

AN INVESTIGATION INTO THE FACTORS THAT IMPEDE SCIENTIFIC RESEARCH IN HIGHER EDUCATION IN LIBYA: TIME TO ACT

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ABSTRACT: *Higher education and scientific research hold a key role in promoting development and rapid transformation for countries like Libya which is facing rapid changes and unstable political situation. There is a dire need in the Libyan educational system for a complete re-examination of research policy and planning in order to work towards improving its quality to meet the country's needs. Given the current crisis in most Libyan universities, this study aims to investigate the factors that impede scientific research in Sabratha University. It also seeks to propose ways to improve research quality in the university. The findings of the study indicate that the lack of strategic plan for research is preventing the university from functioning and preserving its role in society. It also indicates that the lack of resources, fund and proper infrastructure are the main factors that influence scientific research.*

KEYWORDS: Scientific Research, Influencing Factors, Higher Education

INTRODUCTION

Libyan universities are clearly in the midst of rapid change in response to economic, political, technological and social changes and are influenced by the unstable political situation and a lack of clear plans and objectives in higher education. What is more, due to the current financial challenge, the expenditure on scientific research has been reduced. As a result, there is a lack of programs that encourage scientific research. At the same time, universities are expected to participate in solving the problems and challenges that the Libyan society faces through research projects.

Although research activity and citations per faculty member are two of the main factors that university rankings are based on, the importance of scientific research is not yet recognized as important. As a result, the research quality, quantity and number of citations are very low in most of the Libyan universities.

It is apparent then that the role of scientific research needs to be modified to suit the current situation in Libya, with its various political, economic and social dimensions. Libyan universities have a major responsibility under these unstable circumstances to frame the way of thinking and to focus on a scientific research agenda of economic and social issues to lead the society toward positive change.

To date, however, there is a paucity of research on the factors that impede scientific research in the Libyan universities. More important, there is limited knowledge about how to improve research quality at the university level. This study is an attempt to heed Almansur's (2016) call for more papers about the socioeconomic and political factors that impede scientific research at most Arab universities. The aim of this study is to investigate the factors that impede

scientific research at Sabratha University. It also aims to provide suggestions to improve the quality of research.

LITERATURE REVIEW

Education and scientific research are the basic tools of intellectual, cultural, and economic development. Arab universities face major obstacles in the way of accomplishing this goal. According to Alrashdan (2003:84), “The Arab countries are in last place in development indicators such as spending on scientific research and number of patents issued.” Arab university research production, judged by the number of publications, registered patents and trademarks is among the lowest in the world Tashani (2009).

A number of issues are acting as stumbling blocks for the advancement of education and scientific research in most of the Arab universities, and the Libyan universities are no exception to this trend. Open enrolment, limited budgets and underinvestment in public universities all contribute to the deterioration of the research environment in Arab universities (Anderson, 2012). There have been many studies about the factors that impede scientific research in Arabian universities, such as the study that was conducted by Zoulef and Al-sa'ida (1997), which aimed to investigate the obstacles facing scientific researchers in Jordanian universities. The findings showed that there were challenges in funding, gathering data and publishing the research.

Naifah (2008) identified the significant factors that hinder scientific research in the Arab universities as follows. First, problematic factors that include the lack of both strategic plans and innovation. Second, university staff members lack professional development, research funding, incentives, and security; Third, a disconnect exists between research in the university and the country's social development. In Morocco, for example, Jassos (2008) reported that one of the biggest challenges facing education and research is activating the partnership between scientific research and socioeconomic development. Similarly, Alrashdan (2003:83) stated that "Arab universities maintain a low impact stature on their surroundings." Additionally, Aladwan (2013) listed some of the challenges confronting research activities at Arab universities as including the low rate of expenditure on scientific research and the lack of a clear strategic plan for research.

Progress in research begins at the university level with its programs and courses that aim to generate the fundamental knowledge utilized to solve the major problems that confronting the society. However, the situation in Arab universities is quite different, as research and soft skills are only of minor interest to teachers who have little incentive to carry out research. What is more, educational systems in most of the Arab universities are constrained by “low-quality education that emphasizes rote methods of learning over critical thinking” (Almansour 2016). According to Alrashdan (2003), most Arab universities adopt traditional teaching methods based on memorization of material without “enabling students to be innovative and mix scientific knowledge with practical application.” In addition to the irrelevant teaching methods, a characteristic gap exists between what students learn in the schools versus the skills needed in the labor market (Adams & Winthrop, 2011).

A further factor aggravating the situation for scientific research is the lack of financial resources. Spending on scientific research development in Libya and other Arab countries is currently lower than in other world regions (Tashani 2009). Farah and Othman (2008) found

that 74% of the research by staff members in a Nile Valley University and Shindy University do not get financial support from the Ministry of Higher Education, the university, or the private sector. According to Alshardan (2003), the budgets set by the governments for scientific research is less than one-half percent of public income, whereas in developed countries governments spend more than two percent of their budgets on research. Giving a contrary view, Almansour (2016) mentioned that the increased funding by the Saudi government has enabled the King Fahd University of Petroleum and Minerals to be among the 500 world-class universities in the Shanghai ranking and to initiate research projects and solicit cooperation with world universities such as Stanford and Cambridge.

Alkasabi's study (2003) identified factors in addition to those previously mentioned, such as randomized research, the separation between scientific research and the problems that the society faces, and the lack of planning within universities. Similarly, the results of Mohsen's study (2011), which aimed to explore the difficulties of conducting research at Baghdad University in Iraq, showed that financial, technical, and organizational factors have had a pronounced negative effect.

In some parts of the Arab world, security issues are mentioned as an important factor that prevents many faculty members from conducting research. According to Almansur (2016:10), the security issues are seriously affecting the functioning of higher education institutions. She points out that "If security issues and a hostile political climate continue to exist in the Arab region, it is most likely that higher education institutions will continue to be a theater for conflict and violence. Such continued instability would lead probably to loss of funding from all sources, both domestic and international." Research and innovation cannot flourish in an unstable environment and a lack of personal security, agrees Alrashdan (2003). In Sudan, for example, instability has led to an increase in the migration of many of the remaining good researchers in what is typically known as a brain drain.

The brain drain issue is not common only in Sudan. The mass migration from other Arab countries such as Libya, Tunisia and Syria to Europe is increasing significantly (Goff, Zarin, & Goodman, 2012). Political instability is one of the main reasons for the brain drain from Arab countries, which accounts for 31% of the total brain drain from developing countries (Aldawan, 2013; Labi, 2012). Similarly, 33% of the researchers in Pakistan fled the country for the lack of personal security and the unstable political situation, Sajjad (2011).

While most Arab universities play central roles in the intellectual life of their societies, few are rewarded or recognized for their importance in teaching and research even in their own countries. Most Arab universities are at a distinct disadvantage when it comes to global competition and rankings among world universities. In countries like Libya, Syria, and Yemen the task of teaching and doing research is not easy. The typical institutional indicators (research, students, and funding) of universities do not consider the economic, social, and cultural circumstances of a country and its universities.

Within this context of the ensuing instability of the political, educational, and economic sectors, the purpose of this study was to investigate the factors that impede scientific research and contribute to poor performance in dealing with the Libyan society's needs and challenges.

METHODOLOGY

Research approach

A qualitative approach was selected to explore faculty members' views about the factors that impede research at Sabratha University in Libya. A focus group interview method was used because it has a structured framework but the structure is flexible and allows participants to share their experience and views in depth.

The focus group interview questions were developed in English and then translated into Arabic to ensure accuracy. The focus group discussions were in the form of open-ended questions broadly based on two major themes: factors that impede scientific research, and how to improve the research quality in Sabratha University.

The first purpose of this study, therefore, was to identify the factors that impede research. Moreover, a study of the factors alone would be incomplete without an exploration of possible suggestions to overcome those factors. The present study aimed to address this gap by asking the participants for their suggestions for improving the research quality at Sabratha University. The basic questions guiding this investigation were:

1. What are the factors that are influencing scientific research at Sabratha University?
2. How can the quality of research at Sabratha University be improved?

Research Context

Sabratha University (SU) is one of the new public universities in Libya. It was established in 2015 in the city of Sabratha, about 75 km west of the capital, Tripoli. In addition to the main campus in Sabratha, there are 14 additional colleges in cities spread along the west coast of Libya. Most of these colleges were previously part of the University of Alzawia. SU provides bachelor programs in engineering, the arts, science, economics and political science, education, medical technology, dentistry, medicine, pharmacy, nursery, law and natural resources. Sabratha University has 13,841 undergraduate students, with 972 faculty members and 900 non-academic staff.

Participants

The findings reported below are based on data gathered from four focus group discussions with 40 participants, with 10 participants in each group. The participants represent the Sabratha University administration and faculty members, working in the colleges of the Arts, Science, Finance, Law, Engineering and Medicine. In addition, seven of the participants of this study represented the Center of Research and Consultancy and the Postgraduate Administration of the University of Alzawia, as a local partner. The population of the study consisted of 12 females and 28 males. Their experience ranged from 1 to 25 years of teaching.

FINDINGS AND DISCUSSION

The findings and discussion of this study are organized around each of the questions posed to the four focus groups.

What are the factors that impede scientific research at Sabratha University?

Lack of strategic plan and clear vision

All four groups reported that the research plan in the university was not well defined. No clear objectives had been established serving the goals of the university. Consequently, the research that is carried by faculty members in the university is carried out for personal reasons, such as promotions or participating in conferences, rather than following a clearly defined research plan.

This factor is one shared in common with other Arab universities. For example, Alrashdan (2003:81) mentioned that “the research policy in universities and academic institutions has no clear objective serving the goals of the university or society, and the studies that are carried out are done so without purpose.” In a similar vein, Farah (2014) and Hafiz (2014) found that the weakness in scientific research was mainly due to a lack of strategic planning and disinterest by the private sector.

Mismatch with the society’s needs

All four groups mentioned that Sabratha University, like most other Libyan universities, operates in isolation from its surroundings. Borrowing Alrashdan’s (2003:80) idiom of “ivory towers on sand,” most of the research which is carried out by faculty members and postgrad students is not directed toward tackling the society’s problems. Consequently, this leads to a gap between the interest and work of the university and the concerns and problems of the society.

The disconnect between the research in the Arab universities and the needs of societies is another challenge that is stated in other scholars' work (Albargouty & Abosamrah, 2007; Hafiz, 2014; Ismael, 2014). According to Naifah (2008), most of the scientific research is detached from the business and market realities and is conducted merely for faculty promotion.

Insufficient funding

Each group agreed that the limited funding for research has had a direct effect on the quality and quantity of the research. It is worth mentioning that the government in Libya serves as the primary source of funding for higher education and scientific research. In addition, the budgets allocated for research remain limited and insufficient to meet the growing needs of the researchers and research centers. Recently, due to the unstable political situation, the government has reduced and delayed education expenditures, forcing universities to reduce research funding in order to balance their budgets. According to Alrashdan (2003:81), the fact that most universities in the Arab world “are government institutions and depend on state financial and administrative support is at the heart of the crisis.” The findings here agree with the findings of other studies which were conducted in other Arab countries (Albargouty & Abosamrah, 2007; Benamer, Bredan, & Bakoush, 2009; Altbach & Salmi, 2011).

According to the participants in the four groups, there is no remarkable funding coming from the private sector, which seems to be hesitant to invest in research. Other research findings, such as (Aladwan, 2013; Farah & Othman, 2008; Ismael, 2014; Naifah, 2008; Salih, 2013) have also previously mentioned the lack of investment in university research from the private sector.

Weakness in faculty members' research skills

Two focus groups mentioned the lack of research skills as a key factor behind the low research quality of the faculty members. With the assumption that holding an MA or PhD degree is enough for one to be a qualified researcher, many researchers lack the essential research skills that are required to conduct research studies, such as research proposal writing, research management, team building, and the use of IT.

In addition, the educational curricula, in most Libyan universities — and Sabratha University is not an exception — are mostly theoretical, creating a tendency to lack harmony between the students' learned skills and the needs and problems of the Libyan society. Consequently, most of the postgraduate programs in Libya use the traditional teacher-centered method of teaching and neglect the practical side of implementing research skills. According to Hutchinson and Lovell (2004), the graduate research programs may influence the graduates' research output and teaching in their future career. Alternatively, this will partially be determined by whether the researcher has been adequately skilled to do research using a variety of research methods that were acquired during the graduate research program (Mugimu et al., 2013).

According to Tashani (2009) and Suwaed and Rohouma (2015), most of the above-mentioned factors are due to two main reasons: (1) a lack of momentum at the top management level of universities to make scientific research a priority and (2) a lack of reasonable professional development plans for faculty members. According to Naifah (2008), the lack of incentives and professional development opportunities leads to the frustration of faculty members. This is consistent with the findings from a study performed by Al Ataibi (2010) aimed to investigate the reasons behind the weaknesses in the implementation of scientific studies by students in Jordanian universities that identified the following factors: low motivation for conducting research, inadequate funding, concern among faculty members about their work overload, the lack of sufficient time for research and the lack of faculty members who are well trained in scientific research methods. Consequently, a study by Kazem and Algemali (2004), which aimed to identify the obstacles to scientific research at Sultan Qaboos University in Oman, revealed that the researchers' burdens and a lack of knowledge about research and publishing are among the main factors.

Other factors that impede scientific research

All four groups mentioned the issues of the infrastructure, teaching overloads and lack of incentives as important factors that affect their research output. According to Kempner (1994), “researchers need to have the time to conduct research, receive income to support themselves while conducting their investigations, and have sufficient resources to conduct the research.”

University rankings require publishing in high-impact journals, as reinforced by Altbach and Knight: “The results of globalization include the integration of research, the use of English as the lingua franca for scientific communication” (p. 291). However, the discussion with the participants in this study indicated strongly that publishing in high-impact factor journals is a new challenge as some of them cannot afford publication fees that sometimes are quite high.

Similarly, Naifah (2008) stated that scientific research in the Arab universities lack the resources, sustainable funding and an organized research system. The findings by Albargouty and Abosamrah's (2007) study showed heavy faculty teaching loads, low salaries, and a lack of incentives among the main reasons for weak research by the faculty.

There is a direct link between the teaching loads of all university teachers in Libya and salary: the more you teach, the more money you earn. When new faculty members return to Libya, mostly after obtaining their degrees from the UK or the USA and having participated in an active research environment, they are usually full of research ideas. However, the academic's life in Libya is full of teaching activities, such as lecturing, testing and marking, which are important to earn a good salary but do not contribute to the academic's development in research (Tashani 2009).

According to Alrashdan (2003), researchers in Arab universities usually work in difficult circumstances with heavy workloads and social responsibilities. In another study performed by Algadheeb and Almeqren (2014) at Princess Nourah Bint Abdulrahman University (PNU), a women's university in Saudi Arabia, the findings showed that organizational obstacles, and researchers' personal, familial, and social burdens were the most common obstacles.

The factors are similar in other African universities where Sawyerr (2004:226) identified poor infrastructure and lack of funding as the main factors that "impose clear limitations on research and research capacity development." These factors mentioned by the participants are somewhat at odds with the findings of Almanour and Kempener's (2015) study which was also conducted at PNU in Saudi Arabia. In their findings, the researchers found that the faculty members were concerned with the lack of research motivation, lack of research funding, and the difficulty in publishing in high-impact journals, primarily in English. These factors are also consistent with the findings from a study conducted by Alzahrani (2011), aimed at identifying the problems preventing Saudi faculty members from publishing their research. The researcher identified many problems related to lack of funding and a lack of encouragement from academic staff to conduct and publish research.

How can the quality of research at Sabratha University be improved?

Most of the participants in this study seemed highly concerned about the above-mentioned factors and their potential effects on research quality and quantity. Nevertheless, most of the participants in the focus group discussions in this study expressed a positive attitude toward the improvement of research production. They are aware that the improvement is not something that occurs overnight. Thus, they tried to provide practical suggestions. The following are the shared suggestions among the four groups:

1. Autonomy for universities and research centers is a necessity, and it cannot be complete without gaining funding from society and various diverse sources. This would also allow the research centers to continue their work with no restrictions. This does not mean that the government must relinquish its responsibility to back universities. Quite the contrary, governments need to increase their budget allocations to universities and research centers and also search for additional sources of funding.
2. Global cooperation, partnerships, visibility, and investments with the rest of the world are key factors to the research production improvement.
3. Developing research curricula and teaching methods to consolidate skills such as critical thinking, instead of rote learning and memorization. Stimulating critical thinking might make students able to test the veracity of facts and opinions using a set of logical principles.

4. Improving the researchers' capacity through training programs is another essential step in the process, and thus must hold a priority position in the university management agenda. This training needs to be comprehensive and fully integrated with research methods and publishing.
5. Opening up the university to society to gain an understanding of society's problems and develop dialogue skills. Sabratha University would thus be more capable to offer social services, through backing scientific research and focusing it on the needs of Libyan society.
6. Provide the infrastructure and equipment that can allow the research centers to meet research needs, including buildings, labs, e-libraries, and other necessities.
7. An evaluation system is also needed for tenure and promotion, and research awards to assure that faculty members are awarded on merit.
8. Stimulating scientific research and enabling publications in high-impact journals is an action that Sabratha University should undertake

To sum up, the university management needs to emphasize on building a research infrastructure based on sustainable financial resources and a research system that motivates researchers. Furthermore, upgrading faculty members' capacity to conduct research and manage research projects could therefore help to solve a range of challenges facing Libyan society through the three principal functions of the university, namely, education, scientific research and community service.

Implications and conclusion

In summary, this study investigated the factors that are currently impeding scientific research at Sabratha University. Among these factors are the lack of a strategic plan for scientific research, the limited funding for research, the poor infrastructure and the weak research skills of faculty members. Although the lack of private investment in research and the absence of a research plan and infrastructure have existed for quite some time, the recent political instability in Libya has served to increase the challenges confronting scientific research.

Despite the small sample in this study, the participants of the four focus groups provided insightful suggestions for improving the research productivity based on their experience and their previous studying and working experience in universities at the global level. These suggestions might help Sabratha University to function as an academic research institute that adds benefits to both the local society and the global community, by acting as a platform for research and development progress in Libya.

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