODUCTION

What the Saudi University is doing in support of innovation and entrepreneurship, and what the Saudi University's support for innovation and entrepreneurship and what It provides is a fertile structure for creativity and innovation, supports the development of the national economy and enhances investment opportunities in various fields, including digital transformation, digital production, knowledge transfer and human capital development, it contributes to the achievement labour market requirements, it is therefore responsible for advancing research and educational tasks, which in return contribute to the graduation of qualified cadres with competitive, this invention, innova-

tion and development, and the establishment of partnerships and institutional integration.

Despite the positive contribution of these institutions to the development and development processes, this contribution remains below the ambitions and high expectations of societies.

This study seeks to highlight the state of innovation, entrepreneurship, and ways to activate the innovation system, at the University of Imam Abdul Rahman bin Faisal through the general analysis of the services provided by the Agency for University Innovation and Entrepreneurship.

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## 2 | STUDY PROBLEM

In 2008, a centre for entrepreneurship was established at King Saud University, followed by several centres and institutes of entrepreneurship, in most Saudi Universities, then the so-called valleys of technology and innovation were created, to be a link between knowledge production and output of research centres and colleges of the university and the private sector, so that these ideas are crystallized and converted into investment projects to promote a sustainable knowledge-based economy.

It has already been set up many of the innovative technical quality products from within the walls of the university, despite these efforts and this creative output, there are obstacles that prevent reaching the desired goal, among them is the low interest in developing creativity and innovation in Saudi universities, where many suffer problems reflected their impact on the processing of a supportive environment for creativity and innovation.

Despite the positive contribution of these institutions to the development and development process, however, the contribution remains below the ambitions and high expectations of Arab societies. (Haroon, 2010)

Khalid Al Khudair states that Saudi universities have the resources to become a prominent centre for entrepreneurship and the application of the innovation system, but it still needs an integrated plan of action to achieve this and states that what Saudi universities need is not more resources, but a means of collecting them. (Al khudair,2017)

In fact, we have not seen the birth of projects compared to what has been produced from international universities, as the proportion of the contribution of small businesses of gross domestic product (GDP) does not exceed 20% compared to the developed economies achieved by up to 70%.(Al Khudair, 2017)

Despite the successive initiatives supported by the Ministry of Education for the various universities to promote innovation and scientific research, what Saudi universities are doing at the present time is only spreading the culture of entrepreneurship and innovation. But we also need to move strongly to the stages of production and reap the rewards.

If entrepreneurship in Saudi universities is compared with American Universities, for example.

Stanford University, whose income from entrepreneurship matches the economy of the largest developed countries in the world, Since the thirties of the last century until the modern era, it has established more than 39,000 companies, injected more than 5.4 million jobs, and generated annual revenues of more than two trillion.7 dollars.

Examples of an information technology and internet company founded by Stanford that are known globally: Yahoo - Google - Cisco - WhatsApp - Instagram YouTube - Pay pal - Snapchat and others (Aasali 2019)

Of the most prominent obstacles to activate the system of innovation in universities, the absence of private sector financing.

There's a clear distrust from investors and banks of the university's research and innovation output.

That could lead to poor funding of research university output into marketing products.

One reason for success is to think seriously about linking scientific research from colleges and institutes to innovation, turning it into a product, and then marketing it well.

There must be constructive and effective cooperation between the different faculties of the University and the centres for innovation and entrepreneurship, and there must be a material incentive to encourage the teaching staff to produce outstanding research. (Faria,2018)

Finally, universities must be convinced that entrepreneurship is an essential element of the academic process and is complementary and not a substitute for the traditional curriculum.

It must be convinced that entrepreneurship is not a specialty, but rather a practice, culture and way of thinking capable of solving modern societal problems in a creative manner.

We may not need our output to be students with great knowledge, but we need students with great creativity.

In the light of that study, it tried to answer the following questions:

1. What is the importance of innovation and entrepreneurship for sustainable development and the realization of the Kingdom's vision?
2. What is Imam Abdul Rahman Ben Faisal University's effort to promote a culture of creativity and innovation through the University's Agency for Innovation and Entrepreneurship?
3. What are the needs and aspirations of the University's innovation agency beneficiaries?
4. What are the main obstacles to the activation of the University's system of innovation and innovation and proposals for overcoming them?

### **Importance of the study**

The importance of the current study stems from the importance of the topic of innovation and entrepreneurial in making universities a renaissance and a development factor and a key role of economic, social, and national indicators.

Paying attention to human capital is one of the most important assets of investment for countries.

United Nations human capital reports indicate that there is a significant waste of human capacity and capital, equivalent to 38% worldwide, this may seem more urgent in developing countries.

Especially with the promising talented human capacities that are talented and creative because of the absence of development opportunities and empowerment programmes for these specific capabilities.

Therefore, paying attention to promising human capital with talent, creativity, innovation and entrepreneurial that contribute to the development of local and external society is a priority for most countries. (Faisal 2021)

This study is helping decision makers to develop new strategies to further operationalize the University's role in the success and promotion of a culture of creativity and entrepreneurship.

### **3 | OBJECTIVES OF THE STUDY**

This study seeks to highlight the importance of innovation and entrepreneurship and to highlight the active role of Imam Abdul Rahman Ben Faisal University Agency for Innovation and Entrepreneurship

in Saudi Society, and Its contribution to the transformation of creative ideas into innovative products and development projects, and that's through:

1. Highlighting the importance of innovation and entrepreneurship in sustainable development and realizing the Kingdom's vision.
2. Definition of the University Agency for Innovation and Entrepreneurship and general analysis of services and beneficiaries
3. Study and analysis of the status of how to activate the University's innovation system.
4. Study of the needs and aspirations of Agency beneficiaries.
5. Clarification of the most prominent constraints in promoting the University's culture of creativity and entrepreneurship and plans for improvement and development.

### **Study Approach**

The study used the analytical descriptive approach to suit the nature of the study, describe different scientific phenomena and problems, solving problems and questions in the Scientific Research and Data Analysis Department collected through the descriptive approach can give the appropriate explanation and results of that phenomenon.

The approach was also used to highlight the importance of innovation and clarify the role of Imam Abdul Rahman Ben Faisal University in supporting innovation both in terms of available resources and how to use these resources.

### **Study tools**

1. Review of relevant intellectual production: Several sources of knowledge, literature and studies related to innovation and entrepreneurship have been used, reference was also made to the work models and programmes of Imam Abdul Rahman bin Faisal University to promote innovation.
2. The Questionnaire: a questionnaire was prepared and distributed among a sample of 350 university faculty members, with diverse scientific disciplines and beneficiaries of the services of the University's Innovation and Entrepreneurship Agency, to determine the status of the innovation and creativity system at the university and to assess

and know their needs, aspirations and future directions.

### Sample for The Study

A random sample of teaching staff from diverse scientific disciplines and users of the University's Innovation and Entrepreneurship Agency services was selected.

The questionnaire was answered by 350 faculty members who benefited from the services of the University's Innovation and Entrepreneurship Agency.

### limitations of the study

1. Geographical Boundaries: The study was conducted at Imam Abdulrahman bin Faisal University.

2. Substantive Limits: The role of institutions of higher education represented by Imam Abdul Rahman Ben Faisal University in promoting and supporting the system of creativity and innovation within the University.

### Study terminology

1. Innovation: A way to find new solutions to the challenges we face, as defined as any thought or behaviour that leads to something new and is qualitatively different from existing forms. It also notes and generates new ideas through the availability of diverse perspectives and the coordination of actions necessary to implement these ideas and translate them into innovations. (Amgad, 2017).

2. Invention: Every new idea is useful and has industrial applicability, (Al-Masoudy, 2009)

3. Creativity: It is a mental characteristic that enables the individual to think in an unconventional way (Al-Masoudy, 2009)

4. Entrepreneurship: Creative process associated with the organization of a new business, the development of an existing business, the process of establishing a new idea, or the development of an old idea, so that the needs of the targets are met through this idea (Al-Khudair, 2017).

### Previous studies (Arabic)

(Al-Sawy 2020).

Creativity and innovation are an effective pillar of the knowledge economy to improve higher education, scientific research, and benefit from the experiences of developed countries in sustainable development.

The purpose of this study is to highlight the importance of creativity and innovation in institutions of higher education by identifying innovation as one of the key ingredients for achieving excellence and upgrading continuity and sustainability at all levels.

This can be achieved through the involvement of various actors and the provision of an appropriate environment that supports development and stimulates the spirit of innovation and research of all members of the internal environment of institutions of higher education.

The focus of this study was that most of the support for countries with high and modern technologies facilitated scientific research and innovation for all researchers, unlike for developing countries where the rate of innovation in research is lower than in developed countries, so-called developed countries (countries with a knowledge economy)

The questions of this study were how to enable creativity and innovation to contribute to the quality of service to higher education and scientific research using various basic methods and concepts such as innovation, creativity, and quality to achieve a knowledge-based economy for sustainable development.

The study relied on main hypotheses, including that innovation contributes to improving the service of higher education and scientific research by using the best technological methods and making maximum use of the experiences of developed countries due to their dependence on the knowledge economy (Al-Sawy, 2020).

### Abdullah Mohamed Al-Saqer (2012)

The reality of scientific research in Saudi universities and proposals for development.

The purpose of this study is to analyse the reality of practical research in Saudi universities and to highlight and clarify the main challenges facing Saudi universities by reviewing previous studies on this subject.

The study used the analytical desk approach and one of the main findings of this study is:

The reality of scientific research in Saudi universities is that it is slow to progress, that is, it has not yet reached the desired level.

It is also exposed and faces many challenges represented in the lack of spending on scientific research and the weak contribution of the private sector in financing scientific research.

There is also a lack of scientific production of teaching staff compared to other developed countries.

Based on the results of the study, it recommended and emphasized the need to activate the role of community-based partnership in supporting and financing scientific research and to link scientific research to the needs of comprehensive development, also highlight ways or proposals for the development of scientific research in Saudi Universities (Saqr,2012)

#### **Nawal Abbas (2018)**

Investment in creativity through human capital: study of the system of higher education and scientific research in Algeria.

The aim of this study is to study human capital and the role it plays in the production of new and innovative ideas. This study is conducted through the higher education and scientific research sector.

This sector is one of the most important sectors of institutions for building and producing scientific knowledge and achieving creativity, and universities are one of the important institutions in the national system of innovation.

The subject of creativity and innovation is an urgent necessity for business institutions and organizations, that wants excellence, prominence, ability to confront and compete, and to deliver what's new, so growth and prosperity.

Data collected from the site of the Ministry of Higher Education and Scientific Research of Algeria, and time considered 2004 to 2015, The data showed the importance of the human element in producing new ideas and thus leading to creativity and innovation, and the clearest thing about human capital is the sum of human potential that can be used to exploit all economic resources. (Nawal Abbas,2018).

#### **(Mostafa Ashwy 2010)**

#### **Obstacles to creativity for Arab university students Regional Study.**

The purpose of the study was to identify all obstacles to creativity for students in Arab universities. and provide some recommendations to overcome these obstacles by applying the descriptive study based on data collection, using a questionnaire to identify the most important obstacles to creativity in some Arab universities, the following countries will participate in the research and providing some recommendations to overcome them these countries are Algeria - Egypt - Sudan - Yemen - Qatar - Saudi Arabia - Kuwait and Syria.

Proposing solutions to obstacles for the development of creativity in these universities, among the most important findings of the study is:

The average total obstacle to creativity motivation of students participating in research is highest in Saudi universities and lowest in Qatar.

The reason for this rise was to discourage critical thinking and creative activity among students by professors and management in most other universities are involved in this research, to the extent that it makes a qualitative shift in students' minds and behaviour, especially in terms of critical thinking and creative production.

The reduction in these obstacles may be due to the development by Qatar University of periodic review systems to evaluate students' learning output at the University, linking them to student efficiency, such as their ability to produce knowledge, learn and the diversity of measurement and evaluation methods.

The results also showed that Arab undergraduates involved in this research generally suffer from obstacles to creativity, the most serious obstacles to creativity are those related to self-understanding and mission delivery, as well as those related to self-confidence and risk-taking (Aaron ,2010).

#### ***Previous study (English)***

**The study of Marisol C. N. (2017). Fostering Sustainable Development Through Cross-Sector Collaboration in University Innovation Initiatives: A Case Study of the Trent Research & Innovation Park.**

This research explores cross-sectoral collaboration in university innovation initiatives to understand

the current roles of the higher education sector and impacts that constitute innovation initiatives through cross-sectoral collaborative projects, this study focuses on a case study of a project (Trent University Research & Innovation Park (TRIP)).

The following three central issues emerged from the objective analysis conducted through the case study:

1. First case: Roles played by universities in creating a context for successful innovation projects.
2. Second case: Building power as a dominant driver in such projects.
3. Third case: Impacts of collective learning in cross-sectoral collaboration across sectors as an enabling factor for successful innovation projects.

Based on the results of this study, it is said that the opportunities and possibilities offered by cross-sectoral innovation projects for universities, depend on three critical factors.

Based on the results of this study, it is said that the opportunities and possibilities offered by cross-sector innovation projects to universities depend on three critical factors: Local culture - the individuals concerned - and their specialized skills. (Navarrete, 2017)

The study of Chad William Morgan (2020) University Staff. Creativity and Innovation in Higher Education.

The purpose of this procedural research study is to begin to understand how the institution of higher education can support the creativity and innovation of the university's faculty more closely.

This study looked at the impact of the Design Thinking Workshop on university staff's ability to create and innovate, in addition, this study looked at the impact of individual features on staff creativity and the impact of organizational features on staff innovation.

Participants were also recruited from the Department of Educational Outreach and Student Services of Arizona State University in downtown Phoenix, and qualitative and quantitative data were collected using the Innovation and Innovation Survey. (CIS)

The Creative and Innovation Survey was distributed to staff members before and after they took part in

a two-unit workshop on design thinking and interviews were conducted after the workshops.

Staff had a strong belief in their ability to innovate and innovate in the workplace. As the associated analysis of CIS data indicated, there was a positive and important relationship between creativity and individual features, as well as between innovation and organizational features.

Staff also expressed these relationships during interviews, and the topics of cooperation, supervision and resources emerged from interview statements as important influences on staff creativity and innovation.

Although staff expressed value in design thinking workshops during interviews, no significant difference in creativity and innovation was found among staff after participating in the design thinking workshop and the implications of future practice and research were discussed. (Morgan, 2020)

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### **The study of *Cocou Eustache Megnibet (2016) Research and innovation in West Africa: an informetric analysis within the framework of the Triple Helix model.***

This PhD thesis provides a way to make a contribution to innovation in economic growth in general and the knowledge-based economy in particular.

It's based on the three-twisted innovation model and has a geographical framework in 15 West African countries.

Trigonometry is one form of a non-linear model of innovation, which assumes that innovation results from interactions between university, industry, government, and their environment.

It explains and emphasizes the importance of the production of knowledge and its participation in economic growth in other sense and is compatible with the understanding of the knowledge-based economy.

The PhD thesis examines the complex system of the trigonometric model of relations between university, industry, and government from the point of view of

information theory and defines the upper and lower limits of mutual information and opens its normalization under the name of transmission power.

The power of transmission refers to the part of participatory information that is already shared within the innovation system in another sense.

It demonstrates the strength of the exchange of information and knowledge between variables and to study the impact of international cooperation on synergy and the creation and circulation of knowledge in the innovation system.

Three levels of analysis were identified: Local level bringing together innovative actors operating in the country or region under study, Bringing together the foreign level of institutional partners and the global level of integration of innovative domestic and foreign actors.

Assuming that the knowledge that is shared within the innovation system is determined by the Global Transport Force because it integrates the knowledge that has been contributed because of international cooperation, the Global Transmission Force is therefore the indicator that is more suitable for comparison between the two countries. (Megnigbeto, 2016)

**The study of Faria, J. R., Wanke, P. F., Ferreira, J. J., & Mixon Jr, F. G. (2018). Research and innovation in higher education: Empirical evidence from research and patenting in Brazil.**

This study provides a comparison between universities and scientists for the study of innovation and research in higher education.

The study showed that increasing scientists' research affects the competitive and marketing value of universities, the University's incentives to enhance the productivity of scientists play a key role in increasing innovation.

It is also measured in academic publications and citations, which translates into professional success for scientists, the academic productivity of scientists increases the reputation and marketing value of the University.

The study estimates that the number of papers published is growing with external funding for teaching staff with doctorates, in citations, it is related to the existence of graduate programmes and higher quality of education.

However, the assessment of a market is negatively affected by innovation, indicating a lack of focus on patent registration and technology transfer in Brazil. (Faria, 2018)

### ***General comment on previous studies***

During previous studies, there has been a great deal of information about the importance of creativity and innovation in institutions of higher education and the study of innovation and research in higher education.

Analysis of the reality of scientific research, the challenges it faces, the study of human capital, the role it plays in producing new and innovative ideas, knowledge of all obstacles to creativity for students and recommendations for overcoming them, it also collaborates researchers in scientific research and cross-sectoral collaboration in university innovation initiatives and understanding how higher education can support creativity and innovation for university faculty, and provide a way to assess the contribution of research to innovation to economic growth in general and to the knowledge-based economy in particular.

For God's sake, our study will add and explain the role of Imam Abdul Rahman Ben Faisal University in supporting and encouraging the university's system of creativity and innovation.

### ***Innovation and entrepreneurship in sustainable development and the realization of Kingdom Vision 2030.***

Innovation and entrepreneurship are one of the most important pillars of development in any society, States make much effort to promote innovation and entrepreneurship among their citizens.

States have become competitive in achieving advanced positions in innovation and entrepreneurship indicators and, through this interest, seek to strengthen the innovation system and business leadership with different policies, initiatives, activities, events and funding, in order to achieve advanced competition in these indicators, reflecting the cognitive economic mobility of these countries among the different countries of the world, the Global Innovation Index has been established and developed into a valuable benchmark that facilitates public-private dialogue (Mohammad,2016).

Attention to innovation and entrepreneurship is not a luxury, but a fundamental focus of economic and

community development and an engine that has an impact on the working environment, employment, the capital cycle, and the economy in general.

In Saudi Arabia's vision, specifically in 2016, the Government launched Saudi Arabia's Vision 2030 as an economic blueprint for long-term national economic growth.

The foster environment for entrepreneurship in Saudi Arabia is relatively recent. Most support institutions were established between 2011 and 2015. About one third of these support institutions are funding sources.

Saudi business leaders contribute financial and non-financial support to start-ups, where universities, non-profit organizations and economic cities are indirectly financed by the Government of the Custodian of the Two Holy Mosques, partnerships are also being developed with several large institutions to strengthen support for entrepreneurship (Saudi Company for Bold Investment, 2019).

Saudi Arabia's Bold Investment Report indicates that 2019 saw a state of activity in the emerging corporate system, there was also an increase in government initiatives, business accelerator programmes and the total number of investors, making 2019 outstanding in entrepreneurship (Saudi Company for Bold Investment, 2019).

On the other hand, the creative distribution brought about by the Fourth Industrial Revolution represents a unique challenge and opportunity for strong action in the Arab world, requiring new skills in all jobs and new tools to increase the capacity of individuals and human capital, the main driver of the development process.

So, the future needs a strong and flexible innovation strategy and new ways to increase human capital capacities towards the changing nature of action. None of this can be achieved without a strong innovation strategy.

### **Innovation is the most important sustainability factor for organizations**

It is clear from several companies at the world level that they have fallen or ended, because of its failure to innovate, for example, Nokia, the leading mobile phone manufacturer. It failed to detect the growing importance of software and the transition to smart-

phones.

And an example of another company is Kodak, a dedication company that dominated the film market for most of the 20th century.

The failure to catch up with the fourth industrial revolution in digital photography and focus on film success caused the company to fail (Aaslai, 2019).

Recently, interest in promising talent, creativity, innovation, and leadership around the world has increased dramatically and rapidly, for their great role in supporting the various social, economic and development systems.

This category possesses certain special abilities and specific talents that contribute to the development of the local and external community, solve global problems and challenges, and contribute to the development and prosperity of the economy.

There is no doubt that universities have a key role to play in this category as the main source of promising innovative ideas.

In parallel, the use of promising ideas and research to transform them into action plans and projects on the ground has become very clear at all levels and cannot be ignored or postponed.

By providing guidance to ideas and innovations and helping them translate their talents into added value in society to serve society, the nation, and its economy (Sternberg, 2008)

Universities therefore have a key role to play in achieving the programmes and targets of Vision 2030 by aligning their programmes with these objectives.

The University of Imam Abdul Rahman Ben Faisal has expanded since the launch of Vision 2030 to align its vision and programmes of action with the objectives of Vision 2030 and its programmes.

It is within this framework that the universities have sought to create an agency for innovation and entrepreneurship as one of the university's fellows, as well as education, scientific research, and community service.

The University's Agency for Innovation and Entrepreneurship launched Vision 2030, seeking to promote and create a culture of innovation and entrepreneurship, contribute to the knowledge econ-



omy, and support the diversification of the economy through an inclusive system of innovation and entrepreneurship.

### **Current status of innovation and entrepreneurship at Imam Abdul Rahman Ben Faisal University :**

#### **Firstly:**

#### **The overall framework of the University's innovation and entrepreneurship system :**

The scope of the work of the University Agency for Innovation and Entrepreneurship is based on the contents of Saudi Arabia's Vision 2030, as set out in Axis II (Thriving Economy) of Saudi Arabia's Vision 2030. The Agency seeks to develop a set of values and standards that include the work of the Agency.

The Agency benefits from the scope of the Agency's work, its faculty, its continuing students, graduates and talented students in general education schools and the community.

The Agency works to create a creative and innovative environment that supports future-generation entrepreneurs.

#### **Establishment of the Agency :**

The Agency was established by the decision of the Interim Commission to exercise the terms of reference of the Council for Higher Education.

Cancelled at its meetings No. 18 of 10.1.1440 by approving a change in the title of the University Agency for Branch Affairs to "University Agency for Innovation and Entrepreneurship".

Consistent with the Kingdom's Vision 2030 orientation towards building the knowledge economy as a strategic priority to contribute to the development of the national economy, enhance its global competitiveness, diversify its resources, and reduce dependence on oil as a major state resource to contribute to comprehensive and sustainable development (Faisal 2021).

The Agency's primary role is to create a stimulating environment for innovation and entrepreneurship that encourages the development of talent, innovators, and entrepreneurs from the university community.

Support innovation in the educational process, scientific research, community service and promotion of economically scheduled pilot projects for transfer and transformation to contribute to a sustainable knowledge economy.

Many influential nascent companies and technology licences have emerged from the world's leading universities and supported the creation of new jobs in the labour market, through a comprehensive system to reach the economic goal of economic diversification, which includes building a knowledge economy, enhancing competitiveness, diversifying its resources, and reducing dependence on oil as a major resource, supported by Kingdom Vision 2030.

#### **The Agency carries out its activities through four units: (Faisal2021)**

1. Innovation Unit.
2. Entrepreneurship Unit.
3. Patent Unit and technology transfer.
4. Knowledge Exchange Unit.

These units operate in a complementary manner by supporting innovative and innovative ideas and pilot projects based on the implementation of an integrated task force so that the theme of the idea is feasible and economical.

Thus, contributing to the marketing of the project by offering it to support and sponsors both inside and outside the university.

The Agency is also working on targeted studies of creativity, innovation, and the development of creative ideas, while developing measures of recognition for gifted, creative and university innovators.

Contributing to the development of the research expertise of students and faculty through application and research and scientific activities in partnership with the deanships and relevant bodies of the University.

To create a creative educational and training environment within classrooms, labs and other educational attitudes that helps talented and innovative people to serve their environment, region and community.

#### **The Agency is working towards a number of objectives: (Faisal2021)**

1. Developing an innovative educational environment to enhance the University's leadership

role in the knowledge economy.

2.Promoting a culture of creativity, innovation and entrepreneurship in the university and local community.

3.To attract and encourage university talent students, staff, faculty, and community members to promote talent, creativity, innovation and entrepreneur-ship.

4.Develop quality software and training to foster promising capacities and establish a system for investing their capabilities.

5.Studies and scientific research supporting the Univer-sity’s strategy in the areas of talent, innovation, and entrepreneurship.

**Activities and activities of the Agency:**

The Agency for Innovation and Entrepreneurship set up 64 activities, which were established in 2019.12 From 25 October 2019 to 31 December 2019, the most important was the Workshop on How to Start My Project, the workshop was held on 18 November 2019, and in 2020, the effectiveness of these activities was established. One of the most important is the e-Commerce Step, an educational bulletin launched on 26 Feb. 2020. Table 1 shows the target groups associated with innovation and entrepreneurship at the Imam Abdul Rahman Ben Faisal University.

**Table 1. Breakdown of the number of events learned**

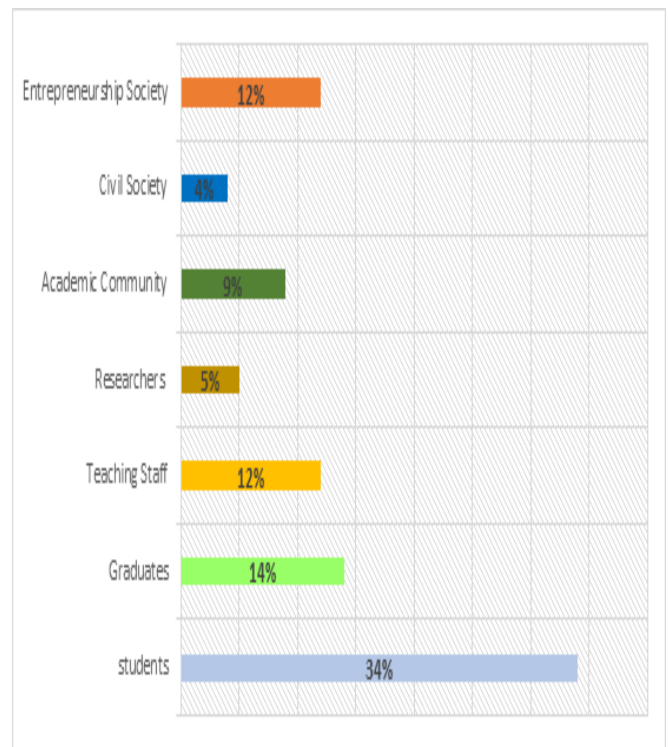
workshops and lectures .	28
Educational Bulletin .	14
Encampment.	4
competition.	2
Meetings.	14
Cultured trips.	2

**Format 1 reviews some of the Innovation Agency’s advertising models**



The following figure illustrates the diversity of target groups associated with innovation and entrepreneur-

**Format 2 Target groups at the university in innovation and entrepreneurship**



As for programmes and services for innovators and pioneers, which included the system of innovation and entrepreneurship in terms of development and implementation, the services were as follows:

Table 2 Programmes and services for university innovators and entrepreneurs.

Encampment.	2%		
Incubators.	4%		
Commercialisation	4%		
Intellectual property protection.	3%		
Communication and cooperation.	9%		
Consulting Services.	10%		
Sources and Funding.	14%		
Activities.	8%		
Accelerators.	10%		
Utilities.	5%		
Research.	11%		
Education and Training.	20%		

Secondly:

**Analysis and presentation of data:**

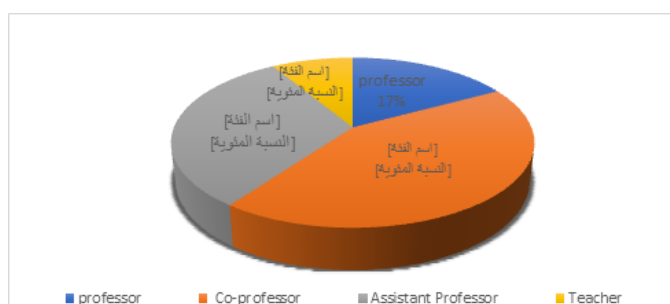
**Measuring the extent to which Imam Abdul Rahman bn Faisal University promotes innovation and supports the innovation system:**

A questionnaire has been created for faculty members at the Faculty of Arts of Imam Abdurrahman Ben Faisal University (Professor-Associate Professor-Assistant Professor-Teacher-Assistant Teacher) , to measure the University’s support for scientific research and to encourage innovation.

A total of 350 university faculty members participated in the response and the questionnaire answered the following questions:

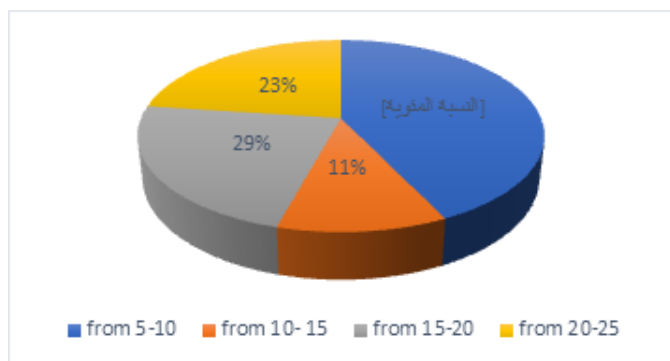
The first question illustrates the degrees of teaching staff.

Figure 3 shows the degree



The second question illustrates the number of years of experience for teaching staff :

Figure 4 years of experience for teaching staff:



The above figure indicates that (42.9%) of the sample had an average

experience of 5-10 years, followed by (29%) from 15 to 20 years, and the lowest (11.4%) from 10-15 years.

Third question: members’ knowledge background on the concept of creativity and innovation:

The format (5) illustrates the knowledge background of members about the concept of creativity and innovation.

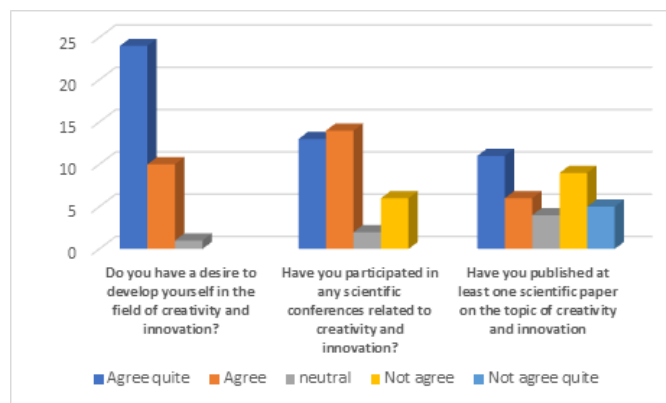


Table (3) illustrates the knowledge background of members about the concept of creativity and innovation.

Totally disagree	Not agree	neutral	agree	Totally agree	Clause
-	-	10	100	240	desire for self-development in the field of entrepreneurship and innovation
-	-	3%	28.5%	68.5%	
-	60	20	140	130	Participation in scientific meeting and awareness programs for creativity and innovation (Workshops, conference , seminars, competitions)
-	17%	6%	40%	37%	
50	90	40	60	110	published of at least one practical paper on innovation and innovation indicates
14%	26%	11%	17%	32%	

From the above table, No. 2 shows that (% 86.5) faculty members agree with

the desire for self-development in the field of entrepreneurship and innovation, (% 28.5) agree, and neutrals are formed (% 2.8).

And that’s a good indication that most faculty members can learn and develop oneself.

The proportion of participants in scientific events and awareness-raising programmes on creativity and

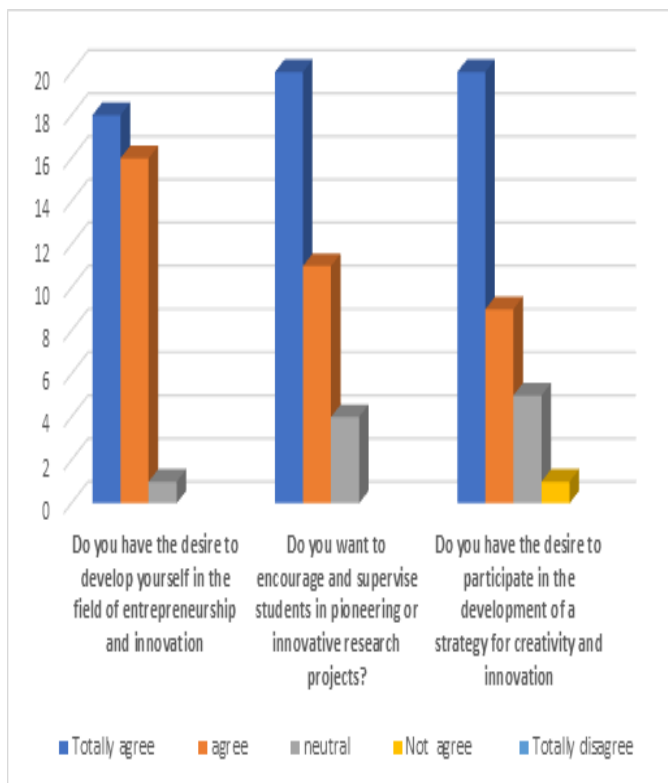
innovation is the majority, (% 40) approved, (% 37) fully approved, while (% 17) disapproved and the neutral minority (% 6) approved.

The proportion of publishers of at least one practical paper on innovation and innovation indicates that (% 32) are fully consenting, representing the majority and the disapproval (% 26) (% 17) are completely disapproving (% 14) and the least neutral (% 11).

From previous findings, it has been explained that most faculty members have a valuable knowledge background in terms of creativity and innovation and seek to develop their creative abilities and potential as it has been shown that they employ this knowledge in scientific and applied research.

The fourth question : Faculty members at the Faculty of Arts tend to embrace concepts and strategies of creativity and innovation :

**Figure 6 illustrates the tendency of faculty members to embrace concepts and strategies of creativity and innovation.**



**Table 4 illustrates the tendency of faculty members to embrace concepts and strategies of creativity and innovation .**

Totally disagree	Not agree	neutral	agree	Totally agree	number	Ratio
-	-	10	160	180	180	51%
-	-	3%	46%	51%	200	57%
-	-	40	110	200	200	57%
-	-	11%	32%	57%	200	57%
-	10	50	90	200	200	57%
-	3%	14%	26%	57%	200	57%

From the above table No. 4, members wishing to develop themselves in the areas of innovation and entrepreneurship (% 51) are fully approved and (% 46) are approved and neutral (% 3) .

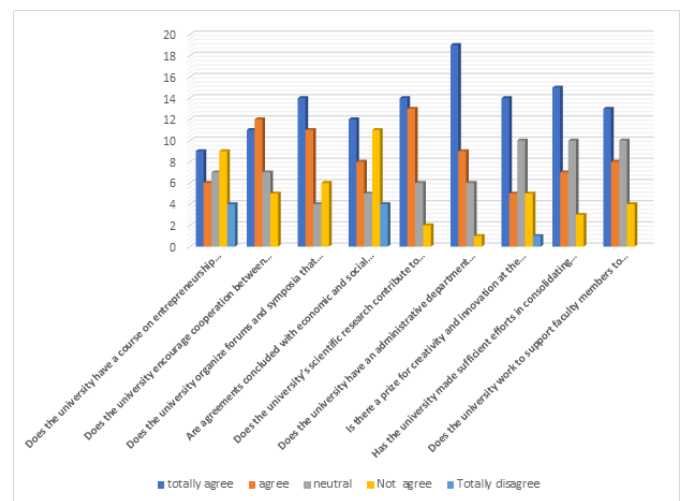
It also shows that the willingness of the faculty members to encourage students with their research projects (% 57) is entirely approved.

And (% 32) they agree and (% 11) they are neutral, and the table reviews the willingness of teaching staff to participate by developing an innovation and creativity strategy.

The proportion of people willing to participate in the strategy was fully approved 57% and approved (% 26), of whom the proportion of neutrals (% 14) and the lower proportion (% 3) was for the disapproving.

Fifth question : The reality of supporting scientific research and innovation at the University :

**Figure 7 Supporting Scientific Research and Innovation at University :**



**Supporting Scientific Research and Innovation at University**

رقم جدول (4)

Table No.5 Reality Support for Scientific Research and Innovation at the University

Totally disagree	Not agree	neutral	agree	Totally agree		
			50	300	number	The university has a course on creativity and innovation leadership
			14%	86%	Ratio	
-	50	70	120	110	number	The university encourages cooperation between researchers and assigns them to joint projects, which creates innovative projects
-	14 %	20%	34 %	32%	Ratio	
-	60	40	110	140	number	The university organizes forums and seminars that contribute to gaining experiences and generating innovative ideas for the researcher
-	17%	11%	32%	40%	Ratio	
-	40	110	80	120	number	The university is based on concluding agreements with economic and social partners that contribute to the application of creative ideas and encourage innovation .
-	11%	32%	23%	34%	Ratio	
-	20	60	130	140	number	The contribution of scientific research at the university to solving the problems of society and improving the quality of the research presented
-	6 %	17 %	37%	40%	Ratio	
-	10	60	90	190	number	The university has an administrative department specialized in organizing and following up the fields of leadership and innovation.
-	3%	17 %	26 %	54%	Ratio	
			100	340	number	There is a special award for creativity and innovation at the university for students or faculty members.
			3 %	97%	Ratio	
-	30	100	70	150	number	The university has made sufficient efforts in consolidating and encouraging scientific research and innovation
-	8 %	29%	20%	43%	Ratio	
-	40	100	80	130	number	The university works to support faculty members to achieve their plans and goals and to appreciate their efforts in an appropriate manner and time
-	11%	29%	23%	37%	Ratio	

From the table above (5), 86% of teaching staff agree that there is no subject of entrepreneurship and innovation at the university.

While there is a percentage (% 14) that states that there are some decisions in the scientific material about creativity and innovation, it is very few and most of them are educational.

The table also reviews the encouragement of UNU to collaborate among researchers and assign them to joint projects, thereby creating innovative projects.

The table shows that the majority (34%) of teaching staff support that the university promotes collaboration among researchers by promoting joint projects, and development of research plans to support interdisciplinary and inter-member collaboration to support scientific research and innovation.

It also reviews the possibility of the University organizing meetings and seminars that contribute to the acquisition of experiences and the generation of innovative ideas for researchers.

The percentage of those who fully agreed was (40%), which is not a large percentage, by increasing the percentage of seminars and conferences, involving researchers, removing obstacles in front of researchers, and facilitating the process of participating in conferences and private seminars.

The table also reviews the possibility of concluding agreements with economic and social partners, which contribute to the application of creative ideas and encourage innovation.

It is clear from the table that the percentage of those who fully agree is (34%), and this weak percentage indicates the importance of the main role of the private sector in supporting the innovation and creativity process in universities and contributing to the transformation of creative ideas into development projects.

The table also shows that the contribution of scientific research at the university to solving community problems and improving the quality of research presented is (40%).

The focus should therefore be on reformulating scientific research into a scientific research and innovation approach and developing a plan that would embrace outstanding scientific research and innovative ideas and turn them into reality in cooperation with investors.

The table also shows the percentage of those who fully agree that there is a special award for creativity and innovation at the university for students or faculty members, and the percentage is (97%).

Considering that the distinguished scientific research award offered by the university is for scientific research that is characterized by creativity and innovation .

Also, about the University's adequate efforts to consolidate and encourage scientific research and innovation, the approved completely was (42%) approved (20%) neutral (29%) disapproved (8%).

We also knew what the university was doing to support faculty members to achieve their plans and goals and to assess their efforts in appropriate manner and

time, the agreed was (37%) completely agreed was (23%) and disagreed was (11.42%).

**Table 6 shows the reality of creativity and innovation (technical and financial support)**

Totally disagree	Not agree	neutral	agree	Totally agree		
-	70	70	120	90	Number	Technical support for research and innovative projects within the university
-	20%	20%	34%	26%	Ratio	
10	60	80	110	90	Number	Financial grants for research, pioneering and innovative projects within the university
3%	17%	23%	31%	26%	Ratio	
10	60	120	90	70	Number	Recommending expenditures for funding promising research and innovation projects for graduates
3%	17%	34%	26%	20%	Ratio	
20	70	80	80	100	Number	Granting prizes and incentives for outstanding pioneering projects
6%	20%	23%	23%	28%	Ratio	

Through the above table No. (5), the reality of technical support for research and innovation projects within the university is well and reasonably available, so that we concluded that through the number of members who fully support or agreed,

So that we inferred this through the number of members who fully support or agree with that, and they are (26%), then agree with (34.28%), neutral (20%) and disagree (26%).

From the above table, 5 the reality of substantive support for research and innovative projects within the University is so well and reasonably available that we have demonstrated this through the number of members who are fully supportive or consenting, or completely agree with that (26%), then agree with (34.28%) and neutral (20%).

Members were also asked about the role of financial grants for innovative research and entrepreneurial projects within the University.

It became clear to us that the opinions are somewhat different, with totally agreed (26%), agreed (31%), neutral (22.85%), disagreed (17%) and not fully agreed (3%).

The ratio confirms that grants for research projects are insufficient at the University and require more support and organization.

The private sector must be involved in financial support and funding for research projects .

The table also reviews the recommendation for funding promising research and innovation projects

for graduates, with fully agreed (20%) and agreed (26%).

We also learned through this table whether there are prizes and incentives for outstanding pioneering projects. The percentage of those who fully agreed was (28%) and those who agreed was (23%).

It is clear to us from the previous table that the technical support and material funding provided by the university is weak to support research and innovative projects .

Therefore, the study recommends focusing on investors in the eastern province so that they can be used as investors to support these entrepreneurial projects.

Especially about patents, promising ideas and outstanding research can be used to transform them into business plans and projects that are applied on the ground.

**The study addressed the most prominent challenges and opportunities for innovation. The challenges for innovation and entrepreneurship were summarized as follows:**

1. One of the greatest constraints cited by faculty members is the lack of an adequate budget to support scientific research and innovative projects, his causes the inability to enable scientific research within the university.
2. This is followed by the discouraging of research and seminars on innovation at the University, this obstacle indicates a lack of interest in the field of innovation within the university, which causes a lack of opportunities for creativity and innovation.
3. The faculty members stated that it is necessary to activate the role of the Leadership and Creativity Centre more in the university and define its role for members, by attracting the largest number of innovative researchers
4. Finally, faculty members pointed out that increasing the managerial work of university members reduces opportunities for creativity and innovation, because administrative work takes up a large proportion of their time, there is no room to engage in creative and innovative work within the University.

**The study highlighted the challenges and opportunities for innovation both within and outside the University. The challenges for innovation and entrepreneurship within the University are summarized as follows:**

**Challenges to innovation and creativity within the University:**

- 1.Unclear regulations and policies
- 2.The Difficulty of Detecting Talented People
- 3.The psychological barrier between students, teachers and administrators.
- 4.Encouraging university employees.
- 5.Time constraints and lack of human resources

**As for the challenges and obstacles facing innovation and creativity outside the university, they were as follows:**

- 1.Difficulty of communicating with others
- 2.Difficulty in conducting government transactions.
- 3.Knowledge of opportunities and challenges in the labour market.
- 4.Lack of material and moral support from business and corporations.

**Regarding opportunities to activate innovation and entrepreneurship within the University from the point of view of teaching staff, they were as follows:**

- 1.Enhancing knowledge: Through training workshops and seminars for students, researchers, and faculty members.
- 2.Development: To develop the creativity and creativity of faculty members and researchers, which will provide them with moral motivation, appreciation of their efforts and enhancement of their skills.
- 3.Empowerment: solidifying efforts to empower the University's creative thinking and innovation talent.
- 4.Facilitation: by reducing the administrative workload on the University members, which in turn contributes to increased opportunities for creativity and innovation.
- 5.Reward: An award for innovation, creativity and patent must be legalized.

**In the light of the Agency's vision and in pursuit of its mission: The study looked at the programmes and services that the university's employees hoped the Agency would offer them. The answer was as follows:**

- 1.Raising awareness: Promoting a culture of innovation, entrepreneurship, and creativity.
- 2.Encouragement : Promotion of innovation, excellence, and entrepreneurship
- 3.Support: Supporting, entrepreneurial ideas, innovation, talent, and creativity
- 4.Sponsorship: Fostering promising and distinguished talent.
- 5.Excellence: Excellence in innovation and entrepreneurship to support the knowledge economy system.
- 6.Polarizing: Polarizing the skills and quality of teaching staff and students with the idea, importance and plans of the Agency.
- 7.Development and keeping pace with the requirements of the times
- 8.A platform : a platform for collecting university talent and skills
- 9.Modernization of university education: introduction of supportive disciplines for the labour market.

**Findings of the study:**

The foster environment for entrepreneurship at Imam Abdulrahman Ben Faisal University is still relatively recent and needs more financial and non-financial support and better integration of resources, to fill the current gaps in the foster environment and to address the University's innovation and entrepreneurship challenges.

**The study concluded with some results, which are as follows:**

- 1.A large proportion of the faculty members at Imam Mohammed bin Faisal University, 86%, have a desire for self-development in the field of entrepreneurship and innovation to ensure that they reach the ceiling of their aspirations and their wishes.
- 2.There's not enough interest in raising awareness among faculty members and students and promoting their creative sense.
- 3.Lack of motivational factors to encourage university creativity and innovative processes in all areas of its disciplines.
- 4.The many tasks and burdens of teaching staff and their preoccupation with administrative work that affect their innovation processes.
- 5.The lack of interest of investors in the intellectual production of the University poses a threat to the development of research and intellectual products.
- 6.Not providing prizes or incentives for outstanding entrepreneurial projects that might encourage

students to reveal their immersed creative talents.  
7. There is no strategic plan that includes teaching the Entrepreneurship and Innovation course, as it ensures the development of the skills necessary to establish entrepreneurial and innovative projects.

8. There is no strategic plan that includes teaching the Entrepreneurship and Innovation course, as it ensures the development of the skills necessary to establish entrepreneurial and innovative projects.

9. There is reliance on a few partners to collaborate in innovation and scientific research at the University, although these are unsustainable partnerships.

10. The absence of regulations and policies supporting innovation and entrepreneurship at the University.

11. There is a need for communication between faculty members, students, and administrators, which in turn will enable them to break the psychological barrier.

#### **Recommendations :**

1. the need for financial support and the importance of motivational environments.

2. The importance of having full-time teaching staff to follow up, support and encourage student research projects.

3. The need for better integration of resources to fill the current gaps in the University's entrepreneurial environment.

4. Encourage innovation in teaching to promote creativity.

5. Opening to backers to follow up on faculty members' need for innovative research. 6. Engage with the needs of the labour market and select projects that can be implemented on the ground.

7. Participation, collaboration, and knowledge exchange with world-renowned universities in innovation and scientific research.

8. Publicize the efforts of the Innovation and Entrepreneurship Agency and disseminate its services through marketing.

9. Reduce administrative work on teaching staff to allow them time to participate in innovative projects.

10. Problems and obstacles are felt through effective meetings with the beneficiaries and supporters of the university.

11. Creators' Rights and Protection of Innovative Enterprises

12. Use existing expertise at the University and abroad to achieve high degrees of entrepreneurship innovation application.

13. Open the way for research professors to meet and engage with fellow Professors at the global level through scientific conferences and activities.

14. Granting awards and privileges to leading entrepreneurs within the University.

#### **4 | REFERENCES**

A., Collins, L. & Hannon Smith. (2006). Embedding a new entrepreneurship Programs in UK higher education institution. Challenges and considerations. *Education + Training* ) V. 48, N.8/9) Pp.555- 567

Aaslai, K. (2019). 50 Examples of corporation that failed to innovate. Retrieved Retrieved 29 September 2021, from <https://www.valuer.ai/blog/50-examples-of-corporations-that-failed-to-innovate-and-missed-their-chance>

Abbas, N. (2018). Investing in creativity through human capital: A study of the higher education and scientific research system in Algeria. *economic notebooks magazine*, pp. 574-576.

Al-Khudair, A. T. (2017). , *the reality of the incubator environment for entrepreneurship in the Kingdom of Saudi Arabia*. Retrieved 9 17, 2021, from Ocean: <https://almoheet.net>

Al-Masudi. (2009). *What is the difference between creativity and invention*. Retrieved 3,6,2021 from Al Masoudi's blog: <https://almsaodi.com/?p=55>

Al-Saqer, A. M. (2012). The reality of scientific research in Saudi universities and proposals for development. *Journal of the College of Education in Suez*, pp. 2-3.

El-Sawy, L. A. (2020). Creativity and innovation are an effective pillar in the knowledge economy to improve higher education and scientific research and benefit from the experiences of developed countries in sustainable development. *The Arab Journal of Literature and Human Studies*,(vol.4 p.13), pp. 385-388.

Faria, J. R. (2018). Research and innovation in higher education: Empirical evidence from research and patenting in Brazil. *Scientometrics*(116(1), pp. 487- 504.



Haroun, M. M. (2010). Obstacles to creativity among Arab university students: a regional study. *Psychological studies*(vol.20 P.4), pp. 557- 603.

Megnigbeto, C. E. (2016). *Research and innovation in West Africa: An informetric analysis within the framework of the Triple Helix model*. ProQuest Dissertations Publishing Universiteit Antwerpen. Retrieved from <https://search-proquest-com.library.iau.e>

Morgan, C. W. (2020). *University Staff; Creativity and Innovation in Higher Education*. ProQuest Dissertations Publishing. Arizona State University. Retrieved from : <https://search-proquest-com.library.iau.edu.sa/docview/2408524391/fulltextPDF/E84B9DAA7B>

Navarrete, M. C. (2017). *Fostering Sustainable Development Through Cross-Sector Collaboration in University Innovation Initiatives: A Case Study of the Trent Research & Innovation Park*. ProQuest Dissertations Publishing. Trent University. Retrieved from <https://search-proquest-com.library.iau.edu.sa/docview/>

Nevin Hussein Mohamed . (2016) . *The role of continuous innovation and creativity in ensuring the competitive position of economic institutions and*

*countries: a case study of the UAE* . The Ministry of Economy . Planning and decision support department .

Qasim, A. (2017). *Scientific and educational horizons*. Retrieved 1 25, 2021, from definition of innovation, its importance, types, and organizations' need for it: <http://al3loom.com>

Saudi Venture Investment Compan. (2019) .(*Saudi Arabia Venture Investment Report: MAGNiTT* . Retrieved from <https://magnitt.com/research/2019-saudi-arabia-venture-capital-snapshot-ar-50684>

Sternberg, J. (2008). The Nature of Creativity. *Creativity Research Journal*(Vol. 18 , No.1), pp. pp 87-98.

University, I. A. (2021). *Comprehensive report of the Agency for Innovation and Entrepreneurship*. Damm: Dammam University.

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