Fostering Academic Relations between Lebanon and the Islamic Republic of Iran

Hussin J. Hejase * • Ali H. Alaeddine

Faculty of Business Administration, Al Maaref University, Beirut, Lebanon
hhejase@mu.edu.lb

ABSTRACT

Background: The interest in the topic of academic research has drawn much attention in the last two decades especially in the Middle East and North Africa (MENA) region; though this region has undergone violence, and many wars that have led to the loss of lives of hundreds of thousands, many within the university age category. However, whenever events calm down, universities become crowded with individuals seeking both quality education and research competencies. This is the case reflected in Lebanon as well as the Islamic Republic of Iran (Iran), for both have somehow parallel tracks where unrest, wars, and conflicts have left their toll on the population and the youth in specific. Nevertheless, both nations have shown perseverance, self-determination and strong national pride in overcoming the aggressive eco-system surrounding them as they seek continuous progress, improvement, giving special attention to higher education and academic research in particular. Although Iran has been subject to severe sanctions that have affected the full potential of its economy, the strategic agenda to seek world quality higher education and produce research of national benefit has grown exponentially in the last decade. Similarly, Lebanon, which has been subject to tremendous pressures from the surrounding war-zone countries, found its way to improve its performance in higher education and research.

Objective: This paper aims at exposing the different factors that may contribute to the fostering of the academic and research relationship between Lebanon and Iran.

Methodology: The analysis relies on collected data from secondary sources as well as primary data based on interviews with academics and experts from both countries; therefore, this research is exploratory, explanatory and qualitative.

Results: There exists enough evidence to support the collaboration initiative. Interviewees from both countries showed enthusiasm, openness and readiness to move to the second level of cooperation that is, justifying relationships with memos of understanding.

Conclusions: The outcomes of the research shed light on the shared interests pertaining to higher education and research collaboration opportunities between the two countries. Moreover, results support the intended policies that aim to regulate the future relationships.

To cite this article
[Hejase, H. J., & Alaeddine, A., H. (2017). Fostering Academic Relations between Lebanon and the Islamic Republic of Iran. *The Journal of Middle East and North Africa Sciences*, 3(7), 22-38. (P-ISSN 2412- 9763) - (e-ISSN 2412-8937). www.jomenas.org**. 5**

Keywords: Higher Education, Research, Collaboration, Iran, Lebanon.

1. Introduction:

The last decade witnessed significant progress in the way universities and research institutes in the Middle East and North Africa (MENA) region view higher education and scientific research. Nevertheless, Sawahel (2014) contends that although the aforementioned region's universities and research institutions are "making progress in research productivity, impact in terms of developing knowledge-based economies remains limited", noting that a 2012 forecasting exercise by the research, evaluation and ranking platform Scimago on how the world will perform in research by 2018 based on past performance, shows that "three Islamic countries show dramatic increases in numbers and rankings: Iran, Malaysia and Pakistan" (The Economist, 2014).

Time is a potential witness to how education per se has evolved. The MENA region was full with old schools that took charge of preparing educated individuals who were later on put in charge of providing education to the following generations. According to Romani (2009), higher learning is deeply rooted in the history and societies of the Arab Middle East. After the seventh century and the

Islamization of the Arab world, local religious schools, known as 'madrasa', became later on the main institutions of higher learning, universities, in the Middle East. They established and disseminated educational standards that are still applied in present-day universities, such as the separation of masters from doctorate programs, tenure, and the protection of academic freedom. Table 1 shows a sample of the MENA region universities established before 1953.

Table 1: *MENA universities established before 1953*

Country	University	Year of Establishment
Algeria	University of Algiers	1909
Lebanon	The American University of Beirut	1866
	Saint Joseph University	1875
	Lebanese American University	1924
	Lebanese University	1951
Morocco	University of Al Quaraouiyine	859
Egypt	Al-Azhar University	970
	The Egyptian University (present Cairo University)	1908
	The American University of Cairo	1919
	University of Farouk the First in Alexandria (present Alexandria University)	1938
	Ain Shams University	1950
Sudan	Khartoum University (Gordon Memorial College)	1936
Syria	The Syrian University (present Damascus University)	1923
Tunisia	University of Ez-Zitouna	734
Iran	Nizamiyya of Khargird	1065
	Dar Al-Fonun	1851
	Military College of Tehran (Madraseh-ye Nezam)	1885
	College of political sciences (Madraseh-ye olum-e siyasi)	1899
	American College in Tehran	1932
	The University of Tehran	1934
	Shiraz University	1946

Source: Hassan Pour, (2014); Starr, (2013), p. 406.

Nowadays, the Middle East region is characterized by hundreds of universities, each seeking to impact its immediate and far eco-system, with promises of more quality in higher education. According to Abu-Orabi (2016), "the number of Arab universities expanded from 233 Universities in 2003 to about 286 Universities in 2006, of which 153 are governmental and 133 privates. The number of students was about 4,400,000, and the number of faculty staff members was 183.000 of whom 78% were Humanities, and 22% scientific studies. In 2012, the number rose to more than 500 universities, around 9 million students and 250,000 faculty members" (slide 15). This was also true in Lebanon where the number of universities boosted after the civil war in the year 1994; this increase continues whereby the number is currently 47 universities in addition to the Lebanese University, the only public university.

Chehade (2004) contends that "Lebanon has one by the best education systems in the Middle East, where, research and higher education are being undertaken by about 20 universities" (p. 81). Chehade also asserts that Lebanon is ready to undertake academic research and higher education initiatives to a higher level, for "Lebanese universities are actively establishing close and extensive cooperation with international research institutions and laboratories and are formulating proposals for attracting internationally oriented research funds". Currently the Ministry of Education and Higher Education is strongly encouraging all the universities to undertake collaborative scientific research projects in all fields, and to adopt quality standards by creating consortiums of collaboration with regional and foreign universities (personal communication with Professor Ahmad Al-Jammal, Director-General of the General Directorate of Higher Education in Lebanon, April 7, 2017).

As to the Islamic Republic of Iran, most of the universities were established before the 1960s, and new ones appeared in the mid-seventies and eighties. However, during the last two decades, a multitude of branches was established to meet the need of higher education pursuers across the Iranian territories; currently, there are more than 300 higher education institutions (UniRank, 2017a).

This paper aims at exploring the opportunities to foster academic cooperation between Lebanon and Iran, in particular, and to shed light on the issue of academic research. The paper will first present a brief review of each country's potentials and later capitalize on the facts as reported in secondary data extracted from different sources.

2. Literature Review:

Allan E. Goodman, President and CEO of Institute of International Education, reports on a recent visit of U.S. universities to 13 leading universities and research institutes across the Islamic Republic of Iran, saying: "We discovered that despite the economic sanctions, scientific development and innovation in Iran has proved surprisingly resilient and that enthusiasm for U.S.-Iran educational and scientific cooperation is accelerating, particularly in areas of water management, food security, stem cell research, nanotechnology, and health and environment sciences. Expanding academic engagement with Iran will bring more opportunities for joint research on pressing issues that affect us all" (Goodman, 2015, p. 3).

According to the American delegation, among the many benefits of academic cooperation, perhaps the most urgently needed is the opportunity to establish bonds with a "country that has been all but out of reach to many countries for three decades" (ibid).

From the educators' point of view, "scholars interested in academic research are driven by the conviction that normal, competitive engagement between people and nations is required to advance the pursuit of knowledge essential for human and economic development" (ibid). Put in practice, and according to the Euro-Mediterranean University - EMUNI. (2014), "a regional project launched in 2015 and labeled 'the MERID – Middle East Research and Innovation Dialogue', is an example of science diplomacy in practice" (Para 1). The project aims at boosting "existing collaboration frameworks between the EU and Middle East countries (currently, Egypt, Jordan, Lebanon, and Palestine) while creating new channels and forging new links, especially with countries that are newcomers to EU cooperation in research and innovation like Iran and Iraq. Participation of the latter countries is of particular importance as the MERID project will represent the very first attempt to systematize support to the policy dialogue and engagement of research communities of Iran and Iraq in the EU's actions and in particular the EU's Program for Research and Innovation 'Horizon 2020'" (Para 2).

In addition, given the high value that countries in the region, or in the international arena, place on higher education, academic cooperation appears to be a logical springboard to a better Lebanese-Iran relation. In fact, in 2013, the Iranian President Hassan Rouhani, recognizing that academic cooperation leads to mutual benefits between countries, spoke at a Council on Foreign Relations event in New York, where he argued that an increase in civic dialogue could "foster more accurate knowledge and understanding among the people and leaders of our two countries (Iran and USA), thwarting biases and false prejudgments from serving as bases for policymaking" (ibid). The aforementioned initiative can also be applicable to Lebanon and Iran.

Recently, on June 13, 2016, "with the help of Shahid Beheshti University (SBU) and within the framework of academic and scientific cooperation between the Islamic Republic of Iran and Lebanon, a new laboratory entitled as Applied Plant Biotechnology Laboratory (APBL) was opened in the Faculty of Science of Lebanese University" (SBU, 2016, Para 1). Furthermore, President of the Lebanese University, Prof. Adnan El-Sayed Hussein, considered "Iran's scientific and academic assistance to Lebanon very effective in the process of teaching and research in the Lebanese universities and called for continued educational cooperation in various fields especially new technologies" (SBU, 2016, Para 5).

2.1. Iran's Demographics:

With approximately 4.5 million students enrolled in higher education, Iran has at least 345 government-approved higher education institutions (Iranian Ministry of Science, Research, and Technology, n.d.). "The system also includes the world's third largest university, Islamic Azad University, which has more than 400 campuses and approximately 1.6 million students, as well as a number of globally ranked universities (in an unpublished 2015 British Council report, Dr. Fatemeh Ahmadi discusses the recent rankings of Sharif University of Technology and Isfahan University of Technology (IUST) at 40 and 63 respectively in Times Higher Education's rankings of the top 100 world universities under 50 years of age). In the past decade, Iran's scientific output has increased by 575 percent, and the country reportedly publishes three times more books than all Arab nations combined" (The Economist, 2014, Para 18).

The education system in Iran is divided into two bodies: health sciences and non-health sciences. At the end of high school, students take a national exam. Those who plan to attend public universities, take the "Konkur" national entrance exam. The four main tracks of higher education include Medical and health sciences, Engineering and Technology, Social Sciences, and Fine arts and architecture.

Public universities are free of charge; however, Islamic Azad University and private institutions require tuition. Similar to students in the United States, Iranian students can earn a bachelor's degree, requiring anywhere from 124 to 140 credits, in four years. Also, much like that of the United States, a master's degree takes about two years, and averages 3–5 years for a Ph.D. for all non-health sciences and basic health programs. Students who study dental, medical, or pharmacology, however, enter straight into those programs from high school. Furthermore, Adib-Moghaddam (2016) contends that data collected from the United Nations Educational, Scientific and Cultural Organization (UNESCO) indicate that enrolment at Iranian universities has more than doubled in a decade. "In 2013, 58 percent of Iranians aged 18 to 24 were studying at Iranian universities. The government has set the target at 60 percent for 2025, and it is on track to reach this goal. Overall, Iranian parents spend more than £2.1 billion on the higher education of their children. With the lifting of sanctions, this financial commitment is likely to increase significantly, given the importance that Iranians ascribe to education" (Para 6).

The aforementioned indicate that currently Iran's undergraduates are well accommodated in the country's higher education institutions, but the postgraduate infrastructure is much less developed as compared to the trends in the developed countries. Consequently, Iran needs international cooperation to counter the fact that its universities are not able to accommodate the increasing country's need for Master and Doctoral candidates.

According to Adib-Moghaddam (2016), "there is a huge discrepancy between the demand for places and the ability of Iranian universities to absorb master and doctoral students". Next, Table 2 depicts a summary of top universities in the Islamic Republic of Iran.

Table 2: *Summary of top universities in IRAN*

No.	University	Year Founded	Total RG Score	No of RG Members	No. of Publications	Estimated No. of Students x1000
1	University of Tehran	1934	35,968.83	15,466	11,452	40-45
2	Ferdowsi University of Mashhad	1949	13,034.54	4,302	2,569	15-20
3	Tehran University of Medical Sciences	1934	34,246.47	4122	10,178	15-20
4	Sharif University of Technology	1965	13,929.39	4965	5808	10-15
5	Shahid Beheshti University	1959	9,372.62	3,290	2,681	NA
6	Shahid Beheshti University of Medical Sciences	1960	15,272.35	2466	4002	10-15
7	Amirkabir University of Technology	1958	18,547.01	7,579	3,826	9-10
8	Tarbiat Modares University	1982	18,890.88	6,034	5594	7-8
9	Iran University of Science and Technology	1929	12,406.30	4960	3236	5-6
10	Shiraz University	1946	11,912.72	2135	4350	10-15
11	Isfahan University of Technology	1977	12,933.29	3,930	2,821	9-10
12	Mashhad University of Medical Sciences	1949	11,282.55	1,890	2,085	7-8
13	University of Tabriz	1947	11,240.06	2,818	2,271	15-20
14	Shiraz University of Medical Sciences	1946	12,643.34	1981	3726	5-6
15	Khaje Nasir Toosi University of Technology	1928	6,242.32	2,361	1,424	6-7
16	Isfahan University of Medical Sciences	1946	9705.30	1200	3102	10-15
17	University of Isfahan	1946	7,346.20	2,105	1,662	10-15
18	Tabriz University of Medical Sciences	1947	8,984.50	1,040	2,479	5-6
19	Semnan University	1988	4,016.02	1,102	393	10-15
20	Allameh Tabataba'i University	1950	1093.57	1100	77	NA
21	Shahid Bahonar University of Kerman	1972	4,480.12	1,050	1,040	10-15
22	Bu-Ali Sina University	1973	4,626.01	1,043	1,129	10-15
23	Islamic Azad University, South Tehran	1982	11,075.57	3535	4,567	NA
24	University of Sistan and Baluchestan, Zahedan	1974	2,623.02	718	519	20-25
25	University of Kashan	1974	3,293.94	619	669	7-8
26	University of Zanjan	1975	3,685.67	1,164	518	8-9
27	The University of Guilan, Rasht	1974	5,837.83	1,324	1,098	10-15
37	AlZahra University	1964	1,680.99	489	435	8-9
47	University of Mazandaran, Babolsar	1979	3,411.51	737	998	8-9
56	Shahid Chamran University, Ahwaz	1955	4,038.96	1,176	782	15-20
57	Imam Sadeq University	1982	166.79	103	18	1-2
69	Kharazmi University, Tehran	1919	3,06.54	995	72	10-15

Compiled by Dr. H. Hejase on February 23-25, 2017 from ResearchGate Website & UniRank (2017a).

Ranking scores reported in Table 2 are compiled based on Research Gate (2017). Research Gate (RG) is a social networking site for scientists and researchers to share papers, ask and answer questions, and find collaborators. Therefore, ranking scores are generated based on weights assigned to the aforementioned four items. Exhibit 1 shows the distribution.

Exhibit 1: *Research Gate scoring scheme*

Breakdown of Total RG Score:
27.79% Publications
64.38% Answers
7.77% Questions
0.06% Followers

Table 2 shows that two universities publish more than 10,000 refereed journal papers, and 19 universities (59.4%) publish at least one thousand refereed research papers; a fact considered admirable knowing that Iran is subject to tight economic sanctions which include the prohibition of many "Class A" journals from publishing for Iranian scientists. Nevertheless, Coghlan (2011) asserts that one of the best countries that show research potential is Iran. He contends that "which country's scientific output rose 18-fold between 1996 and 2008, from 736 published papers to 13,238? The answer – Iran – might surprise many people, especially in the western nations used to leading science. Iran has the fastest rate of increase in scientific publication in the world" (Para 1).

An important motivational factor to the aforementioned growth of research output could be tied to the fact that academic and/or research institutions have been key sources to policy making, that is, there is a full relationship between policy makers and assigned scientific research to universities. According to Koon, Nambiar, and Rao (2012), "Iran has a unique sourcing model attributable to the fact that the Ministry of Health is also the Ministry of Medical Education. As such, apart from teaching and research, each Iranian university is responsible for the health and health surveillance of a catchment area. Therefore, if they need data on maternal mortality, for instance, the Ministry [of Health and Medical Education] will approve the requirement of checking data and each university is responsible for its catchment area" (p. 13). Consequently, academic research soared due to the practical need it was designed for, that is, research outcomes appear to be determined by research institutions that are part of, or closely working with, decision making bodies. Moreover, "there is an increased emphasis on the research institutions on capacity building for knowledge translation. Capacity-building activities are underway through mentorship by senior researchers of decision makers in various World Health Organization (WHO) building block domain areas. In Iran, an institute has been created with the specific mandate of developing tools for the link between evidence and decision making" (ibid, p. 15). This aspect is observed neither in Lebanon nor in the Arab countries.

2.2. The need for cooperation:

Goodman (2015) and his Institute of International Education team identified several factors that are considered as potential to foster academic and research relations with countries characterized by the strengths of their own academic and research initiatives. Although these factors are considered attractive to western countries, which headed the move for sanctions, yet after the nuclear agreement, fostering relationships with Iran has become a priority even for the aforementioned countries like the United States of America, the United Kingdom, France, and others. The same potential applies to the academic world in the Arab world including Lebanon. Exhibit 2 depicts a summary of the factors considered as a catalyst for academic and research initiatives between Iran and its neighbors as well as with foreign countries.

Exhibit 2: *Potential factors that reflect Iran's readiness for cooperation*

Internationalization of higher education institutions is a top priority for the Iranian government and includes increasing academic relations with countries of the world, including the Middle East & North African countries, South East Asia, and the Indian continent countries.

The similarity of higher education systems in many countries and Iran make the potential for cooperation much greater. Most Iranian universities work on a semester-based, credit-bearing system with typically four-year Bachelor's and two-year Master's degrees.

The desire of Iranian institutions to cooperate with foreign higher education institutions is supported by a high level of English language capabilities among the professoriate and student body, a strong scientific research landscape, and often the facilities to host international students and scholars.

The Iranian government funds overseas fellowships, which allow Ph.D. students to spend six to nine months conducting research under the supervision of a faculty member in the host country.

The most high-potential modes of cooperation include:

- Ph.D. sandwich programs and short-term research opportunities for Iranian Ph.D. candidates
- Joint Ph.D. advising
- Various dual degree/sandwich programs (e.g., 2+2, 1+1)
- Short-term/summer courses for foreign students
- Short-term visiting faculty arrangements
- Virtual team teaching

International sanctions (especially US and allies) have had mixed effects on higher education. In some cases, they have pushed the Iranian institutions to be innovative and self-reliant. However, lack of access to current publications, spare parts, laboratory equipment, and large data-analysis tools are just a few examples of ways sanctions have negatively impacted Iranian higher education.

Women are a major part of the academic landscape. A large number of faculty and students, notably in the sciences, as well as the social sciences and humanities, are women. According to UNESCO, (2014), nearly half of all students enrolled in tertiary education are female; a consistent trend for more than a decade.

There is interest in providing assistance to higher education and scientific research in developing countries, especially Persian-speaking nations such as Afghanistan and Tajikistan. Iran has the potential to serve as a regional resource to build the higher education sector in Central and South Asia.

Source: Goodman (2015).

Since the purpose of the current research is to assess the possibility of fostering academic and scientific research relations between Iran and Lebanon, it is necessary to give a review of the current affairs of higher education and scientific research in Lebanon.

2.3. Lebanon's demographics:

The last two decades witnessed Lebanon's active move to make significant progress to elevate its education and academic standards. Banque BEMO (2014) reports "a literacy rate exceeding 90% amongst adults and 98.70% among youth. Lebanon exhibits tremendous gains in terms of more equitable access to formal education: The literacy rate among youth females surpass that of youth males, countervailing the dominance of literate male adults over female adults at 93.50% and 86%" (p. 3). Moreover, the Ministry of Education and Higher Education (MEHE) adopted an aggressive role to realize significant improvements and reforms as to make primary schooling free and compulsory by the government, while making secondary education accessible to every child.

The pillars upon which MEHE has founded its philosophy are: "education based on equal opportunity, quality education to build a knowledge society, education to contribute to social integration and economic development" (MEHE, 2017). The aforementioned MEHE moves prepared higher numbers of high school graduates to join the ranks of higher education institutions, keeping the demand for higher education in Lebanon robust, and leading to the establishment of more universities; the current ones have a strong inclination to expand geographically through new faculties. It is worth mentioning that in Lebanon, "private universities opted for international accreditation and partnerships and they largely operate in English and French. Lebanon's enrollment rate comes second in the MENA region with 46.265% compared to an average of 33.936%. But between 2000 and 2012 Lebanon witnessed a slow in the average enrollment rate growth with a compound annual growth rate (CAGR) of 1.46%, this is due to limited public higher education, with only one public university with poor infrastructure and geographical distribution. Nevertheless, despite high and increasing tuition fees, enrollment rates remained stable over the past years" (Banque BEMO (2014, p. 3). Table 3 depicts a summary of the first 31 universities in Lebanon.

Table 4 shows that only one university has more than 6000 published refereed journal papers followed by four universities that have published more than 200 papers. The numbers are not very encouraging; they reflect a serious need for a quality review of the requirements for higher education institutions, especially as pertaining to scientific research. Shuayb (2016) contends that one reason for the aforementioned gap in scientific research productivity relates to the apparent unbalance "between the 'supply' side and the 'demand' side and for an academic-oriented research culture which does not either provide knowledge that can be accessed by policy makers or is always relevant. On the other hand, policy makers do not always actively seek the knowledge provided by researchers" (p. 6).

Furthermore, Schwartz and Kardos (2009; cited in Shuayb, 2016, p. 7) describe a number of reasons why policy makers are influenced so little by the findings of academic research. These reasons are depicted in Exhibit 3.

Exhibit 3. *Reasons policy makers are not influenced by education research*

(1) Time. Policy makers need a quick research turnaround time and are unlikely to wait for the long process of academic publishing. Yet, academics are discouraged from publishing their original findings in anything other than peer reviewed scholarly journals that count the most in their academic career.
(2) The audience is another factor. Scholars often write for other researchers and sometimes for practitioners and rarely for policy makers. Journals, on the other hand, favor articles that are of complex design and presentation of findings and academic languages such as theoretical framework, methodology, methods of analysis, and findings.
(3) Researchers rarely discuss the implications of their research on policy makers or suggest

concrete recommendations, which is what policymakers would like to read.
(4) The length of these articles is another obstacle for policy makers.

Source: Shuayb, 2016, p. 7.

hire a group of advisors, some of whom are academics, rather than relying on the ministry's civil servant's expertise. When hiring academics as advisors, policy makers saw this as indirectly using and deploying research in their decision-making. Ministries don't rely on research

Table 3. *Summary of top universities in Lebanon (measured by number of papers published)*

No.	University	Year Founded	Total RG Score	No of Members	No. of Publications	No. of Students
1	American University of Beirut - AUB	1866	15,601.68	2,952	6,191	8474
2	Lebanese University - LU	1951	5,773.37	908	609	70,000
3	Universite Saint Joseph - USJ	1875	4,158.50	1,057	847	9819
4	Lebanese American University - LAU	1924	2,780.80	1,066	395	7848
5	University of Balamand - UOB	1988	1,378.28	454	231	5234
6	Beirut Arab University - BAU	1960	991.76	428	169	9823
7	Lebanese International University - LIU	2001	837.24	663	20	17727
8	Notre Dame University - NDU	1987	686.92	305	17	6992
9	National Center for Scientific Research - NCSR	1962	665.67	57	108	
10	Université Saint-Esprit De Kaslik - USEK	1961	636.68	351	91	7927
11	Saint George Hospital University Medical Center	1878	348.86	37	98	
12	American University of Science & Technology - AUST	1994	224.34	120	13	4807
13	University Medical Center – Rizk Hospital	1925	208.08	35	92	
14	Rafic Hariri University - RHU	1999	192.59	75	1	1000
15	Lebanese Agricultural Research Institute - LARI	1957	148.23	20	21	
16	Arts, Science & Technology University in Lebanon - AUL	2000	73.91	75	8	6508
17	Al Maaref University - MU	2011	72.78	6	-	350
18	Modern University of Business & Science - MUBS	2000	72.77	36	-	1800
19	Rafic Hariri University Hospital	1999	69.60	9	40	
20	Universite Antonine - UA	1996	60.33	36	-	2455
21	Arab Open University - AOU	2002	26.52	40	-	14146
22	Haigazian University	1955	22.28	59	8	900
23	Lebanese German University - LGU	1999	20.70	8	1	
24	Sagesse University	1875	18.90	49	-	2809
25	Middle East University	1939	18.25	19	3	
26	Islamic University in Lebanon - IUL	1995	16.83	43	8	4311
27	CNAM	1968	14.64	13	2	3028
28	Al Manar University of Tripoli	1990	14.54	8	14	750
29	Global University	1992	5.83	8	24	750
30	ESA	1996	1.83	3	-	
31	Lebanese Academy of Fine Arts	1937	0.05	12	-	

Compiled by Dr. H. Hejase on April 18, 2017 from Research Gate Website & MEHE (2016); UniRank (2017b).

Finally, Shuayb (2016) asserts, after interviewing the Minister of MEHE, that "the over reliance of Lebanese Ministers of Education on external advisors was seen as another factor that weakened the investment in research and collaborations with research centers. Ministers often centers. The phenomena of advisors undermined research centers as advisors have their personal positions and agendas so these advisors promote the role of the minister and his beliefs which are often not based on evidence" (p. 19).

2.4. The need for cooperation:

Science and technology constitute a sort of international language which does not consider borderlines among nations. The outcomes of science and technology impact the quality of life of communities wherever they reside; consequently, collaboration in the production is something fruitful and could lead to building harmony and peace. For example, Lerman (2009) contends that "chemistry and chemical education can be important tools to advance the peace process, especially in the Middle East" (p. 1). Lerman asserts that building in harmony with the international language of chemistry has resulted in a series of international conferences entitled "Malta Conferences", formally titled "Frontiers of Chemical Science: Research and Education in the Middle East", which were held in 2003, 2005, and 2007.

In these conferences, chemists from 14 Middle East nations gathered to discuss solutions to the problems of air and water quality, energy resources, and chemical education in the Middle East" (Lerman, 2009). However, "the political and economic climate currently shared in the Middle Eastern nations is grave and casts a shadow over the safety of everyone in the world. Despite these unfortunate and tense circumstances, there is some light at the end of this dark tunnel" (p. 2). Current affairs from the ongoing Middle East conflict may impact the fact that scientists can continue to communicate with each other when their respective governments are at odds. Especially that the presence of Israel in these meetings prevent a holistic approach to the cooperative work among scientists from Iran or certain Arab countries including Lebanon.

Lebanon and the Islamic Republic of Iran are both active in their participation in international scientific events; scientists from both countries meet periodically to discuss strategic matters concerning their specific scientific endeavors. Consequently, thinking about formal partnerships is possible and attainable. Exhibit 4 summarizes the factors considered as a catalyst for academic and research initiatives between Lebanon and its neighbors as well as with foreign countries.

3. Methodology:

The research philosophy adopted is positivism, where the researchers are independent and assume the role of objective analysts. However, the research approach is inductive, whereby a theory is assessed based on an existing practice developed as a result of collecting and analyzing secondary as well as primary data. Also, the research is exploratory and comparative in nature; the researchers seek descriptive analysis first; then, try to create relationships among variables in order to explain the concept under study.

The main purpose of the research is to assess and explore the factors that foster the academic and scientific research relationship between universities in Lebanon and those in the Islamic Republic of Iran.

Exhibit 4. *Potential factors reflecting Lebanon's readiness for cooperation*

1. **Internationalization of higher education institutions is a top priority for the Lebanese Government** and includes increasing academic relations with countries of the world, including MENA and Gulf countries, Europe, North America, and the Indian continent countries.
2. **The similarity of higher education systems in many countries with that in Lebanon, both English and French programs,** makes the potential for cooperation much greater. The Grand majority of Lebanese universities work on a semester-based, credit-bearing system with typically three-year Bachelor's and two-year Master's degrees.
3. **The continuous desire of the Lebanese academic institutions to cooperate with foreign higher education institutions** is supported by a high level of English language capabilities among the professoriate and student body, an acceptable scientific research landscape, and often the facilities to host international students and scholars.
4. **The Lebanese Government funds overseas fellowships**, which allow Ph.D. students to pursue their doctorate program, conducting research under the supervision of a faculty member in the host country. For example, the Lebanese University, the Lebanese American University, Kaslik, and others…
5. **The most high-potential modes of cooperation include:**

- Ph.D. sandwich programs and short-term research opportunities for Lebanese Ph.D. candidates
- Joint Ph.D. advising
- Various dual degree/sandwich programs (e.g., 2+2, 1+1)
- Short-term/summer courses for foreign students
- Short-term visiting faculty arrangements
- Virtual team teaching

6. **International sanctions (especially US and allies) have had mixed effects on higher education;** more specifically technology transfer issues that affect the purchase of laboratory equipment. In some cases, these sanctions have pushed the Lebanese universities to be innovative and self-reliant.

7. **Women are a major part of the academic landscape.** A large number of faculty and students, notably in the sciences, as well as the social sciences and humanities, are women. According to Soueid, Ghanem, Hariri, Yamout, & Nehme (2014), as 54% of all students enrolled in tertiary education are females; a consistent trend for the last years.

8. **Seeking international collaboration in all facets of higher education.** A very large number of Lebanese universities attained foreign accreditation and have signed tens of international agreements to exchange students, faculty, and created parallel academic degrees.

3.1. Methodology choice:

The qualitative nature of the research is based on the reported and recorded secondary data and interviews with concerned parties; the focus of which is on official personnel in order to have as many reliable results as possible, since academic and research personnel are exposed to the different frameworks of academic collaborations. Seventeen interviews with individuals, teams, and delegations were conducted between December 2016 and January 2017; eight interviews with eight different Iranian groups consisting of 65 persons and nine interviews with nine different Lebanese groups consisting of 26 persons. Several follow-up mechanisms were applied, including face-to-face contact and emails.

The researchers took into consideration the research ethics and did not include any privacy-evading questions or any misleading and uncomfortable questions. Due to the confidentiality promised in the process, the researchers did not state any individual's name. The interview questions are divided into three sections; all open-ended. Questions gave the individuals the option to state freely their answers. The three sections are designed to assess certain features as follows: Knowledge: Its purpose is to assess respondents' knowledge of academic collaborations, including the importance of academic and research collaborations; knowledge of existing cases; and, areas, fields, and topics of research collaboration. Attitude:

It is designed to assess how the respondents' organizations deal with academic collaborations, including attitude toward partnerships between universities; mutual interests; and, enthusiasm, approach and assertiveness toward the success of initiatives. Implementation: This section is important to assess how the respondents' organizations implement academic collaborations, including instructors' collaborations, graduate students' schemes of exchange; research centers versus universities and universities versus universities agreements; use of laboratories; and, technology transfer.

3.2. Data Analysis:

The study was performed using reported exploratory statistics; data tables, including frequency and percentage distributions, were used and compiled. Moreover, a qualitative analysis was performed to study relationships between variables that may add value to the findings of the research. Here, the analytical steps used were: (1) transcription of data; (2) reading and generation of categories; and (3) interpretation of findings (Wilson, 2010; cited in Hejase and Hejase, 2013).

4. Results and Discussion:

Iranian interviewees are 87.69% males and 12.31% females. Their weighted mean average age is 38 years old, which shows that the sample of respondents is mature and can comprehend the topic in question. As for the respondents' education, results show that 16.92% of the respondents hold a BA/BS degree, 35.39% hold an MA/MS degree, and 47.69% of the respondents hold Ph.D. degrees. This indicates that the respondents have a high level of education. Table 4 depicts the Iranian interviewees' demographics. Furthermore, 44% of the respondents are employees with low managerial position, 40% are heads of institutions, while 16% are professors and researchers. Also, 29.23% of the respondents have 5 to 9 years of experience, 20% have 10-14 years, and 38.46% have 15-19 years, while 12.31% have more than 19 years of experience. The weighted mean average number of years of experience is 14 years. The aforementioned indicate that the majority of the respondents are at the managerial level, resulting in the conclusion that the information that is collected pertains to people who have experienced managerial issues.

As for Lebanon, interviewees are 81.48% males and 18.52% females. Their weighted mean average age is 41 years old, which shows that the sample of respondents is mature and can comprehend the topic in question. As for the respondents' education, results show that 11.11% hold an MA/MS degree, and 88.89% of the respondents hold Ph.D. degrees. This indicates that the respondents have a very high level of education. Table 5 depicts the Lebanese interviewees' demographics. Furthermore, 11.11% of the respondents are employees with low managerial position, 18.52% are heads of institutions, while 70.37% are professors and researchers. Also, 14.81% of the respondents have 5 to 9 years of experience, 22.22% have 10-14 years, and 33.33% have 15-19 years, while 29.63% have more than 19 years of experience. The weighted mean average number of years of experience is 17 years approximately.

Overall, the demographic results regarding age, years of experience, and job position are homogeneous, indicating a mature and experienced group of respondents. Hence, their responses that were acceptable reflect that they are people who have had to take managerial decisions.

Table 4: *Interviewees from Iran: Demographics*

Entity	Number	Male (%)	Female (%)	BA/BS (%)	MA/MS (%)	PhD (%)
Delegation 1	19	19	0	3	8	8
Delegation 2	13	11	2	2	3	8
Delegation 3	11	11	0	3	4	4
Delegation 4	5	5	0	0	2	3
Delegation 5	3	3	0	0	1	2
Delegation 6	3	3	0	0	3	0
Delegation 7	5	5	0	1	1	3
Delegation 8	6	0	6	2	1	3
Total	**65**	**57 (87.69%)**	**8 (12.31%)**	**11 (16.92%)**	**23 (35.39%)**	**31 (47.69%)**

Table 5: Interviewees from Lebanon: Demographics

Entity	Number	Male (%)	Female (%)	BA/BS (%)	MA/MS (%)	PhD (%)
Group 1	1	1	0	0	0	1
Group 2	2	2	0	0	0	2
Group 3	5	5	0	0	1	4
Group 4	2	2	0	0	0	2
Group 5	2	1	1	0	1	1
Group 6	2	1	1	0	0	2
Group 7	5	4	1	0	1	4
Group 8	2	2	0	0	0	2
Group 9	6	4	2	0	0	6
Total	**27**	**22 (81.48%)**	**5 (18.52%)**	**0 (00.00%)**	**3 (11.11%)**	**24 (88.89%)**

4.1. Motivation:

Parsi, Rouzbeh, & Esfandiary, Dina (2016) contend that "Iran is a vital player in the Middle East region. As a result, Iran, a relatively stable state in the region, with a vibrant society that includes elements of democratic rule, is a potential partner in creating a more stable and harmonious Middle East" (p. 12). Moreover, Faek (2016) cited Arshin Adib-Moghaddam, a professor in global thought and comparative philosophies and Chair of the Centre for Iranian Studies at SOAS, the University of London, who asserts that "there is a strong desire to internationalize Iran's universities and foster cooperation with other institutions both in the region and beyond." Prof. Adib-Moghaddam has long made the case for close educational relations between Iran and the Arab countries, and wrote the book On the Arab Revolts and the Iranian Revolution: Power and Resistance Today; he believes that the "Iranian side is eager to foster closer relations in that regard." But he is less sure of the interest in Arab countries as he acknowledges that many remain hostile to Iran (Para 2-3). However, Iran's relations with North African countries, Lebanon, and Jordan are a bit more neutral, although even in these countries, opinions on Iran vary widely (Para 5). Faek also cited Jacqueline Kassteen, an international education marketing consultant, who contends that "Iran is absolutely a country to watch in terms of its potential in international education" (Para 9).

Along the aforementioned lines, it is a strong fact that Iran and Lebanon already keep good relations and that both governments stress the opportunities for further cooperation and collaboration on issues related to higher education, scientific research, and socio-cultural agreements. Shaery (2004) confirms the above and stresses that the Cultural Center of the Islamic Republic of Iran in Beirut (ICC) employs "the most direct method of 'introducing Iran to the Lebanese' by sending a select group of 13-15 Lebanese to Iran every year to take part in the extensive ceremonies held to commemorate the death of Ayatollah Ruhollah Khomeini. These delegations made up of intellectuals, religious scholars and leaders of Shi'i political parties, also travel throughout Iran and visit cultural and research centers. Although most members of the delegation are Muslims, every year a few Christians are invited on the trip as well. In 2002, the Lebanese sent to Iran included two members of the Amal movement, two Sunnis associated with the party al-Tawhid al-Islami, the Christian poet Joseph Aoun, a journalist from the al-Safir newspaper, and a judge from the Ministry of Justice. Mohammad Hossein Hashemi. The Iranian cultural attaché to Lebanon, characterized the project "as a way to correct the image of Iran in the mind of much Lebanese as Iran had come to be associated wrongly with terrorism" (Para 8).

4.2. Lebanon and Iran cooperation:

Results of the interviews, with both Iranians and Lebanese, show that both parties are highly enthusiastic about partnerships especially that on more than one occasion Iran offered its knowledge, technical support and technology to Lebanon for free. The stimulus behind such an offer is to foster Iranian-Lebanese relations and to offer Lebanon full support to cover its technological needs (personal communication with Dr. Bassam Hamdar, a Lebanese economist). Bargezar (2007) believes that "whenever addressing the Iranian foreign policy towards Lebanon, the issues regarding Lebanon have always been bound to Iranian-Syrian relations, although Iran has traditionally good cultural and political relations with Lebanon" (p. 8). However, with time, Iran decided to give Lebanon its due attention and consequently offer continuous support in all its needs including academic and scientific support.

Recently, the Financial Tribune (2016), reports that "a well-equipped 'plant biotechnology laboratory' was opened at the Lebanese National University in Beirut, as part of the scientific agreement with Tehran's Shahid Beheshti University of Medical Sciences" (Para 1). Further, the newspaper reports that "Chancellor of the Lebanese University Adnan Sayed Hussein, Iran's Ambassador to Beirut Mohammad Fathali, representative of Shahid Beheshti University Ebrahim Zargar, and a number of Iranian and Lebanese university professors and students attended the opening ceremony" (Para 2). Moreover, representative of Shahid Beheshti University Ebrahim Zargar, confirms that the laboratory establishment "is in line with the additional tasks of the Shahid Beheshti University to launch its 'Plant Biotechnology' master's and Ph.D. programs at the Lebanese University" (Para 3). Further, "officials from the two universities also discussed possible areas of bilateral cooperation in the fields of training, research as well as the exchange of professors and research scholars" (Para 4).

More results in Table 6 support the aforementioned Iran-Lebanon initiative and show that there is marginal knowledge about effective ongoing collaborations between the two countries, Iranian interest to send graduate students to Lebanon is more salient, and Lebanese request to use Iranian laboratories is more salient. Other results show positive indications that support collaborations in academia as well as scientific research where such positive assertiveness is on the average 87.86% on the Iranian side and 90.74% on the Lebanese side.

The potential for Lebanon–Iran academic cooperation has been active for the last five years. On May 3, 2012, the Minister of Education and Higher Learning, Hassan Diab, and his Iranian counterpart, Hamid-Reza Haji Babaee, agreed to beef up the bilateral exchange on both the educational and university levels (NNA, 2012, Para 5). Also, on October 14, 2013, Tasnim News Agency (2013) reports that Iran's Ambassador to Lebanon, Mr. Ghazanfar Roknabadi, after a meeting with Lebanon's former Prime Minister Fouad Siniora in Beirut, stressed Tehran's willingness to boost relations with Beirut. He added that the Islamic Republic will continue its support to the Lebanese nation, stating: "We stressed Iran's interest in enhancing these relations and Iran's (position) to stand by Lebanon and all Lebanese as well as the need to strengthen cooperation more and more, especially during this period" (Para 1-2). Later, on March 11, 2014, the Lebanese Minister of Education and Higher Education Elias Bou Saab, in a meeting with Iran's Ambassador to Beirut Ghazanfar Roknabadi, discussed ways of expansion of educational and scientific cooperation between the two countries. The Ambassador further "referred to the existing

Table 6: *Summary of results*

Variables	Iran (Base on 65 persons)	Lebanon (Based on 27 persons)
Knowledge		
Importance of academic collaborations	100%	100%
Knowledge about existing collaborations	53.85%	59.26%
Attitude		
Partnerships between universities are encouraged	100%	100%
Capitalizing on mutual interests	89.23%	85.19%
Enthusiastic approach towards collaboration in academic and research initiatives	100%	100%
Implementation		
Instructors' collaboration	70.77%	100%
Graduate students MS & PhD projects	84.62%	59.26%
Research centers collaborations with universities	92.31%	88.89%
Research centers collaborations with research centers	53.85%	81.48%
University –university collaborations	84.62%	81.48%
Use of laboratories	53.85%	85.19%
Technology transfer	69.23%	85.19%

agreements on cooperation in the fields of education and higher education between the two countries, and expressed Tehran's readiness for developing and strengthening such cooperation with Beirut" (FARS News Agency, 2014).

The aforementioned sequence of continuous meetings between Iran's Ambassadors and different Lebanese Ministers did materialize with time into actual projects in the form of conferences, laboratory equipment donations, and mutual agreements. On May 4-5, 2010, TIES, an agency operating towards an Internationalization of Higher Education Network for the MEDA Region, in partnership with Modern University for Business and Science (MUBS) organized and hosted the second Higher Education International Conference (HEIC), in Beirut, Lebanon. HEIC is an international conference dedicated to addressing emerging topics and challenges in higher education. Participants included experts from Lebanon, Slovenia, Germany, Iran, Algeria, Egypt, Sudan, Syria, Iraq, Kuwait, Saudi-Arabia, UAE who represented their universities and higher education institutions at this important event.

On May 1, 2014, the Islamic Republic of Iran and Lebanon jointly organized a conference on nanotechnology with the participation of Iranian and Lebanese academicians and experts from universities and research centers. The conference was held at the Lebanese University. Five university lecturers and researchers from Tehran, Sharif and Shahid Beheshti Universities and Center for Technological Cooperation and Renovation at the presidential office, and professors and researchers from top universities of Lebanon took part in the two-day conference. The foreign participants also met with the Chancellor of Lebanon National University, Adnan Seyyd Hussein as well as with Iran's Ambassador to Beirut, Ghazanfar Roknabadi who highlighted the achievements of Iranian experts in various scientific, technological, industrial and medical fields. He added, "Iranian scientists through their perseverance have proved that research, development and scientific progress are among legitimate rights of all nations" (IRNA, 2014).

Furthermore, on February 24, 2015, Minister Elias Bou Saab stressed the need for science and technology cooperation with Iran during meetings on the sideline of a ministerial conference in Tehran. Bou Saab stressed the "importance of [Iranian] President [Hasan] Rouhani's proposal to establish a center for scientific and technological cooperation." Lebanon will benefit from this center and would enhance research cooperation among Non-Aligned Movement [NAM] countries." President Rouhani proposed the creation of a center for scientific, technological and innovation cooperation among the 58 countries and international bodies that make the Non-Aligned Movement for the establishment of peace, tranquility, and equality among all states. Furthermore, Bou Saab discussed educational cooperation with Mohammad Farhadi, head of NAM ministers of technology. "We talked about educational and academic cooperation and exchange of students and professors, particularly since there are scientific cooperation agreements at the Lebanese University and the Ministry of Education levels signed between Lebanon and Iran" Farhadi stated. He also expressed his "readiness to enhance and activate these agreements for the benefit of the two countries" (The Daily Star, 2015).

Parsi et al (2016) assert that Iran needs to be seen as a partner on multiple levels, i.e. as a key player on the international energy market; as a source of economic and technological innovation; and, a potential partner for co-investments in the entire region (p. 13). Political and institutional relationships must also be accompanied by greater facilitation of communication and cooperation between civil society actors. "Cultural programs, targeted academic exchange programs (rather than individual students/local faculty initiatives), and grassroots organizations dealing with social and environmental issues, must be encouraged and supported" (p. 21).

4.3. Areas to operationalize potential cooperation:

Comparing Exhibits 2 and 4, and recording recommendations generated from the Iranian interviewees who represent research centers, universities, training institutions, and seminary schools from different regions of the Islamic Republic of Iran, including University of Tehran, Shahid Beheshti University, Imam Sadeq University, Islamic Azad University, Shahid Chamran University, Allamah Tabataba'I University, Mashhad University of Medical Sciences, Al Mustafa International University, and Tehran University of Medical Sciences, and from the Lebanese interviewees who represent universities and research centers, including University of Kaslik, Islamic University of Lebanon, Lebanese University, University of Saint Joseph, Lebanese American University, American University of Science and Technology, Al Maaref University and the Ministry of Education and Higher Education, the following are recommended areas and models for Lebanon-Iran academic relationships.

4.4. Research:

The potential for research cooperation, in general, is particularly strong. Academics in Iran, Lebanon, and other countries have expressed their desire to establish closer cooperation around areas of mutual interest. Despite the international sanctions on Iran, the knowledge base and the facilities seem particularly well developed. "There is particular interest in Iran in joint research in the areas of water conservation and environmental management. With years of declining precipitation and increases in waste and contamination, water shortage is a paramount issue in Iran. Iran and the many countries in the region share several similar challenges, and several countries have complementary, adaptable ways of addressing them,

together" (Goodman, 2015). At a minimum, more cooperation and research on these issues and others related to environmental sciences and climate change will be very valuable; issues that have been identified as being of high priority and high-potential fields for cooperative research. One can also expect to see more cooperation and research in the area of medical sciences. Furthermore, one field that Lebanon is interested in is nanotechnology. FARSNEWS (2014) reports that "Iran stood 8th among the world states in publishing nanotechnology articles, showing a 13.4% growth in comparison with the previous year. China, the United States and India ranked first to third among the countries that produced the highest number of nanotechnology articles in 2013".

According to this research's interviewees, it became apparent, as did to Goodman (2015), that more specific research disciplines have been identified as shown in Exhibit 5.

Exhibit 5. Potential areas for cooperation

Area of Interest	Iranian Interest	Lebanese Interest
• Persian studies		X
• Farsi language		X
• Anthropology	X	X
• Cultural studies	X	X
•Western (American, European, etc…) history	X	
• Theology and Islamic Studies	X	X
• Quranic Studies	X	X
• Gender studies	X	X
• Stem cell research	X	X
• Medical Sciences	X	X
• Entrepreneurship	X	
• Business Administration (Strategy, Human Resources, Operations Management, …)	X	X
• Economics	X	X
• Ecosystems	X	X
• Climate Change	X	X
• Natural Disasters	X	
• Urban Development	X	X
• Engineering (Nanotechnology, Biotechnology, Petroleum Engineering, AI & Robotics, etc…)	X	X
• Sciences (Chemistry, Biology, …)	X	X

4.5. Models of collaboration:

Joint Ph.D. advisement, faculty exchange, and short-term study abroad for students are some of the most promising and feasible modes of collaboration. With 24 percent of the Iranian higher education population participating in e-learning, virtual collaboration is also a promising avenue, especially for initial activities. "Deploying advanced higher education institutes and colleges equipped with modern e-learning facilities is one of the today's urgent needs in developing countries like Iran" (Yaghoubi, Malek Mohammadi, Iravani, Attaran, and Gheidi (2008, p. 6). Exhibit 6 shows additional fields or mechanisms for collaboration extracted from interviewees when asked to identify possible types of cooperation in the knowledge question.

Exhibit 6. *Additional possible mechanisms*

- Professors performing research or teaching during sabbaticals
- Joint committees for joint conferences
- Joint scientific projects
- Virtual cooperation (e.g. co-teaching through virtual means).
- Joint article publication
- Use of laboratories
- Share views on joint papers
- Joint Ph.D. advisement (or sit on jury board)
- Technology transfer to private sector

4.6. Other modes of collaboration:

4.6.1. Student Exchanges

There are significant opportunities for expanding student exchanges. "The number of Iranian students choosing to attend foreign colleges and universities has been increasing and appears poised to continue to grow" (Goodman, 2015). Lebanon has an opportunity here, especially with its attractive multicultural environment.

4.6.2: Ph.D. Student Placement:

The Iranian government offers scholarships for Ph.D. students to spend up to 9 months abroad to perform research; however, the placement of these Ph.D. students is currently ad hoc and is mostly left up to the individual/student. Here, Lebanese universities could attract excellent candidates, especially in the Engineering and Science fields.

4.6.3. Bilateral Exchange Mechanisms:

Language teaching assistants and visiting professors in both directions would be helpful in advancing academic ties. Other potential opportunities include fellowships for MA and MS students since the current government of Iran's support is primarily for Ph.D. students. Most Lebanese universities capitalize on their dual language programs and expertise in this respect.

4.6.4. Combining Efforts:

The majority of Iranian universities have discussed the possibility of creating short courses in English language, given sufficient demand for such courses; While, the Lebanese universities have discussed Persian Language courses.

4.6.5. Challenges:

Some common challenges are shared by both Lebanon and Iran, though in various degrees. Table 7 shows the outcomes generated when interviewees were asked to assess the list of challenges. They include:

- Brain Drain (Lebanon as well as Iran)
- Political incidents (Lebanon more than Iran)
- Social Injustice (Lebanon strongly)
- Absence of appropriate environment to conduct research (Lebanon and Iran in relative terms)
- Lack of research facilities and low-quality research standards (Lebanon more than Iran)
- Lack of work motivations and incentives (Lebanon more than Iran)
- Low salaries (Lebanon and Iran in relative terms)

Table 7: *Challenges*

Type	Iran (Based on 65 persons)	Lebanon Based on 27 persons)
Brain drain	76.92%	88.89%
Political Incidents	23.08%	100%
Social injustice	-	74.07%
Absence of appropriate environment to conduct research	15.39%	77.78%
Lack of research facilities and low-quality research standards	15.39%	59.26%
Lack of work motivations and incentives	32.31%	74.07%
Low salaries	50.77%	62.96%

5. Conclusion and Implications:

Sawahel (2014) contends that "while universities and research institutes in MENA region are making progress in research productivity, impact in terms of developing knowledge-based economies remains limited" (Para 5). Therefore, Arab states, including Lebanon, must adopt clearly defined measures to promote scientific and technological development, innovation and higher education to build knowledge-based economies. To achieve this, evidence-based innovative higher education policies must be implemented by advancing research studies in higher education.

Although Lebanon's five-year Science, Technology and Innovation Policy (STIP) was launched in April 2006, unfortunately, "efforts to implement the STIP have been slowed down due to the catastrophic effects of the Israeli war on Lebanon. The Lebanese Government has been confronted with the huge task of coping with the impact of this conflict, particularly the rehabilitation of a destroyed infrastructure and the recovery of the economy that came to almost a standstill. For STIP this means awaiting recovery of the Lebanese economy, and government financing allocating the promised 30% of STIP budget" (CNRS, 2017, Para 1 & 5). Then, in December 2012, the project "Innovation and Development of Academic-Industry Partnerships through Efficient Research Administration in Lebanon" (IDEAL) was officially launched. "The main goal of the project is to increase capacity and capability for research, development, and innovation at Lebanese institutions of higher education. IDEAL aims to develop systems capable of supporting and promoting relevant research at Lebanese universities, create networks to transfer innovation from academia to industry and establish partnerships, and establish professional structures between government academia, and industry for the long-term management of research for Lebanon" (IDEAL4Lebanon, 2017, Para 1-2).

The aforementioned initiatives reflect the continuous effort to improve; however, the current approach by Lebanese universities is not an integrated approach. The latter is a fact that imply that the effort to make things happen is slow. Consequently, the opportunity to collaborate with the Islamic Republic of Iran becomes attractive based on the salient facts about the successful outcomes of the Iranian science, technology, and innovation research efforts, although they were subject to harsh economic sanctions. It happens that when the news about lifting the sanctions was openly disseminated, the United States of America surprisingly was one of the first to send an academic delegation to probe for academic and scientific research collaboration (Goodman, 2015).

Lebanon is in need of capital, better infrastructure, more upgraded laboratories, a more concise science and technology policy, and a partner that may support the aforementioned needs. Iran is simply one available partner which has openly invited Lebanon to a constructive collaborative partnership.

Finally, as scientific research performance is measured, these days, by university rankings (for example, as was depicted by Research Gate scores earlier), and since the Lebanese universities need to join the elite, then, partnering with Iran could boost the Lebanese efforts along this trail, especially knowing about the excellent progress recorded clearly by Iran. "There has been a considerable increase in scientific output across Asian countries over the last decade. The annual growth rate of scientific publications by country data shows significant differences among countries in their average number of publications per year, by up to 400%. Among countries with more than 1,000 papers per year, the largest output originates from China. However, the Islamic Republic of Iran; 27%, Malaysia; 23% and Pakistan; 16%, have a compound annual growth rate above 15%" (UNESCO Institute for Statistics, 2014, p. 85). "Advocates argue that overall university ranking systems have made universities more

transparent, accountable and open to official and public scrutiny. They provide an easy means of reviewing and comparing institutions. They hasten higher education reform" (UNESCO Institute for Statistics, 2014, p. 68).

Results in Table 6 show that Iranian interviewees were enthusiastic about exchanging graduate students with Lebanon (84.62%) beside the positive assertiveness to go for collaborations. Such an attitude is confirmed and supported by Adib-Moghaddam's (2016) findings; he contends that data from the United Nations Educational, Scientific and Cultural Organization (UNESCO) "indicate that enrolment at Iranian universities has more than doubled in a decade. In 2013, 58 percent of Iranians aged 18 to 24 were studying at Iranian universities. The government has set the target at 60 percent for 2025, and it is on track to reach this goal. Overall, Iranian parents spend more than £2.1 billion on the higher education of their children. With the lifting of sanctions, this financial commitment is likely to increase significantly, given the importance that Iranians ascribe to education" (Para 6), consequently, increasing the odds for Lebanon to receive Iranian students. Furthermore, Adib-Moghaddam asserts that "whereas Iran's undergraduates are well accommodated in the country's higher education institutions, the postgraduate infrastructure is much less developed. International cooperation could be most successful in this sector. There is a huge discrepancy between the demand for places and the ability of Iranian universities to absorb master and doctoral students" (Para 7-8). As a result, Iranian postgraduate students are likely to look abroad for opportunities; Lebanon could be one to offer such an opportunity.

This research confirms the fact that collaboration between the Islamic Republic of Iran and Lebanon in the fields of higher education and scientific research is highly favorable irrespective of both the economic and political conditions in the region. Representatives from both countries' higher education institutions show positive assertiveness that both countries have mutual interests and agree on the modes of cooperation. From the policy point of view, both countries have had active roles in bringing forward mutual projects and initiatives which have been approved by the governments. On the other hand, the outcomes of this research serve as a motivation for other researchers to explore and assess similar relations between their countries and Iran. Finally, the contribution of this research is unique since no such an academic study was carried before in the MENA region to shed light on the potential of fostering and enhancing inter-country relations through academic and research cooperation.

Acknowledgements

The authors would like to acknowledge the valuable constructive criticism and editing performed by Mrs. Henriette Skaff, senior editor at American University of Science and Technology's Publications Department.

Conflicts of Interest:
Authors declared no conflicts of interest.

Corresponding Author:
Hussin J. Hejase, Ph.D.
Faculty of Business Administration, Al Maaref University, Beirut, Lebanon
E-mail: hhejase@mu.edu.lb

References:

1. Abu-Orabi, S., T. (2016). *Scientific Research and Higher Education in the Arab World*. Retrieved January 6, 2017, from http://www.ub.edu/LinkingMedGulf/docs/kickoff_meeting/scientific_research.pdf
2. Adib-Moghaddam, A. (2016). *World Insight: Iran after the sanctions, and what it means for higher education*. Retrieved January 12, 2017, from https://www.timeshighereducation.com/blog/world-insight-iran-after-sanctions-and-what-it-means-higher-education
3. Banque BEMO. (2014). Education in Lebanon. *BEMO Industry Report No. 3/2014*. Retrieved February 15, 2017, from http://www.bemobank.com/sites/default/files/financial_markete_reports/Education%20in%20Lebanon%20report.pdf
4. Bargezar, K. (2007). Iran's Foreign Policy towards Iraq and Syria. *Turkish Policy Quarterly 6*(2). Retrieved March 23, 2017, from http://www.esiweb.org/pdf/esi_turkey_tpq_id_100.pdf
5. Chehade, S.M. (2004). Lebanon as an Engineering Education Center in the Middle East. In: D. Weichert, B. Rauhut, R. Schmidt (Eds.), *Educating the Engineer for the 21st Century: Proceedings of the 3rd Workshop*, pp. 81-90. Netherlands: Kluwer Academic Publishers.
6. CNRS. (2017). *Science, Technology & Innovation Policy for Lebanon-STIP*. Retrieved March 25, 2017, from http://www.cnrs.edu.lb/english/about/science-technology-innovation-policy-stip
7. Coghlan, A. (2011, March 28). *Iran is top of the world in science growth*. Retrieved December 22, 2016, from https://www.newscientist.com/article/dn20291-iran-is-top-of-the-world-in-science-growth
8. Euro-Mediterranean University (EMUNI). (2014). *MERID – Middle East Research and Innovation Dialogue*. Retrieved April 20, 2017, from http://www.emuni.si/en/research-mobility/merid
9. Faek, R. (2016). *The End of Sanctions Opens Iran's, Academic Gates*. Retrieved March 20, 2017, from

http://www.al-fanarmedia.org/2016/08/the-end-of-sanctions-opens-irans-academic-gates/
10. FARSNEWS. (2014). *Iran Ranks 8th in World in Publication of Nanotechnology Articles*. Retrieved March 23, 2017, from http://en.farsnews.com/newstext.aspx?nn=13921226000528
11. FARS News Agency. (2014). *Iran, Lebanon Discuss Enhancement of Educational Ties*. Retrieved March 23, 2017, from http://en.farsnews.com/newstext.aspx?nn=13921217000346
12. Financial Tribune. (2016). *Iran-Lebanon Plant Biotech Cooperation*. Retrieved April 20, 2017, from https://financialtribune.com/articles/people/42987/iran-lebanon-plant-biotech-cooperation
13. Goodman, A. E. (2015). Reinventing Academic Ties: Opportunities for U.S.-Iran Higher Education Cooperation. *A Report on the IIE Iran Higher Education Initiative. Institute of International Education.* Retrieved January 15, 2017, from http://www.iie.org/Research-and-Publications/Publications-and-Reports/IIE-Bookstore/Reinventing-Academic-Ties-Iran-White-Paper#.WH-J3FN96Uk
14. Hassan pour, F. (2014, June 5). The design of Higher Education Learning Spaces in Iran; From the Qajar Period to the Present Time. *International Symposium on Evaluating 21st Century Learning Environments*, the University of Melbourne.
15. Hejase, A.J., Hejase, H.J. (2013). *Research Methods a Practical Approach for Business Students*. (2nd edn.), Philadelphia, PA, USA: Masadir Inc.
16. IDEAL4Lebanon. (2017). *The Project in Brief*. Retrieved March 25, 2017, from http://www.ideal4lebanon.org/project/the-project-in-brief/
17. Iranian Ministry of Science, Research, and Technology. (n.d.). *Names of the public universities, affiliated non-governmental non-profit higher education institutions, research centers, research centers, universities, schools, centers of higher education, colleges of higher education centers approved by the Ministry of Science, Research and Technology* [translated]. Retrieved January 9, 2017, from https://web.archive.org/web/20140409123627/http://www.msrt.ir/sites/Grad_Dept/DocLib4/%D9%81%D9%87%D8%B1%D8%B3%D8%AA%20%D9%85%D9%88%D8%B3%D8%B3%D8%A7%D8%AA%20%D8%A2%D9%85%D9%88%D8%B2%D8%B4%20%D8%B9%D8%A7%D9%84%D9%8A%20%D9%85%D9%88%D8%B1%D8%AF%20%D8%AA%D8%A7%D8%A6%D9%8A%D8%AF%20%D9%88%D8%B2%D8%A7%D8%B1%D8%AA.aspx
18. IRNA. (2014). *Iran, Lebanon jointly organize nanotechnology conference*. Retrieved March 26, 2017, from http://www3.irna.ir/en/News/2684212/Social/Iran_Lebanon_jointly_organize_nanotechnology_confab
19. Koon, A., Nambiar, D., & Rao, K. D. (2012). Embedding of research into decision-making processes. *Geneva: Alliance for Health Policy and Systems Research, WHO*. Retrieved March 25, 2017, from http://www.who.int/alliance-hpsr/alliancehpsr_backgroundpaperembeddingresearch.pdf
20. National News Agency (NNA). (2012). *Education - Lebanon, Iran agree on enhancing educational exchange.* Retrieved March 26, 2017, from http://www.lebanon.com/news/education
21. Lerman, Z., M. (2009). Chemistry and Chemical Education as a Bridge to Peace. In: Minu Gupta Bhowon, Sabina Jhaumeer Laulloo, Henri Li Kam Wah, Ponnadurai Ramasami (Eds.), *Chemistry Education in the ICT Age* (pp. 1-10), Netherlands: Springer Science + Business Media B.V.
22. Ministry of Education and Higher Education (MEHE). (2016). *Private Universities*. Retrieved November 7, 2016, from http://www.higheredu.gov.lb/arabic/privuniv/personal_univ.html
23. Ministry of Education and Higher Education (MEHE). (2017). *The role of the Ministry of Education and Higher Education*. Retrieved February 15, 2017, from http://www.mehe.gov.lb/Templates/Internal.aspx?PostingId=48
24. Parsi, Rouzbeh, & Esfandiary, Dina (2016). An EU Strategy for relations with Iran after the nuclear deal. *European Union: European Parliament's Committee on Foreign Affairs.* Retrieved March 26, 2017, from http://www.europarl.europa.eu/RegData/etudes/IDAN/2016/578005/EXPO_IDA(2016)578005_EN.pdf
25. Research Gate. (2017). *Research Gate*. Retrieved March 12, 2017, from http://www.researchgate.net
26. Romani, V. (2009). The Politics of Higher Education in the Middle East: Problems and Prospects. *Middle East Brief*, 36, pp. 1-7. Retrieved January 12, 2017, from https://www.brandeis.edu/crown/publications/meb/MEB36.pdf
27. Sawahel, W. (2014). *Advancing Research in Higher Education in the Arab World – Time for Action*. Retrieved January 12, 2017, from http://www.cli-cks.com/wpcontent/uploads/2015/08/CLICKS_Insider_Mar.pdf
28. Schwartz, R.B., & Kardos, S.M. (2009). Research-based evidence and state policy. In J.D. Bransford, D. J. Stipek, N.J. Vye, L.M. Gomez, & D. Lam (Eds.) *The role of research in educational*

improvement (pp. 47-66). Cambridge: Harvard Education Press.
29. Shaery, R. (2004). Iran, the Vatican of Shi'ism? *Middle East Research and Information Project, vol. 34*. Retrieved March 26, 2017, from http://www.merip.org/mer/mer233/iran-vatican-shiism
30. Shahid Beheshti University (SBU). (2016). *Cooperation between SBU and Lebanese University: Inauguration of Applied Plant Biotechnology Laboratory*. Retrieved April 20, 2017, from http://en.sbu.ac.ir/Lists/News/DispForm.aspx?ID=97&Source=http%3A%2F%2Fen%2Esbu%2Eac%2Eir%2FPages%2FNews%2Easpx%3FView%3D%7B2b8bbd95-1a46-42cc-9c51-2ff88efe552e%7D%26SortField%3DLinkTitle%26SortDir%3DAsc&ContentTypeId=0x01002A80975F0239A849B16BB1A97AC7BCE8
31. Shuayb, M. (2016). *Who shapes education reform policies in Lebanon? The role of research centers*. Retrieved March 20, 2017, from http://www.lebanesestudies.com/wp-content/uploads/2016/08/Who-Shapes-Education-Reform-in-Lebanon.pdf
32. Soueid, M., Ghanem, S., Hariri, Z., Yamout, N., & Nehme, R. (2014). Analysis of Lebanon's Education Sector. BankMed Market & Economic Research Division. [updated Nov 10; cited 2015 Apr 6]. Retrieved March 12, 2017, from https://www.bankmed.com.lb/BOMedia/subservices/categories/News/20150515170635891.pdf
33. Starr, S. F. (2013). *Lost enlightenment: Central Asia's golden age from the Arab conquest to Tamerlane*. Princeton University Press.
34. Tasnim News Agency. (2013). *Envoy voices Iran's support for Lebanon*. Retrieved March 23, 2017, from https://www.tasnimnews.com/en/news/2013/10/14/166279/envoy-voices-iran-s-support-for-lebanon
35. The Daily Star. (2015). *Lebanon Education Minister seeks technology ties with Tehran*. Retrieved March 25, 2017, from http://www.dailystar.com.lb/News/Lebanon-News/2015/Feb-24/288548-lebanon-education-minister-calls-for-scientific-cooperation-with-tehran.ashx
36. The Economist. (2014). *The revolution is over*. Retrieved January 12, 2017, from http://www.economist.com/news/special-report/21628597-after-decades-messianic-fervour-iran-becoming-more-mature-and-modern-country
37. TIES. (2010). *TIES partner hosts international conference in higher education*. Retrieved March 23, 2017, from http://www.ties-project.eu/content/ties-partner-hosts-international-conference-higher-education
38. UNESCO Institute for Statistics. (2014). *Higher Education in Asia: Expanding Out, Expanding Up The rise of graduate education and university research*. Montreal, Quebec, Canada: UNESCO Institute for Statistics. Retrieved March 25, 2017, from http://www.uis.unesco.org/Library/Documents/higher-education-asia-graduate-university-research-2014-en.pdf
39. UniRank. (2017a). *Top Universities in Iran: 2017 Iranian University Ranking*. Retrieved March 12, 2017, from http://www.4icu.org/ir/
40. UniRank. (2017b). *Top Universities in Lebanon 2017 Lebanese University Ranking*. Retrieved April 20, 2017, from http://www.4icu.org/lb/
41. Yaghoubi, Jafar, Malek Mohammadi, Iraj, Iravani, Hooshang, Attaran, Mohammad, & Gheidi, Ahmad (2008, July). Virtual Students' Perceptions of e-Learning in Iran. *The Turkish Online Journal of Educational Technology – TOJET, 7(3), Article 10*. Retrieved March 25, 2017, from http://files.eric.ed.gov/fulltext/ED502679.pdf

Received May 10, 2017; revised May 30, 2017; accepted June 04, 2017; published online July 01, 2017.