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The Reality of Partnership between Private-sector Institutions and Yemeni Universities: Challenges and Demands

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Abstract:

The research aims to define the nature of the relationship between the private sector and public universities in the Republic of Yemen. It intends to identify the most prominent challenges and obstacles, display successful experiences of universities' relations with the private sector in some countries, and suggest effective means to achieve partnership between universities and the private sector in the Republic of Yemen, in light of the findings of this study.

This research adopted the descriptive approach through collecting information from different researches, studies, reports, published books and examining some successful experiences in the relations between universities and the private sector. This research reveals some important findings and highlights some important recommendations and suggestions.

Keywords: *Sponsored research, contract-based research, consulting services, cooperative education, partnership*

1. Introduction

Since the early 1980s, advanced technology centers known as Centers of Excellence have been established and Business Incubators for technology have been founded in order to create channels to link the private sector with universities through scientific research. Another objective was to create cooperation between scientific research at universities and productive institutions through the establishment of several joint research centers between university professors and industry members in society, as scientific research forms an important element in the life of educational institutions. Germany, Britain and the United States considered have given priority research and later the American Academic Revolution was launched, which considered research as one of the most frequently used standards for the assessment of a faculty member at American universities. This can be realized through two ways: research projects that he/she can attract to the university would increase the university's abilities and income, and improving his/her teaching ability. Big budgets are allocated to achieve that, believing in the importance of scientific research (Perkmann & Walsh, 2007) For example, Singapore's education budget was 7 billion SGD in 2006, and it increased in 2007 to 7.5 billion, equivalent to 2.15% of the entire state budget. As a result, education in Singapore has reached an advanced status, and Singaporean students were awarded the TIMSS Mathematics and Science Award for 1995, 1999 and 2003. Moreover, since 1990, Singapore has sought to attract reputable foreign institutes by establishing training centers for them in Singapore to upgrade their educational level and to become an international beacon of science, attracting students. Education in Singapore is one of the best in Asia, and even worldwide. Furthermore, Singapore has four national universities, and these achievements have had a profound impact on many other countries which were inspired change.

The United States was the first to emulate Singapore and began to revise its educational curricula, teaching methods, and educational policy, and to train teachers well. As a result, the findings of the studies applied to 11 industrial sectors found that the new products that were produced by scientific research have contributed to an increase in sales by 80% and in profits by 30%. Moreover, some specialized studies in business administration have shown that the companies interested in scientific research can succeed in offering new products and can remain competitive in the market. On the contrary, companies that do not have departments for research and development and do not practice scientific research cannot provide products that are compatible with the requirements of change concerning the needs of the customer.

The Japanese experience regarding the partnership between the private sector and universities is successful. The value of research requested by private sector institutions from Japanese universities increased from \$502 million in the early 1990s to about \$3.5 billion until the end of 2001. The value of these research works reached more than \$ 10 billion by the end of 2010. Besides, the number of cooperative research centers between the private sector and universities grew from about 23 centers in the early 1990s to about 62 centers until the end of 2001. The number of centers is expected to reach approximately one hundred in 2010.

Another experience is SABIC company which has been one of the world's leading companies in fertilizer, chemical, polymers, and metals industries. It supplies the materials to other companies that use such products on which the world depends. SABIC Research and Technology Complex was established in 1991 and has played a significant and effective role in activating the frameworks of this cooperation through deeper understanding the requirements of research and development and fruitful interaction with researchers and research agencies in universities. SABIC company has

supported universities through several programs, including research grants and grants for scientific conferences and study scholarships. It also offers SABIC Award for Best Graduation Project in Chemical Engineering. Besides, it contributes to building and equipping laboratories in universities and research centers, making comprehensive agreements, consultancy services and specific contracts.

There are more than 100 (one hundred) existing and supported projects annually. Therefore, SABIC has become the largest profitable public joint stock company in the Middle East. This success was achieved by focusing on two things:

- Contributing to local participations.
- Applying the best technologies and programs.

This is confirmed by (Hana Mahmud Hamed, Jorj Isehag Haneen, Atef Saeed Shbanah, & Al-Sayed, 2016).

The progress made by these advanced countries and led to their scientific excellence was not due to their natural or agricultural wealth or their numerical superiority, but due to their scientific and technological progress. The source of this progress is the scientific research, contributing to supporting scientific research and applying university technologies and programs.

However, this research aims to answer the following research questions:

- How to benefit from the successful experiences of some countries in this field?
- What is the nature and form of relationship between Yemeni universities and private sector institutions?
- What are the most prominent obstacles or challenges to strengthening the relationship between Yemeni universities and the private sector?
- How to activate and strengthen the partnership and cooperation between Yemeni universities and private sector institutions?

2. Types of Relations between Universities and Private Sector

According to international experiences, there are several forms of partnership between universities and the private sector; the most prominent ones are as follows:

2.1. Sponsored Research

In such research works, the private sector institutions sponsor scientific research to solve specific problems for their benefit or for the benefit of society.

2.2. Contract-based Research

These are research works that serve private goals and benefits of private sector institutions; as they seek to make partnership with universities in carrying out research in specific activities and fields.

2.3. Consulting Services

Here, some members of the teaching staff are deputed to work as part-time experts or consultants in institutions in a manner that does not conflict with the progress of the educational process. The scientific and technical capabilities available in universities, such as laboratories and research databases are offered for use to meet the needs of the institutions within some specific frameworks and formulas of cooperation.

2.4. Solidarity

In this type of partnership, a number of institutions stand in solidarity to support a scientific research that addresses a technical issue for the common interest of this group of institutions; and they sponsor the research that is entrusted to a university to implement.

2.5. License

Under this type of partnership, the private sector obtains a commercial right to the intellectual property that belongs to the university in exchange for license fees or a proportion of sales after the institution converts the idea or invention into a new product.

2.6. Establishing Companies

This type of partnership often happens when the element of risk increases for investors, especially when the technology resulting from the research is in its early stages. Subsequently, the university enters as a partner with the investors in establishing companies to carry out the research.

2.7. Cooperative Education

Economic enterprises cooperate with universities in the implementation of educational curricula by training students on the requirements for working in enterprises; where university students exchange periods of work and periods of study according to an organized program. This field offers an opportunity for students to experience the work environment; it also allows employers to nominate some of these students to work for them after graduation.

Consultation is one of the most common forms of relations between universities and the private sector. It is done through establishing consulting contracts between universities and industrial companies on specific research fields in exchange for agreed fees between consulting centers in universities and industrial companies. The informal nature of consulting is done individually between researchers in universities and industrial companies, which specify the type of

experiences and consultations required. The consultation requests are referred to specialists in the university consulting centers to be carried out in exchange for a specific fee. The purpose is to transfer knowledge from university departments and laboratories to the practical application in the private sector (Dasher, 2003). Moreover, universities grant licenses for industrial companies for the right to use the patents and intellectual property generated in universities to achieve creativity and produce new products. We find that large companies and institutions abroad monitor researchers during their work, make contracts with them and sponsor their research and provide them with everything they need. This is because the companies are the beneficiaries of the research later. This is what the Arab League mechanism (2014) indicated, that USA, Canada and Britain receive 75% of Arab immigrants. On the contrary, the Arab world loses \$ 200 billion due to brain drain. Besides, 100 thousand of scientists, engineers, doctors and experts migrate per year from eight Arab countries. Furthermore, 31% of the competencies and minds who migrate from developing countries are Arabs. 50% doctors, 23% engineers and 15% scientists migrate from all Arab competencies to Europe, USA, and Canada.

3. Link of University Education in Yemen to Labor Market

There is a close relationship between the achievement of higher education institutions' goals, i.e., scientific research, and providing the community with human competencies and community service. The achievement of these goals is reflected on the labor market in a way that contributes to the development of the labor market through the available qualified university human capabilities (Habib, 2007). (Al-Hadram, 1999; Taher Aisa Al-Reifai & Al-Shibani, 1999) also agreed, as their studies confirmed, that university education in Yemen is still based on personal or individual efforts, devoid of any clear philosophy or general features of goals and strategy to be achieved (Al-Hadram, 1999; Al-Sherai, 2000; Taher Aisa Al-Reifai & Al-Shibani, 1999). Yemeni universities are still lagging behind in their traditional role, with limited interest in applied and technological research that guarantees partnership with the private sector in its various institutions. This is revealed by the results of the process of analyzing the internal environment of higher education in Yemen, including weakness of educational programs, repetition of the same programs. Besides, there is a large number of complaints about this in most Yemeni universities, including the following: most of the current educational programs and curricula are without specific goals; and most of the courses and their contents are not based on the goals of educational programs. This is what Al-Aidaros confirmed, stating that the absence of the employment agencies opinion (public and private sectors) and that the failure to keep pace with the technological knowledge explosion facing the educational process in its various branches are due to the traditional typical patterns in the current study plans (Al-Aidaros, 2004). Al-Mu'afah (Al-Muaafah, 2003) emphasized that teaching methods, educational aids, theoretical lectures, practical lessons and field training do not serve the goals of private sectors. Universities seek, through their cooperation with private sector institutions, to obtain financial support that helps universities in developing their performance. Likewise, the private sector wants to improve its products and services as well as reinforce its competitive position in the market after these institutions had realized that the outputs of many higher education institutions do not rise to the level of their current and future aspirations and requirements of research, consultations and human resources. The university at present is required to confront a large number of requirements and changes. Riyadh Chamber of Commerce and Industry (Industry, 2010) as well as the study of (Mukred, 2010) indicate that there is cooperation and partnership between universities and the private sector and as a result, there are benefits and gains for universities, the most important of which are as follows:

- Developing new funding sources for universities to enable them to activate their academic performance through the contribution of the private sector in financing scientific research, equipment and construction in universities.
- Providing scientific training for university students in business organizations to increase their chance of joining the labor market after graduation.
- Employing university research to serve the private sector will help to improve production and develop new products needed by the local and external market, as the field of applied research based on technology is considered one of the most important aspects of cooperation between universities and business organizations. Likewise, research on employees' behavior or administrative, financing or marketing problems will be of vital importance.

4. The Relationship between Universities Scientific Research and the Private Sector in Yemen

The research function of higher education institutions, especially universities, is to study issues and problems facing society and work to detect these problems. In addition, the scientific research plays a role in other academic respects, which contribute to achieving the objectives of universities.

In view of this role, it is obvious that our universities and institutes do not consider their mission towards scientific research in general; nor do they care to link it to the labor market. In this respect, it is well noticed that there are deficiencies in the interactions with the local environment through the nature of scientific research, if any. The research works often do not meet the needs of the local community and the needs of the marketplace except for only a limited percentage. Moreover, there is a lack of expenditure on scientific research, a lack of researchers mainly and a lack of access to appropriate conditions and requirements for a successful scientific research.

If we arguably assume that there are some research works conducted in association with community issues, a few of which are taken into effect and the rest remain kept on shelves and offices. This is mainly due to the lack of a policy that links higher education institutions with their research centers and other community institutions. In fact, each one works separately.

Scientific research is one of the most important factors through which university can assist the private sector in developing its performance, improving the work environment and achieving competitiveness. The scientific research activity represents a group of activities that adopt knowledge, experiences and ideas as inputs. Their outputs or findings

represent a new knowledge, an expansion to the existing knowledge, or a development of a specific product. Hence, the use of scientific research in private establishments, supported with material and human resources, will have positive responses. This includes developing and improving existing products and services; creating new products and services; using better technologies that lead to tangible development in the establishment's economic efficiency; rationalizing production costs; reducing waste from production processes; reducing stock and stagnant goods; enhancing the competitiveness of enterprises; and overcoming the problems faced by them in any stage of operational and marketing processes.

The Yemeni Universities Law stipulated special objectives for scientific research. However, Yemeni universities lack a clear policy in the field of scientific research from which plans are derived. The issuance of the National Vision for the year 2020 was not implemented due to the Coalition aggression and the blockade imposed on Yemen, which represent major obstacles for the implementation of all aspirations of the National Vision for Building the Modern State, which indicated:

- Creating an integrated national system of scientific research and technology.
- Supporting and encouraging scientific research by raising the share of scientific research from the national gross income and creating funds for scientific research support.
- Providing and developing specialized infrastructure for scientific research.
- Bridging the gap between the outputs of scientific research institutions and development.

Despite the conducted studies and researches and the issuance of the National Vision 2020 recently, the relationship between scientific research in Yemen and the productive institutions is weak and unclear. This is because the development of higher education in Yemen is based on a traditional policy that has made higher education a source to equip graduates with university degrees only to which labor market does not respond. Therefore, such agency will be unable to accommodate the increasing numbers of Bachelors, Masters, and PhD degrees holders, especially those who do not have practical qualifications required by the sustainable development needs in light of a new policy directed towards the market economy. This is due to the inconsistency between university outcomes and the requirements of the labor market. It is also due to the nature of the educational system based on the instructive deductive education methodology, which is full of theoretical information and lacks knowledge and applied skills. Consequently, the graduates' education is directed towards the public sector employment that provides job stability and guaranteed retirement away from creativity and innovation.

Accordingly, we find that the private sector in Yemen is facing a set of challenges. This entails development and modernization in its performance in order to be able to face them, and to continue its role efficiently. The most important challenge is the lack of clarity in the strategic path. Besides, the importance of the economic path lies in adopting a comprehensive treatment while integrating the elements of this treatment by setting national development plans and taking into account the importance of the public-private sectors partnership and complementarity. Hence, such plans should aim at increasing the ability and capacity of the system, directing the results towards the market and enhancing the demand for them.

The absence of national strategies that enhance the role of sciences in the field of sustainable development, within the context of recent developments, is another significant challenge that should be taken into consideration. There is absence of national authorities that should set scientific research policies in addition to the weakness of laws, legislations, systems and regulations in the field of scientific cooperation.

We know that Yemen follows the free economy policy that allows entry of all foreign products to its markets. This makes the national products in a competitive confrontation with foreign products. Therefore, it is imperative to encourage scientific research with a view to support the private sectors in achieving a high degree of quality, which makes the national products in a competitive confrontation with these imports. This would provide the national products with opportunities to withstand and compete strongly with foreign products. Here comes the role of scientific research in universities where scientific research can develop and improve their endogenous technical capabilities. In addition, scientific researches should be implemented to support industrial institutions and companies for achieving a high degree of quality, allowing the national products the opportunity for withstanding and competing strongly with foreign products.

Moreover, the results of the researches conducted in universities are rarely taken into account due to the lack of a policy that links higher education institutions and their research centers with other community institutions, as each sector works separately.

In order for an effective partnership between the private sector and universities to exist, it must be based on market and commercial rules and standards, away from theorizing and academic practices that the private sector is not satisfied with, which is controlled by profit criteria. The more the universities are capable of converting scientific research into applied practices that serve the profitability objectives of the private sector organizations, the more these organizations become highly inclined to establish true bonds of beneficial partnership away from the compliments or prestige, which may be tolerated by the private sector sometimes, but not always.

5. The Private Sector's Need for Scientific Research Activities

Scientific research is one of the important qualities and features of higher education institutions in every society. A nation's or peoples' development and progress are measured by the size of support they provide for scientific research, owing to the positive return that higher education institutions and society received through the scientific research efforts. The progress made by many advanced countries leading to their scientific excellence was not because of their natural,

agricultural wealth or their numerical superiority; rather, it was made by means of their scientific and technical progress generated by scientific research.

6. Barriers to Partnership between the Private Sector and Yemeni Universities

Businessmen believe that the Yemeni universities are not qualified to discuss the problems that concern the business sector in all of its branches and institutions, and that the job of these universities is just teaching. They also consider that the universities tend to focus on selecting more qualified faculty members than focusing on preparing outputs who can meet the requirements of the labor market. Private institutions continue to draw on the foreign experience due to the lack of stable channels of communication through which coordination and cooperation with other universities can be established. In addition, there is a general absence of mechanisms to commercialize the university scientific research transferring them from a conception to the stage of production and application and obtaining the required returns.

The cooperation between the private sector and the universities faces many obstacles, which can be summed up as follows:

- General Obstacles.
- Obstacles related to the private sector.
- Obstacles related to the universities.

6.1. General Obstacles

The absence of stable and definite communication channels through which coordination and cooperation between both private sector establishments and university research centers can be established. The high cost of research preparation and the materials and machinery it requires.

6.2. Obstacles Related to the Universities

- The universities tend to focus more on the educational aspects more than the society's problems, and give priority to the educational process over the graduates training process.
- The slow development process of programs and curricula adopted by the universities in their faculties.
- Aging of the curricula and programs adopted by the universities.
- The difficulty of developing or modifying the faculties established by the universities with a view to meet the requirements of the labor market.
- The universities isolationism in developing their faculties and programs, and their little consideration for monitoring the changes and developments in the private sector.
- The universities focus on attracting more qualified faculty members than their focus on attracting experts and consultants who are able to transform researches and theoretical studies into an applied reality, from which private sector establishments may benefit.
- Researchers in the universities and research centers focus on conducting basic research with the purpose of getting promotion, but not with the view of serving the private sector.
- Faculty members are preoccupied with the tasks of teaching students, allocating a low percentage of about 5% of the workload for research activities
- The difficulty of obtaining the data and information required for research purposes from many private sector institutions, as they are deemed confidential information related to the conditions of the private sectors that shall not be disclosed.

6.3. Obstacles Related to the Private Sector

- The negative impressions among many private sector establishments that the universities are relatively uninterested in the scientific research that they require.
- The interest of the business sector in short-term studies and researches that accomplish either a real-time solution to technical problems facing its institutions, or a simple modification of the technical aspect used. They do not have any interest in conducting long-term researches that would result in patents or new scientific creations and innovations, which can be utilized in the productive fields.
- The private sector's lack of awareness and appreciation of the benefits that will be accrued as a result of expenditure on research and development activities.
- Reliance on external knowledge and techniques, thus undermining the incentive to local research capabilities. We know that the private sector continues to adopt the philosophy of aspiring for new technology, but from the perspective of 'undertaking all of the old procedures better by improving the existing products.'
- The universities aspire to have opportunities to use modern technology, but from the perspective of undertaking new and innovative procedures through designing new products and services.
- The private sector has, limited research capacities and relies mainly on the transfer and adoption of technologies.
- The universities seek to develop the research bases through partnership with the private sector, but communication is a major challenge in achieving this.
- The necessity of the private sector and the universities' adoption of a research and development approach as partners, which is the main problem.

- The study of (AL-Hareeri, 2010) confirms that there are some obstacles and barriers to the achievement of cooperation between the universities and the private sector, the most important of which are as follows:
- The universities' lack of interest in the marketing aspect and public awareness of the universities' activities, outputs, programs, services and specializations, and their ability to solve the problems of society and business organizations through research and development.
- The low willingness of private institutions to share the costs of research projects.
- The lack of confidence of the private sector organizations in the universities' outputs of human skills, programs, research and scientific studies, and their lack of conviction of the benefit of such to them as organizations.
- The lack of confidence in the local Yemeni capabilities and expertise, as some private organizations resort to contracting with foreign research institutions for consultations and conducting research.
- Some productive institutions are satisfied with their own experts and technicians to solve their problems.
- The negative impressions among many private sector establishments that the universities are relatively uninterested in the scientific research that they require.
- The interest of the business sector in short-term studies and researches that accomplish either a real-time solution to technical problems that its institutions have, or a simple modification of the technical aspects used. Besides, they lack interest in conducting long-term researches that would result in patents or new scientific creations and innovations that can be utilized in the productive fields.
- The difficulty of obtaining the data and information required for research purposes from many private sector institutions, as they are deemed confidential information of the private sectors' conditions.
- The universities focus on teaching and the academic aspect rather than the applied aspects.
- The universities' strategic plans lack interest (if any) in linking programs and specializations in the universities with the business organizations requirements in terms of skills, knowledge and capabilities.
- The implementation of scientific research in the universities is associated with unplanned programs that primarily aim at assisting researchers to get their academic degrees promotions. The design of current research works does not reflect the needs of society or solve its problems.
- The lack of interest in carrying out applied research that addresses the problems of business organizations.
- The universities are waiting for the private sector's initiatives for partnership, but not vice versa.
- There is a rapid development in some productive sectors, and the subsequent problems exceed the level of contribution that universities can offer.
- The educational curricula and training courses are irrelevant to the current reality of the productive sectors and the problems and constraints they face. They are limited to the theoretical aspect only rather than the practical aspects in the educational curriculum.
- The universities' lack of Centers of Transfer, which are specialized laboratories for transferring the results of scientific research into a Prototype that is marketable prior to the commercial production.
- The scientific research carried out by university professors are used only for getting academic promotion.

7. Results

- Announcing the strategic vision for higher education with a view to give the private sector an opportunity to operationalize its plans in accordance with the policies and legislations of the Ministry of Higher Education.
- Forming a supreme committee at the Ministry of Higher Education to represent the legitimate reference for the partnership between the private sector and the ministry. The committee should include legal, administrative and financial advisors, in addition to recruiting some businessmen known for their multiple contributions to human development.
- Implementing the strategy of the National Vision of the Republic of Yemen, where the goals and programs should have participatory visions. The operational role of the private sector in the strategy is a legal and moral obligation to ensure the continuity of the partnership in order to achieve the lofty and supreme goals and objectives that we all seek.
- Eliminating the traditional and slowness approach. Partnership is a necessary effort for efficiency and the adoption of the method of immediate transfer of research findings and converting them into practical practices in enterprises in a timely manner.
- Setting and drafting an action plan from the beginning of each research project and creating a plan to determine the ownership of intellectual rights for the new technology and to define the role and rights of sponsors and funders in it.
- Conducting a field survey to determine the needs of the labor market, starting with the university, provided that this procedure is carried out at the level of each college and through the Department Council, which identifies public and private sector entities that the college can communicate with to seek their views on the academic program and its outputs. This helps in identifying aspects of satisfaction and dissatisfaction in the performance of graduates and their job competencies, taking their proposals on the aspects to be developed and determining the characteristics of development in the labor market in terms of technology, knowledge and skills, and directions for their future development. It also has to identify the possible aspects of cooperation between the labor market and the academic department of the college. They should agree on how to provide training opportunities for students of the program. In return, the department should provide advice and proposals to develop the work of labor market institutions benefiting from the program outputs and the scientific department's experiences, and

estimating the need for the program graduates, at present and in the future. Then the academic department determines the needs of the labor market. By linking university education with the labor market, its graduates will be in line with the needs of development and economic advancement. This link is evident through the participation of the business sector in developing policies and strategies for university education, developing university educational curricula, teaching curricula, as well as the necessity of evaluating university education graduates and granting them documents and certificates. This leads to securing the needs of the labor market for the skilled individuals who are well equipped with appropriate professional and scientific university competencies. It also leads to creating job opportunities for university graduates, provided that the private sector should seek to create and establish a broad and deep partnership with universities in the future. Universities provide the private sector with efficient and high-quality graduates. These main outputs of the university would influence the work and quality of performance of the private sector.

- Facilitating access to databases from private establishments.
- The private sector facilitates the work of universities by enabling students to do practical training sessions within its facilities in the context of real training and not just agreements that do not benefit students.

8. Recommendations

- Allocating a part of the revenues of the public and private industrial, commercial and service productive sectors (the proportion is to be agreed upon with the labor market institutions) to support the scientific research sectors at the university.
- Allocating a proportion of customs' income for this purpose or issuing a postage stamp in the name of development, part of its revenue should be specified for scientific research.
- Taxation on the prices of domestic and foreign travel tickets (land, air and sea) for the benefit of scientific research in universities and research centers.
- Taxation on all foreign companies that extract natural resources, on private companies and large contracting companies upon signing agreements, and allocating a certain percentage from these contracts for scientific research.
- Taxation on qat plantation that should go to the benefit of scientific research.
- Linking the scientific research budget with the state budget and allocating 1% of the gross national income to fund scientific research activities.
- Establishing a fund to support scientific research and development, in line with the specialized development funds, to support applied research projects for the benefit of private sector enterprises.
- Forming joint committees between the chambers of commerce and industry in each governorate as a representative of the private sector and the universities located in the region. They should discuss ways of building an effective partnership between them, with a view to reach the stage of collecting the results of these committees in a joint higher committee including the Council of Chambers of Commerce and Industry and the supreme council of university that includes university rectors. They should reach a general framework for an effective partnership between them, which can be circulated later.
- A scientific study must be carried out to study the structure of the labor market in Yemen and its needs for higher education outputs.
- Secondary education policies should be linked with higher education policies, as they represent the achievement of one goal, which is building society and providing the appropriate human competencies for it.

9. Suggestions

There should be a strategy for partnership between universities, the government and the private sector. Besides, the Ministry of Higher Education and the government together should provide a response to the logic of partnership and support it with the necessary laws and procedures, not to mention the sources of funding, and that the partnership strategy reflects the needs of society and its basic issues.

10. References

- Al-Aidaroos, Nooraldain Hashim. (2004). *Ardh wa tahleel Al-Anshitah Al-'illmiyyah walbahthiyyah wal mujtama'yyah Fi Jami'at Aden*. (Master), Aden University.
- Al-Hadram, Ahmed Mohammed. (1999). *Al-Ta'leem Al-'Aali Fil Yemen: Al-Waqe'a wal Tomouh wal intilaq*. Paper presented at the A symposium of the Consultative Council on Al-Ta'leem Al-'Aali wa ihtiajat Souq Al Aamal, Sana'a, Yemen.
- AL-Hareeri, Khali Hassen. (2010). *Al 'Alaqah Bain Al Jamia'at wal Qetta'a Al Khas wa Dawruha Fi Tahqeeq Jawdat Al Ta'leem Al Aali Fil Jomhouriah Al emenia*. Paper presented at the Fourth Scientific Conference, Aden Univserity, Yemen.
- Al-Muaafah, Mohammed Yhia. (2003). *Tatweer Al Bahth Al 'Ilmi Bil Jami'aat Al Arabia Limoajahat Tahadiyyat Al Moustakbal fil Watan Al Arabi*. Paper presented at the The 10th Annual Conference (2nd Arab) of the Center of University Education Development, Ain Shams University, Cairo. .
- Al-Sherai, Balqees Khalib. (2000). *Azmat Al Ta'leem Al Aali fil Yemen wa Tahadiyyat Al Waqe'a: Namouthaj Jame'at Sana'a*. Paper presented at the Conference of Al Ta'leem Al Aali wal Ahli, Queen Arwa University, Sana'a.

- vi. Dasher, B Richard. (2003). University-industry collaboration: Technology demands for new innovation systems. *FED*, 10(8).
- vii. Habib, Majdy Abulkareem. (2007). *Afaq Jadidah lil Ta'leem Al Jamia'i Al Arabi Fi Dhaw' Al Mustajadat Al Alamiyah Al Mu'asirah fi Souq Al Amal*. Paper presented at the 6th Arab Conference on Higher Education, Egypt.
- viii. Hana Mahmud Hamed, Jorj Isehag Haneen, Atef Saeed Shbanah, & Al-Sayed, Adel Ismaeel. (2016). *Al Tajroubeh Al Yabania fil Ta'leem wa Sobul Al Istifdah minha fi Misr*. Egypt: Central Administration of Information and Documentation Center.
- ix. Industry, Riyadh Chamber of Commerce and. (2010). *Sobul Bina'a Sharakah Fa'elah Bain Al Qetta'a Al Khas wal Jamia'at fil Mamlakah Al Arabia Al Saudia: Research and Studies Center, Public Department for Research and Information*.
- x. Mukred, Aida. (2010). *Tatweer Al Bahth Al 'Ilmi Bil Jami'at Al Yemenia fi Dhaw' Al khibrat Al Alamia Al Hadithah*. Paper presented at the Fourth Scientific Conference of the University of Aden on *Jawdat Al Ta'leem Al Aali: Nahw Tahqeeq Al Tanmiyah Al Moustdamah*, Aden University, Yemen.
- xi. Perkmann, Markus, & Walsh, Kathryn. (2007). University-industry relationships and open innovation: Towards a research agenda. *International journal of management reviews*, 9(4), 259-280.
- xii. Taher Aisa Al-Reifai, & Al-Shibani, Amen Ahmed. (1999). *Al Bahth Al-'Ilmi Fi Jami'at Aden, Siassatuh wa Awlawiyyatuh wa Takhtituh: Al-Waqea wa 'Affaq*. Paper presented at the A symposium on *Waqea Albahth Alelmi Fi Jameat Aden wal Jamiaat Al-Yemenia Al 'Okhra: Al-Waqea wa 'Affaq Al-Moustakbal*, Aden, Yemen.