“Challenges of improving effectiveness and efficiency of the higher educational system in developing countries”

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CHALLENGES OF IMPROVING EFFECTIVENESS AND EFFICIENCY OF THE HIGHER EDUCATIONAL SYSTEM IN DEVELOPING COUNTRIES

Abstract

Due to the country's lack of natural resources and its dependence on human resources, Jordanian universities have started to implement quality assurance system aiming to improve effectiveness and efficiency of the higher educational system. This paper presents the results of a research that aims to identify the main issues and challenges facing these universities in implementing quality assurance system. Data for this research were collected using a survey mailed to all public and private universities to investigate the main issues affecting the implementation of quality assurance system in Jordanian universities.

The results of this research showed that the most important challenges faced by Jordanian universities are: human and lack of awareness, resistance to change and cultural among others. The research findings hoped to be useful for both universities and policy makers in the government in order to realize the full benefits of implementing quality assurance system. Hence, this and other research on implementing quality assurance in higher educational institutions might be of assistance.

Keywords accreditation, quality assurance, challenges, higher education, developing countries, Jordan

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INTRODUCTION

Higher education is the degrees that are acquired beyond the secondary level of school and provided by specialized college or university. Higher education has many purposes such as career preparation, gaining desired skills, training and knowledge (Bongaarts et al., 2017; Moreira et al., 2017). Higher education sector in developing countries in general and in the Middle East in particular plays an important role in human and society development (Lipset, 2018).

Accreditation and quality assurance in higher educational institution are considered as one of the most important factors in the enhancement of educational system (students, academic staff, infrastructure, programs, methods, etc.). Accreditation can be defined as the process in which educational institutions and programs are evaluated to determine if the required standards are met (Gaston, 2013; Espinoza & Eduardo González, 2013; Blanco-Ramírez & Berger, 2014; Kwiek, 2014; Hou et al., 2015; Khouja et al., 2018). In Middle East countries, the process of educational accreditation for higher education is conducted either by a government organization, such as Ministry of Higher Education (MoHE), or independent agencies as shown in Table 1.

Table 1. Ministries of higher education and accreditation agencies

Country	Ministry	Accreditation agency/entity
United Arab Emirates: www.moe.gov.ae/En/	Ministry of Higher Education and Scientific Research	The Commission for Academic Accreditation (CAA)
Kuwait: https://www.mohe.edu.kw/en/	Ministry of Higher Education	Council for Higher Education Accreditation (CHEA)
Kingdom of Saudi Arabia: https://www.moe.gov.sa/en/	Ministry of Higher Education include the higher education council	National Commission for Academic Accreditation and Assessment (NCAAA)
Jordan: www.mohe.gov.jo/en/	Ministry of Higher Education and Scientific Research	Higher Education Accreditation Commission (HEAC)
Qatar: www.edu.gov.qa/en/	Ministry of Education and Higher Education	Council for Higher Education (CHE)
Libya: www.libyaobserver.ly/education-ministry	General Peoples' Committee for Education & Scientific Research (GPCE&SR)	CQAAE&TI
Sultanate of Oman: https://mohe.gov.om/?&culture=en	Ministry of Higher Education	Oman Academic Accreditation Authority (OAAA)
Kingdom of Bahrain: www.moe.gov.bh/?lan=en	Ministry of Education (Higher Education Council)	Quality Assurance Authority for Education & Training (QAAE&T)
Sudan: www.mohe.gov.sd/index.php/en	Ministry of Higher Education and Scientific Research	Evaluation and Accreditation Commission (EVAC)
Egypt: www.mohe-casm.edu.eg/En	Ministry of Higher Education and Scientific Research	National Authority for Quality Assurance & Accreditation for Education (NAQAAE)
Tunisia: www.mesrst.tn/anglais/index.htm	Ministry of Higher Education and Scientific Research	Council for Higher Education Accreditation (CHEA)
Yemen: www.yemen.gov.ye	Ministry of Higher Education and Scientific Research	Higher Council of Higher Education Quality Assurance (HCHEQA)
Palestine: www.moehe.gov.ps/	Ministry of Education and Higher Education	Accreditation and Quality Assurance Commission (AQAC)

The research presented in this paper aims to answer these research questions within the context of higher educational institutions in Jordan. This paper is structured as follows: the introduction; literature review with a brief presentation of the education system; quality assurance process and accreditation; and quality assurance system implementation in Jordan. In section 2, research approach and method used were presented. In section 3, discussion about the main findings and finally conclusions are presented.

1. LITERATURE REVIEW

Before proceeding on to discuss accreditation and quality assurance in Jordan, it may be useful to briefly present the country's higher education system.

1.1. Educational system in Jordan

For Jordan in particular, education has played an important role in the development of Jordanian human capital, Jordan has invested more than 13% of public expenditure in basic and secondary education, enrollment rate for basic education reached 90% and 70% for secondary education, Jordan has proved an impressive record of educational development. Educational reforms in Jordan have been started in the early 1990s, and the process reform was accelerated under His Majesty King Abdullah II in early 2001 by establishing many educational initiatives (Al-Adwan et al., 2018) in order to monitor and improve educational quality (Al-Jaghoub et al., 2010; Al-Soud et al., 2014; Al-Yaseen et al., 2015; MoHESR, 2018).

The educational system in Jordan (as shown in Figure 1) consists of two years of optional preschool education (mainly provided by private schools), ten years of compulsory basic education (provided by both private and public schools), two years of optional (comprehensive or applied) secondary education (provided by both private/public schools), then the student can attend a General Certificate of Secondary Education Exam called Tawjihi in public schools or the IGCSE, SAT and IB, certificates in most private schools (Al-Hassan, 2018). The students who passed the exam after completing the school with the required average in Tawjihi or in other certificates can apply for the universities (public/private) or can apply to com-

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Source: MoE (2018), MoHESR (2018).

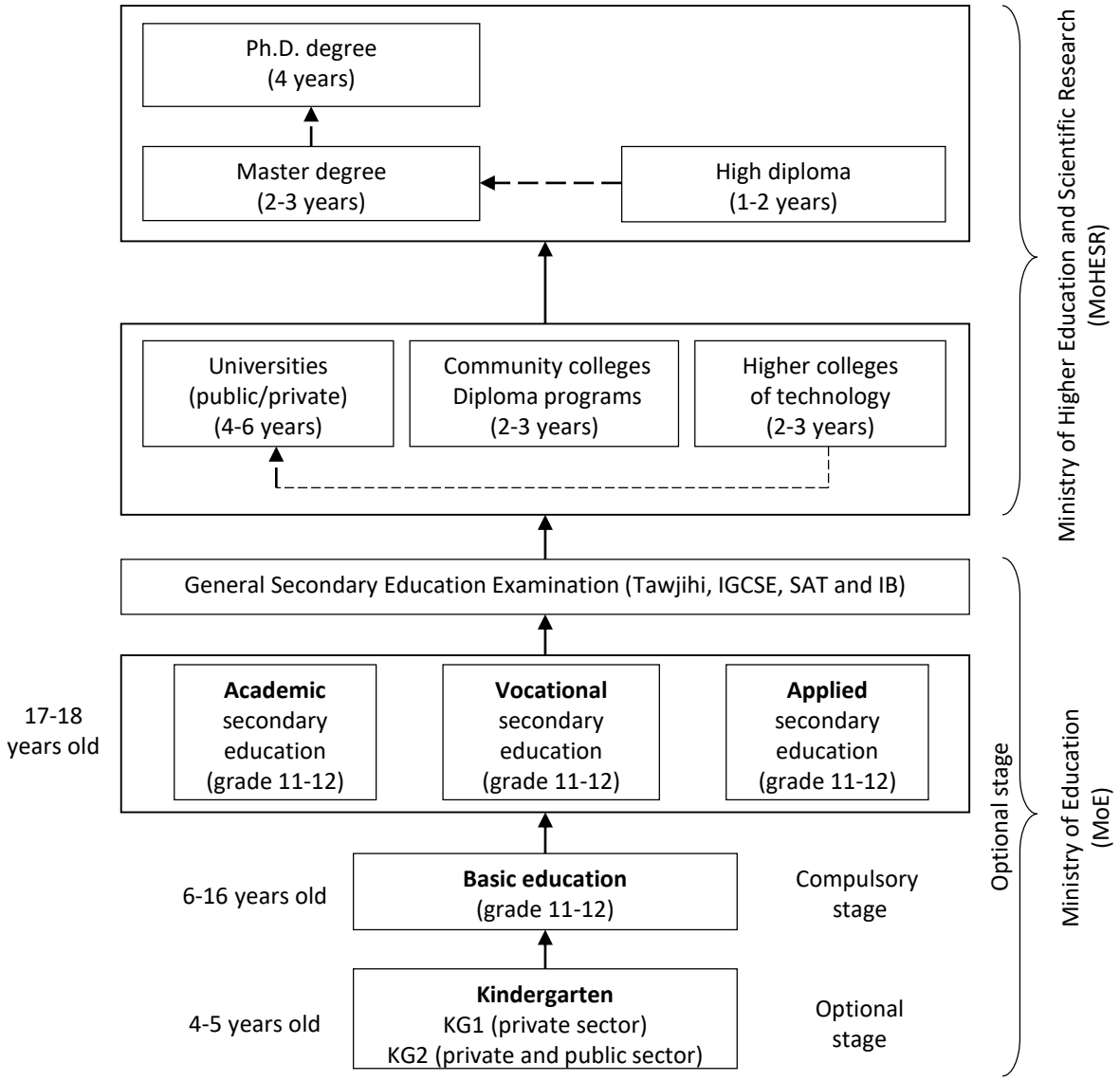

Figure 1. Educational system in Jordan

munity colleges. In such cases, after completing the community college degree, some students can continue their studies at the universities. After completing the undergraduate program, students can apply to the Master programs and after completing they can attend the available PhD program (mainly in some public universities, such as Jordan university) (MoE, 2018).

Higher education or post-secondary education in Jordan was unavailable until 1951 where secondary school graduates were going outside Jordan for studying. Higher education in Jordan is provided at two levels: level 1 – non-university level studies (higher colleges of technology and community colleges (diploma programs) and level 2 – university level studies (Bachelor, High-diploma, Master and Doctorate Ph.D.).

Non-university level studies last for two years and in some cases for three years. This type of studies is open to holders of all types of general education certificates. There are two types of non-university level studies: higher colleges of technology and community colleges (diploma programs), non-university level studies are provided and owned either by public or private community colleges, all public community colleges are under the supervision

of Al-Balqa Applied University. At the end of the diploma programs, students sit for a comprehensive exam called (Al-Shamel), and students who pass this exam are awarded the Associate degree (Diploma) (Kanaan, 2018).

There are 4 types of the university level studies: Bachelor's degree – normally takes 4-6 years based on the field of study (it takes 4 years in the case of business, administration, arts, mathematics, physics, chemistry; 5 years in the case of pharmacy, dentistry, architecture, engineering and veterinary medicine; 6 years in the case of surgery or medicine); High-diploma degree: one-year postgraduates programs for the Bachelor's degree holders, offered by some universities; Master's degree: normally lasts one and a half to two years programs for Bachelor's degree holders or one-year for high-diploma degree holders; Doctorate (Ph.D.) degree: usually lasts for three to four years programmes for the Master's degree holders after submission of a dissertation. University level studies are provided and owned either by public or private universities (Al-Widyan & Qdais, 2018).

University level studies in Jordan is the responsibility of the Ministry of Higher Education and Scientific Research (MoHESR). MoHESR includes two councils: Higher Education Council (HEC) and Accreditation Council (AC). Jordan has both private and public universities, many of which are supported by the government of Jordan. Jordan has a fairly large number of universities for its size, there are 19 private universities and 10 public universities. In addition, there are 50 community colleges in Jordan. As for university education, it started by the establishment of public university the University of Jordan in 1962, followed by the establishment of the first private university Al-Ahliyya Amman University in 1989.

Jordan has seen an increased demand for higher education where the number of enrolled students in both private and public universities has increased from 77,000 students in 2000 and 218,000 students in 2011 to reach 240,000 students in 2014 (MoHESR, 2018).

His Majesty King Abdullah II has paid special attention to the higher education sector as he directed his government to shed more light on higher education and its development. Thus, during his Majesty's reign, many private and public universities were established, the number of public universities has reached 10 universities, besides 19 private universities and 51 community colleges (Al-Yaseen, 2012; Al-Yaseen & Al-Jaghoub, 2012).

1.2. Quality assurance process and accreditation

Quality assurance in higher education can be defined as the process of assessing and monitoring programs, guaranteeing and maintaining, then improving quality of higher educational institutions (Houston & Paewai; 2013; Al-Yaseen et al., 2013; Hou, 2014; Stimac & Katic, 2015). In some countries, Ministry of Higher Education is responsible for quality assurance process, however, in other countries, quality assurance process is performed by independent agencies (Damian et al., 2015; Dill, 2015; Dunn et al., 2017). A number of developing countries have started implementing quality assurance system in their universities (Hou, 2014; Laguador et al., 2014; Dotong & Laguador, 2015; Navaneedhan & Kamalanabhan, 2015), but the level of implementation varies among countries due to the differences in a number of issues such as awareness, acceptability, change and culture (Ebisine, 2014; Altbach, 2015; Kanaan, 2018).

With the establishment of the first private university in Jordan in 1989 (Al-Ahliyya Amman University), the Accreditation Council (AC) was established in Jordan in 1990 and evolved as a result of a rapid expansion in the higher education private and public sector. In 1990, the main role of the Accreditation Council was to formulate criteria for public and private universities, to establish quality assurance measures for public and private universities, and to establish monitoring system to ensure that universities are compliant with the criteria (MoHESR, 2018).

In 2007, Accreditation Council has been replaced by the Higher Education Accreditation Commission (HEAC), and it granted administrative and financial independence, its main role was to monitor the development and maintenance of quality in Jordanian universities, and to implement the National Center for Testing. HEAC vi-

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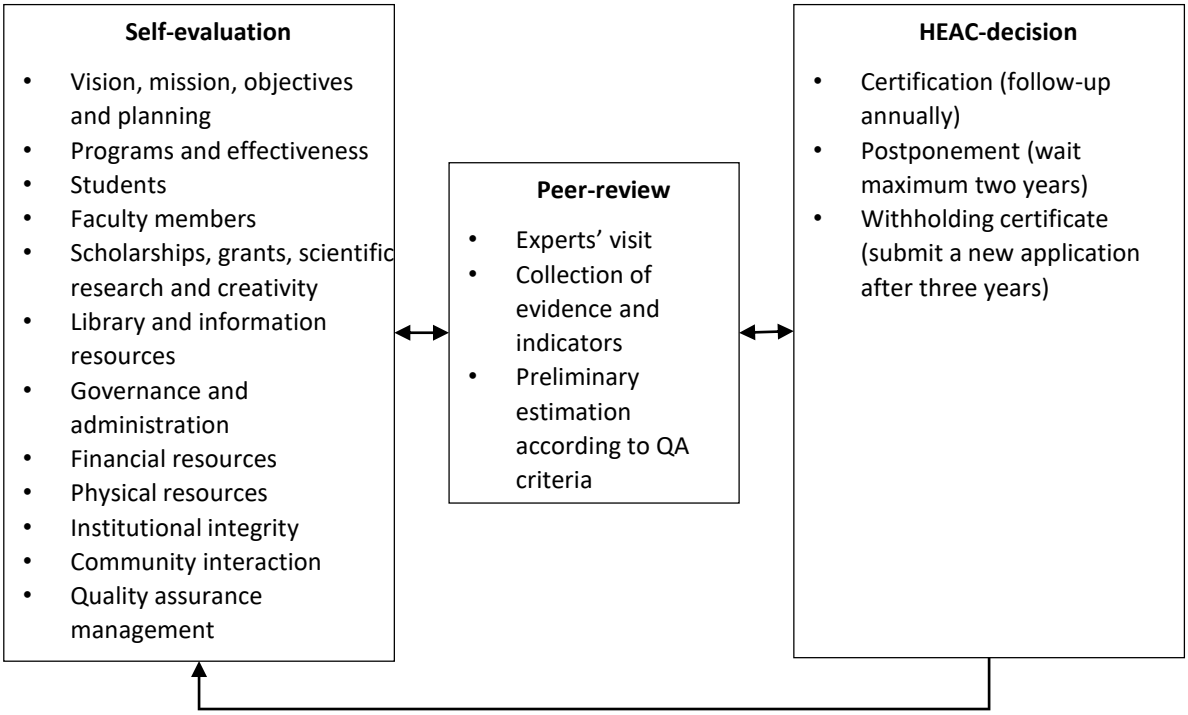

Figure 2. Quality assurance system framework

sion was to increase the standard of specializations and faculty members in Jordanian universities to internationally recognized standards, and its aims were to establish benchmarks for quality assurance system and accreditation in Jordanian universities; monitor and ensure that Jordanian universities are committed to quality assurance and accreditation system; and encourage the cooperation between Jordanian universities and international research centers and quality control commissions. HEAC has focused on three pillars, these are: 1) accreditation for universities, community colleges, and joint programs; 2) quality assurance procedure for universities and programs; 3) national testing center for assessments and testing services, and consultative services (MoHESR, 2018).

It is worth to notice that all private universities have followed the Accreditation Council criteria since they have been established, however, the Accreditation Council has less power on public universities as they still have the power to accredit their own programs and courses, and the Accreditation Council is restricted in licensing and recognizing courses and programs in private universities. In 2011, a committee was established for establishing the ranking system of the Jordanian universities, this system is based on six concepts: research outputs; faculty; students; facilities; finance; and university programs.

1.3. Quality assurance system implementation: theoretical framework

Quality assurance in Jordanian universities started to take place in 2007, when the board of accrediting the higher educational institutions established the criteria and indicators of quality assurance based on the Law No. 20 of 2007 (MoHESR, 2018). Quality assurance framework aims at the continuous improvement in the higher educational institutions, this process goes through three stages (see Figure 2): stage 1 – self-evaluation: information, verifications and indicators on each of the 12 criteria of the educational institutions of the Jordanian universities are provided in the self-evaluation report, stage 2 – peer-review: in this stage, a specialized external team visits the university to make sure that the data submitted in the self-evaluation report (information, verifications and indicators) are real, stage 3 – decision making, in this stage, the council reviews the report submitted by the external reviewers in order to make the final decision about issuing the quality assurance certificate.

The process of quality control standards in Jordan includes a set of criteria and indicators laid down by the board of accrediting the higher educational institutions. The criteria are: the institution's vision, mission, objectives and planning; the educational programs and their effectiveness and efficiency; students and student support services; faculty members; scholarships; research, creativity and innovation; library and information sources, governance and administration; financial resources; physical resources; institutional integrity; community engagement; quality assurance management.

The research problem in this paper is that most Jordanian universities have established quality assurance offices, these offices started stage 1 of the quality control process in 2007, which is self-evaluation to collect data and information, verifications, documents and indicators on each of the 12 criteria to prepare the self-evaluation report. However, since 2007, two or three universities have submitted the self-evaluation report to the Higher Education Accreditation Council (HEAC). Up till now, one private university has achieved and obtained the quality assurance certificate from the Higher Education Accreditation Commission in Jordan in 2015, which is Petra University (HEAC, 2018). Petra University is regarded as the first university in Jordan that received this certificate.

2. RESEARCH APPROACH AND DESIGN

2.1. Research approach

Implementing quality assurance in the Jordanian universities may offer many benefits and promises, yet its adoption is faced by a number of challenges and obstacles that need to be identified in order to realize the promised benefits. Most of the Jordanian universities are stuck in stage 1: self-evaluation, our argument in this paper is that universities are stuck in this stage for many issues and challenges, previous studies have identified different obstacles and challenges in developed countries, such as quality innovations (Barnett, 2014; Lozano et al., 2013; Wals, 2014); awareness (Siemens et al., 2013; Hou, 2014; Laguador et al., 2014); change (Ceulemans et al., 2015; Kok & McDonald, 2017); quality concept (Asif et al., 2013; Holt et al., 2014; Manatos et al., 2017) and other obstacles. The success of quality assurance process in Jordanian universities is subject to understanding, acceptance, awareness of quality assurance, Higher Education Accreditation Commission needs to work on limiting the power of these challenges, in order to realizing a comprehensive national strategy for the most important sector in Jordan. This area of research does not seem to have received enough attention so far, at least in Jordan, in order to help universities to move from stage 1 to stage 2 in implementing quality assurance system. For this reason, we have decided to research into practitioner's perceptions of quality assurance implementation within higher educational institutions.

In order to achieve the objectives of this research in exploring the issues and challenges to the implementation of quality assurance system in the Jordanian universities, the following research questions need to be answered by universities, and mainly quality assurance offices, Higher Education Accreditation Commission who are most involved in quality assurance processes.

What are the main issues and challenges in implementing quality assurance system in the Jordanian universities?

2.2. Research method

This research follows the quantitative approach (questionnaire) at this stage of work. The questionnaire was developed based on both previous literature and interviews with some experts with significant experience in quality assurance in higher education institutes in Jordan. A 5-point Likert scale ranging from 1 as strongly disagree to 5 as strongly agree were used for the measurement in the questionnaire. Before the formal survey was distributed to the Jordanian universities, two pilot iterations were conducted; the first iteration involved two Ph.D. colleagues; based on their feedback, certain questions in the survey were modified with minor changes, which were made to improve the clarity and readability. The second iteration involved ten colleagues, there were minor changes,

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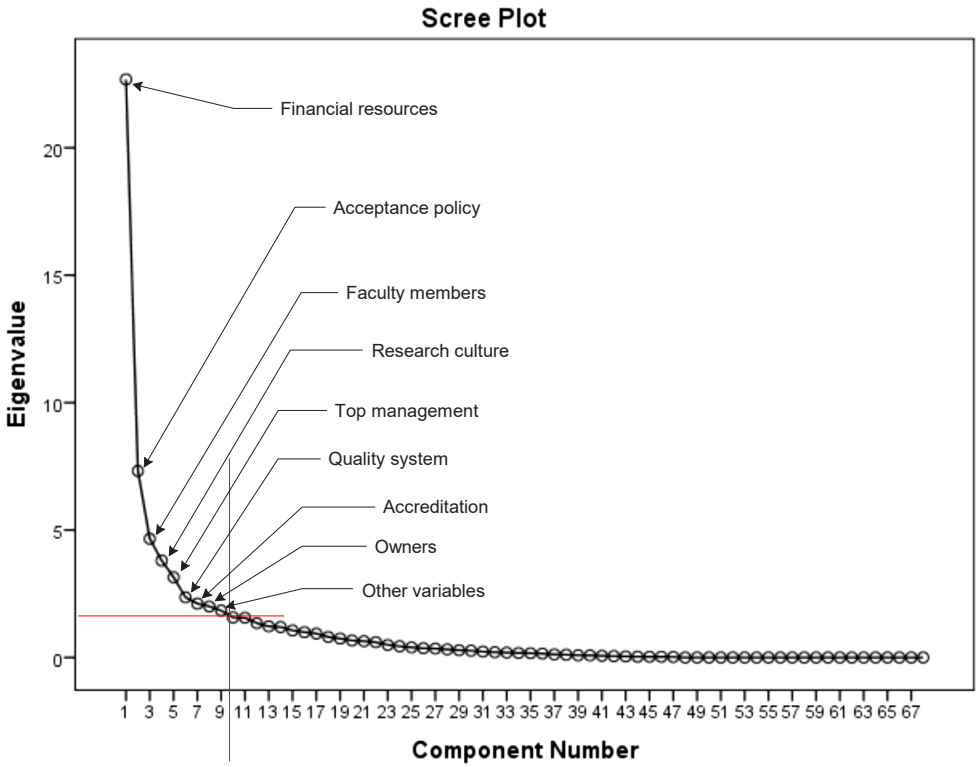

Figure 3. Eigenvalue of the nine factors extracted

giving us the confidence to issue the questionnaire. The questionnaire included fixed-choice questions about the main issues and challenges in implementing quality assurance system in the Jordanian universities. The questionnaire included 68 questions related to main issues and challenges of quality assurance system implementation. Data collection process for this work took place in June-September 2018.

The data from questionnaire were analyzed using the parametric statistical methods: descriptive analysis and factor analysis. As the questionnaire includes 68 questions, a factor analysis technique was used to identify possible categories for future work. Factor analysis was performed in the following steps: firstly, a matrix of correlation coefficients for all possible pairings of all variables was generated. Secondly, factors were then extracted from the matrix of correlation using principal factor analysis. Thirdly, the factors were rotated to maximize the relationships between the variables and the factors and to minimize association with other variables using Varimax Kaiser Normalization (Al-Yaseen et al., 2011).

3. RESULTS AND DISCUSSION

The questionnaire was sent by email to people directly involved in implementing quality assurance system in all public and private universities (150 questionnaires, 5 questionnaires were distributed in each university). Of the 150 questionnaires addressed, 1 was returned empty, 2 were returned uncompleted, 147 completed questionnaires were returned with a total response rate of 98%, which is considered to be high and above expectation.

Based on factor analysis of the questionnaire, nine factors have an Eigenvalue (> 1) as shown in Figure 3, which we termed: "Financial resources" is highly correlated with ten variables, second factor "Acceptance policy" is highly correlated with seven variables, third factor "Faculty members" is highly correlated with seven variables, fourth factor "Research culture" is highly correlated with seven variables, fifth factor "Top management" is highly correlated with seven variables, sixth factor "Quality system" is highly correlated with twelve variables, seventh factor "Accreditation" is highly correlated with three variables, eight fac-

tor "Owners" is highly correlated with six variables and the ninth factor which we termed "Other variables" is highly correlated with nine variables, for more details (see Appendices A, B).

The research objective was to explore the issues and challenges when implementing quality assurance system in the Jordanian universities; progress in the field of quality assurance in Jordanian universities is slow because of the nine challenges/factors (Figure 3).

For Jordanian universities in particular, in order to move forward in implementing quality assurance systems, it is recommended that universities should increase the required financial resources and spend enough on the educational process; change and improve the policy of students acceptance in universities; concentrate on the variables related to faculty members factor; pay more attention to scientific research for faculty members and postgraduate students; enhance the integration between top management and managerial and academic staff; quality assurance system applied in Jordanian universities needs to be reviewed; accreditation council in Jordan need to work with the universities in general and private universities in particular; owners of the private universities need to work with the top management and academic staff for alignment purposes to move one step forward in the quality assurance system.

CONCLUSION

High level of supervision and restrictions has to be decreased from both Ministry of Scientific Research and Higher Education and Accreditation Council in Jordan in order to increase the collaboration between decision-makers and higher educational institutions will lead to education quality improvement and universities innovation.

There is a need in Ministry of Scientific Research and Higher Education in Jordan for a comprehensive revision of quality assurance system and accreditation process, furthermore, to establish a reform initiative in order to tackle the numerous challenges facing higher educational institutions in Jordan.

The research findings hoped to be useful for both universities and policy makers in the government in order to realize the full benefits of implementing quality assurance system. Hence, this and other research on implementing quality assurance in higher educational institutions might be of assistance. A comparable evaluation of the Jordanian educational perspectives in association with other Middle East countries can be conducted in the future work.

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APPENDIX A

Code	Component Matrix								
	Factors								
	Financial resources	Acceptance policy	Faculty members	Research culture	Top management	Quality system	Accreditation	Owners	Other variables
P1Q1	.533	.351	–.091	–.533	–.146	–.038	.022	–.111	.225
P1Q2	.595	.381	.134	–.517	–.023	.314	–.052	.074	.036
P1Q3	.532	.290	–.099	–.492	–.159	.155	.018	.073	.225
P1Q4	.548	.351	–.049	–.539	–.073	–.026	.004	.230	–.120
P1Q5	.661	.358	–.014	–.341	–.160	.053	–.166	.300	.015
P1Q6	.615	.199	–.034	–.387	–.015	.296	.008	.290	–.002
P1Q7	.649	.263	–.090	–.463	.040	.252	–.042	.142	.066
P1Q8	.596	.247	–.147	.054	.228	.176	–.141	–.064	.153
P1Q9	.684	.248	–.065	–.139	.347	–.070	–.046	–.219	–.019
P1Q10	.683	.151	–.153	–.020	.402	.013	–.172	.137	–.158
P2Q1	.243	.538	–.129	–.257	–.158	–.041	–.333	–.281	–.011
P2Q2	.376	.518	.017	–.207	–.168	–.383	–.006	–.180	–.316
P2Q3	.410	.533	–.112	–.030	–.086	–.241	.292	.046	–.289
P2Q5	.187	.552	–.409	–.174	.014	–.118	–.062	–.230	.041
P2Q6	.487	.546	–.254	–.234	.134	–.100	–.066	–.086	–.030
P2Q7	.519	.538	–.137	–.087	.186	–.162	.024	–.150	–.086
P2Q8	.550	.551	–.109	.047	–.006	–.074	–.045	–.202	–.008
P3Q2	.412	–.268	.570	.382	–.007	–.329	–.023	.119	.179
P3Q3	.383	–.286	.508	.407	.148	–.356	–.085	.160	.105
P3Q4	.504	–.301	.510	.312	.170	–.220	.047	.009	.147
P3Q5	.207	–.194	.502	.097	–.132	.388	.277	–.089	.073
P3Q6	–.037	–.215	.649	.178	.241	.368	.205	–.016	.345
P3Q7	–.110	–.115	.572	.104	.423	.409	.245	.068	.193
P3Q8	–.006	–.112	.572	.218	.253	.427	.282	.047	.052
P4Q1	–.054	.212	.323	.567	–.315	.083	–.197	–.215	–.060
P4Q2	.254	.406	.327	.520	–.237	.038	.097	–.083	–.085
P4Q3	.265	.162	–.001	.529	–.153	.233	.090	.073	–.391
P4Q4	.117	.246	.056	.679	–.127	.099	.054	–.126	–.328
P4Q6	.209	.131	.119	.565	–.429	.125	–.125	–.093	–.192
P4Q8	.130	.100	.213	.714	–.206	.088	–.115	.057	.065
P4Q9	.158	.049	.416	.636	–.120	.058	.223	–.318	–.038
P5Q1	–.411	.053	–.045	–.081	.788	.038	–.067	–.010	.032
P5Q2	–.292	.218	–.112	.000	.838	–.051	.053	–.054	.082
P5Q3	–.339	.138	–.062	–.131	.834	–.127	.063	–.031	–.006
P5Q4	–.296	.202	.036	.016	.824	–.079	.163	–.181	.052
P5Q5	–.391	.198	–.178	–.017	.797	.064	.063	–.038	–.039
P5Q6	–.112	.114	.072	.031	.798	.040	–.144	.028	–.172
P5Q7	–.153	.247	.094	–.059	.725	–.093	.246	.136	–.143
P6Q1	–.410	.241	–.020	–.185	–.118	.668	–.151	–.160	.247
P6Q2	–.306	.252	–.078	–.027	–.202	.767	–.086	–.121	.257
P6Q3	–.334	.364	–.068	–.055	–.180	.750	–.105	–.049	.166
P6Q4	–.297	.325	–.142	–.073	–.108	.760	–.074	–.013	.153
P6Q5	–.361	.241	–.007	.009	–.092	.794	–.128	–.088	–.001
P6Q6	–.241	.099	.166	–.056	.030	.722	.153	.113	.162
P6Q7	–.281	.131	.217	–.036	.026	.710	.127	.086	.105
P6Q8	–.175	.073	.105	.088	–.237	.650	.220	.119	–.089
P6Q9	–.325	–.063	.093	–.027	.014	.702	.079	.083	.110
P6Q10	–.018	.094	.078	.065	–.163	.726	.089	.082	.205

Component Matrix									
Code	Factors								
	Financial resources	Acceptance policy	Faculty members	Research culture	Top management	Quality system	Accreditation	Owners	Other variables
P6Q11	–.136	–.001	.165	.123	–.233	.616	.222	.427	–.226
P6Q12	–.214	.057	–.103	.092	–.073	.532	–.088	.427	–.140
P7Q1	.270	.375	–.071	.127	–.221	–.230	.610	–.194	–.148
P7Q2	.222	.279	.010	.070	–.121	–.121	.646	–.321	.039
P7Q5	.029	.382	–.168	–.001	.012	.410	.523	–.245	–.267
P8Q1	–.493	.359	–.079	.072	–.023	.091	.083	.643	.145
P8Q2	–.373	.398	–.120	–.039	–.020	.054	.164	.721	.130
P8Q3	–.485	.400	–.002	.003	.042	.106	–.016	.680	.114
P8Q4	–.340	.465	–.033	–.023	–.007	.061	.155	.696	.167
P8Q5	–.466	.463	–.005	–.041	–.058	.025	.170	.518	.122
P8Q6	–.298	.397	.107	–.046	–.211	.145	.042	.630	.204
P2Q4	.415	–.122	.127	–.049	–.128	.342	.068	–.096	.453
P3Q1	.277	–.116	–.093	.368	.221	.333	–.167	.203	.494
P4Q5	.480	.122	.421	–.037	–.034	.096	–.253	–.007	.381
P4Q7	.321	.118	.352	–.033	–.249	.355	.071	–.319	.380
P7Q3	–.170	.244	–.168	–.136	.344	–.065	–.130	–.230	.406
P7Q4	–.193	.143	–.007	–.066	.265	–.255	.059	.000	.425
P7Q6	–.229	.166	.109	–.072	.461	–.066	–.278	.307	.461
P9Q1	.252	–.010	.142	.391	–.047	–.345	.231	–.266	.460
P9Q2	.111	.286	.211	–.053	.018	.049	–.618	.158	.334
Extraction method: principal component analysis.									
9 components extracted.									

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APPENDIX B

Code	Variable	Code	Variable
P1Q1	Spending infrastructure is limited	P5Q1	University do not have strategic planning
P1Q2	Spending on research projects is limited	P5Q2	Top management understanding of QA is not clear
P1Q3	Spending on attending conferences is limited	P5Q3	Alignment between top management and QA staff is limited
P1Q4	Spending on scholarship is limited	P5Q4	QA culture for top management is unclear
P1Q5	Spending on reputable scholars is not enough	P5Q5	Commitment of top management to QA is limited
P1Q6	Spending on academic skills is limited	P5Q6	Top management procedures will limit QA system
P1Q7	Spending on managerial skills is limited	P5Q7	QA system will not improve top management quality
P1Q8	Student acceptance policy is neglected	P6Q1	Lack of clear vision on QA system
P1Q9	Student academic level is not high	P6Q2	Lack of clear mission of QA system
P1Q10	Ignoring student academic level because of competition	P6Q3	Lack of clear objectives of QA system
P2Q1	Most students accepted in public universities	P6Q4	Lack of clear strategic planning
P2Q2	Students in public univ. will affect quality	P6Q5	Lack of understanding of QA system
P2Q3	Students in public Univ. will affect outcomes	P6Q6	Lack of understanding of QA system from academic staff
P2Q4	Students in public Univ. support QA system	P6Q7	Lack of understanding of QA system from managerial staff
P2Q5	Students with low average go to private Univ.	P6Q8	Resources for QA system is limited
P2Q6	Students with low average affect quality	P6Q9	Lack of experts in QA system
P2Q7	Students with low average affect outcomes	P6Q10	Lack of integrated QA system
P2Q8	Students with low average will not support QA system	P6Q11	QA system is filing files and paper work
P3Q1	Teachers to students ratio is high	P6Q12	QA system will not improve quality of universities
P3Q2	The high ratio affect quality	P7Q1	Accreditation council has a strategic plan for QA system
P3Q3	The high ratio affect outcomes	P7Q2	Accreditation council has clear vision and mission
P3Q4	The high ratio affect negatively QA system	P7Q3	Accreditation council lack integrated QA system
P3Q5	It is difficult to acquire reputable scholars	P7Q4	Accreditation council staff lack skills in QA
P3Q6	Teachers skills in QA system is limited	P7Q5	Accreditation council have skilled staff
P3Q7	Teachers understanding of QA is limited	P7Q6	QA evaluation process is not clear
P3Q8	Teachers commitments of QA is not enough	P8Q1	Owners have clear vision about QA system
P4Q1	Scientific research environment is discouraged	P8Q2	Owners have clear mission about QA system
P4Q2	Importance of scientific research is not clear	P8Q3	Owners have clear objectives about QA system
P4Q3	Spending on scientific research is not enough	P8Q4	Owners have clear strategic planning for QA system
P4Q4	Spending on attending conference is limited	P8Q5	Owners have enough awareness about QA system
P4Q5	Scientific research quality is moderate	P8Q6	Owners believe QA system is important
P4Q6	Quantity of scientific projects is low	P9Q1	QA system needs to change the culture
P4Q7	Teachers understanding of research is limited	P9Q2	QA system start by changing student's culture at schools
P4Q8	Top management understanding of research is limited		
P4Q9	QA affect negatively scientific research		