HEQAM: A Developed Higher Education Quality Assessment Model

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Abstract–**This paper presents a developed higher education quality assessment model (HEQAM) at King Abdulaziz University (KAU). This is because of; there is no universal unified quality standard model that can be used to assess the quality criteria of higher education. Besides, there are shortcomings in the coverage of some current educational quality standards. A Developed questionnaire to examine the quality criteria at KAU is investigated. The analytically hierarchy process is used to identify the priority and weights of the criteria and their alternatives. The model is constructed of three levels including eight main objectives and 53 alternatives. It included e-services criteria which is one of the recent university components, in addition to new sub-criteria for enhancing the model. It produces important recommendations to KAU higher authorities for achieving demanded quality services. Also, it helps KAU to achieve one of its strategic objectives to be a paperless virtual university.**

I. Introduction

UNIVERSITIES all over the world face big challenges to meet the growing number of students, supporting life-long learning for larger and larger parts of the population and of dealing with growing student heterogeneity. Beside these challenges universities are required to provide and maintain a high education quality learning environment based on a standard High Education Quality Criteria (HEQC).The high education service quality has gained tremendous attention from managers and academics due to its importance on business performance, cost reduction, and student satisfaction [1-4]. So, most of the universities are struggling to enhance the professional experience and skills of their personnel in order to utilize the new technologies in their teaching activities in an efficient way [5]. This is to gain a competitive advantage among other universities. Therefore, Saudi universities seek to examine their strategic positions by evaluating existing quality services, and adapting to students' perceptions to enhance their leadership position. On the other hand, higher education plays a significant role in advancing society toward sustainable development [6].

Having an acceptable level of quality services have to be the main concerns of any higher education university system, for guiding the country toward sustainable development. The kingdom of Saudi Arabia (KSA) government spends a lot of efforts to achieve a highly recognized education level by maintaining and improving the HEQC for all universities in the kingdom. Also, KAU has taken significant steps towards the improvement of education quality to facilitate the academic and managerial process, and to support policy making within the university. Due to the rapidly growing concerns about higher education quality in both international and local contexts, this paper proposes a developed model for evaluating higher education quality standards, and applying it at KAU as a case study. The next sections of this paper explain the related work, model construction, model evaluation, model results and discussion, then the conclusion and references.

II. Importance of the Study

Quality assessment of higher education institutions can contribute to the process of standardization of academic degrees. In fact, because of the changing landscape and increased call for accountability, higher education is now being challenged to re-conceptualize methods and processes used to indicate quality and excellence, including those used for assessing and evaluating quality of education programs. The quality of higher education services, especially in developing countries must be viewed as a strategic issue for social and technological development and economic growth [7]. Another issue that shows the importance of evaluating the quality of higher education programs and the need to have HEQC, is the fact that the world has become an open space were people circulates freely throughout all countries; this circumstance requires the establishment of quality standards so that a qualification obtained in the different institutions can be accepted all over the world, simply we can say that applying these HEQC will lead to and help in achieving the goal of accreditation of KAU education programs. Also, this is a major requirement to enhance the academic rank of Saudi universities among other worldwide universities.

III. Literature Review

Nowadays, service quality assessment is an issue that cannot be neglected by any university, even in the higher education in developing countries. In order to tackle this problem, it is necessary to invest in quality systems and tools for improvement. Universities are usually driven to engage in reforms by a variety of forces, which mostly come from globalization, supply and demand issues, competition, accountability, and technology. Their survival and development are determined by improving service quality those satisfying students' needs, since it is a vital significance to higher education services. Earlier researchers studied higher education quality services emphasized academic issues more than managerial issues [8,9], concentrated on effective course delivery

mechanisms and the quality of courses and teaching. Table 1 shows a brief of recent quality models that are used to evaluate higher education in some well-known universities. In this paper, a new service quality assessment model will be explained in section (4).

TABLE 1
HIGHER EDUCATION SERVICE QUALITY MODELS.

Authors	Year	University	Purpose of the used Model
M.S. Owlia & E.M. Aspinall [10]	1996	Birmingham, U.K.	Presents a new framework for dimension of quality in higher education.
R.F. Waugh [11]	2001	Australia	Proposes a model for university administration quality.
M. LALOVIC [29]	2002	Belgrade University	Presents an ABET assessment model using Six Sigma methodology to assessment in education.
S.Lagrosen, R. S. Hashemi, and M.Leitner [12]	2004	Austrian and Swedish students	Examine the dimensions that constitute quality in higher education and to compare these with the dimensions of quality that have been developed in general service quality research.
Z. Yang, L. Yan-ping and T. Jie [13]	2006	Chinese Higher Education	To design a model that is suitable to evaluate the service quality of Chinese higher education, using Servqual.
M. Tsinidou, V. Gerogiannis and P. Fitsilis [14]	2010	Higher education institutions in Greece	The quality determinants are identified for education services provider by higher education institutions in Greece, to measure their relative importance from the students' points of view.
A. R. Arokiasamy [15]	2012	Institutions in Malaysia	Configure the importance of maintaining service quality in higher education industry
This paper	2013	King Abdulaziz University, Jeddah, S.A.	A developer model for assessment of higher education quality Standards, case study KAU.

The assessment of the quality of human resources, physical, technological, financial and information resources at KAU could be appropriate, sufficient and accessible to realize its mission. Also KAU works effectively to plan, provide, evaluate, assure, and improve the academic quality and integrity of its academic programs, curricula, credits and degrees awarded. However, identifying all HEQC within KAU is an important issue. In this paper, a new effective quality model for evaluating HEQC at KAU is presented. To achieve the research objectives, a questionnaire that is used to examine the HEQC at KAU was developed. In addition to that, the e-services criteria are added to the quality model. There is no doubt that e-Services are one of the most recent required components for KAU. They will help in achieving the virtual university strategic goals, among which are the distance learning education. In addition, they are required to implement a successful paperless university [16-19]. They include: interactivity, mobility, flexibility, accessibility, portability, and social process. It is also aimed to achieve, highly demanded HEQC model that helps KAU to become a model to be followed as a paperless university, as well as achieving one of the KAU strategic objectives to be a virtual university.

IV. PROPOSED HIGHER EDUCATION QUALITY ASSESMENT MODEL

Fig.1 shows the proposed higher education quality model. It is based on the development of the model explained in [9]. This proposed model is constructed of three hierarchy levels, including eight main objectives (criteria), and 53 sub-objectives (i.e. alternatives). The eight main objectives include the following:
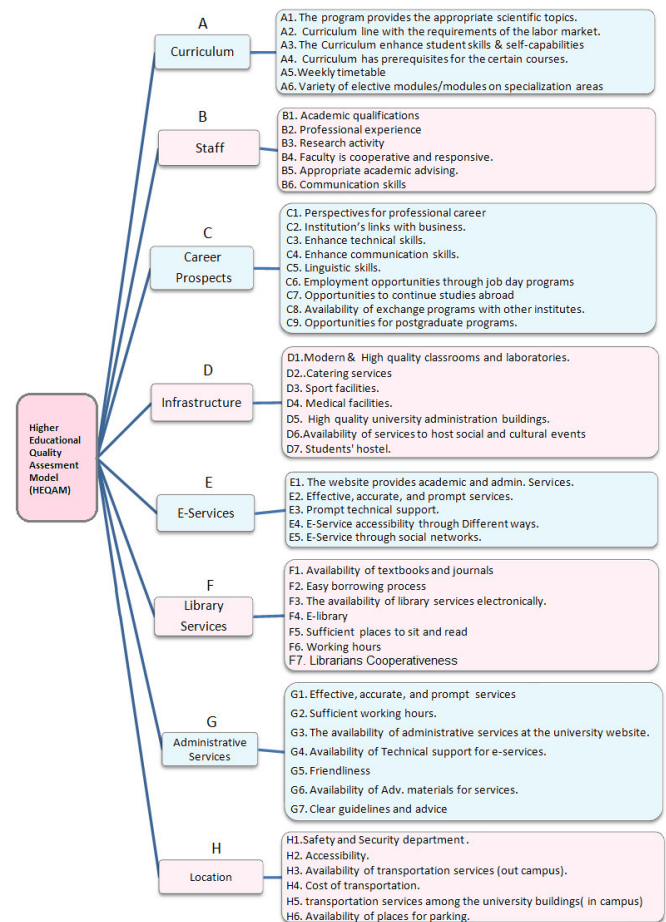

Fig.1 the Proposed HEQAM Model.

A. Curriculum

It is one of the main criteria that affect the higher education quality. It includes six sub-objectives (alternatives) named A1 to A6 and defined as shown in Fig.1. It plays an important rule for establishing the KAU university quality. The curriculum is an "organized program of study for a given degree, certificate award, incorporating all matters such as academic staff requirements, duration of academic program, admission requirements, content requirements and assessment process requirements" [20]. Also, all university curricula have to include [21]: enrolment requirements, objectives, scope, specific courses and content, duration, mode of assessment, standard references, and academic award. To achieve and maintain quality in curriculum development and delivery, university has to encourage academic excellence in research that enables departments to have professors, senior lecturers and several lecturers who participate in developing and reviewing curricula. The curriculum change imposed on higher education institutions through policies and strategies is required in order to develop graduations, enhance employability, widen access and improve retention. It sets out skills and employability curriculum framework for programs, including practical examples, and considers some of the challenges facing this holistic approach to a potentially fragmented area of policy development.

B. *Staff*

It includes six sub-objectives named B1 to B6 and defined as shown in Fig.1. The university that "holds essential educational facilities with affective staff of teaching and training will make students be more motivated, loyal and good performers"[22]. Good performance of teachers inside and outside the class is a significant feature for enhancing students' impartiality, motivation and satisfaction. Course instructors' teaching methodology is also a prime indicator considered by students, when they rate their teachers in their educational development and successful completion of their studies. Higher the intellectual ability of the instructor, the better will be the students' evaluation [23, 24] and consequently more will be the reliability on the teaching staff. The teachers who teach with punctuality, accuracy, reasonability and logical approach in a student friendly manner are more popular [25, 26]. Students level of satisfaction increases by working with those course instructors and lecturers who properly handle the assignments, projects, exams and facilitate students' logical reasoning and aptitude development.

C. *Career Prospects*

It includes nine sub-objectives named C1 to C9 and defined as shown in Fig.1. The quality of university education, allows students that get graduated an excellent career opportunities. Also taking into account the higher education to the needs of the labor market from diverse disciplines, provides job opportunities for graduates of eligible students.

D. *Infrastructure*

It includes seven sub-objectives named D1 to D7 and defined as shown in Fig.1. The infrastructure in higher education can include: facilities, researches, and faculties. In order to have a functional institution, all the aforementioned elements, have to be evaluated, improved and updated. University strategic planning has to include adequate infrastructure components into consideration, since good infrastructure enhances the quality of education and services provided. For examples, classrooms could be equipped with overhead projectors, internet connection, proper lighting and suitable cool system, to facilitate communications between instructors and students. In addition; for applied science; up-to-date laboratories and language labs are needed for experiments and projects of the fields, such facilities can increase learning quality and enhance the sense of research among students and faculty in the fields pursued.

It is necessary to have a healthy students and faculty body, by providing proper playgrounds, swimming pools and gym equipments. In addition, parking lots, which fulfill the needs of all university community, will ease the work conditions. Also, maintaining existing equipments and buying new ones are continuous tasks that require expertise and financial resources. There are needs for effective communication, cooperation, team-work among all the components inside university campus.

E. *E-Services*

It includes five sub-objectives named E1 to E5 and defined as shown in Fig.1. Using e-Services facilities, such as the integration of information and communication technologies, and internet in higher education, achieve imparting easily accessible, affordable and quality higher education leading to the uplift of Saudi Arabian universities. The benefits of e-services in education can provide, right from breaking time and distance barriers to facilitating collaboration and knowledge sharing among geographically distributed students. It increases the flexibility of delivery of education so that learners can access knowledge anytime and anywhere. It can influence the way students are taught and how they learn as now the processes are learner driven and not by teachers. This in turn would better prepare the learners for lifelong learning as well as to contribute to the industry. E-Services also play an important role for establishing the virtual university applying eLearning and also using necessary electronic resources capable for establishing the paperless university.

F. *Library Services*

It includes seven sub-objectives named F1 to F7 and defined as shown in Fig.1. The evolution of information technology has made students' needs for information services to change. This inevitably puts pressure on academic libraries, to work towards improving service quality and student satisfaction. This is necessary to face competition in global higher education industry whilst meeting the specific information needs of students. Students who constitute major users of academic libraries in universities often consider library's service quality based its ability to meet their expectations prior to enrolment. Thus, influencing their overall perceptions of the overall service quality of the institution necessitating a review of quality issues associated with services of academic libraries in universities. Adding electronic resources such as internet play important roles with research in the libraries. Journals and magazines library subscription also facilitate the students task of the faculty. Virtual libraries subscribing, also save time, money, and human resources.

G. *Administrative Services*

It includes seven sub-objectives named G1 to G7 and defined as shown in Fig.1. Administrative services managers plan, coordinate, and direct a broad range of services that allow universities to operate efficiently. A university may have several managers who oversee activities that meet the needs of multiple departments, such as mail, recordkeeping, security, building maintenance, and recycling.

The work of administrative services managers can make a difference in employees' productivity and satisfaction; for example; they might be responsible for making sure that the university has the supplies and services it needs. Administrative services managers also ensure that the university honors its contracts and follows government regulations and safety standards. Administrative services managers may examine energy consumption patterns, technology usage, and office equipment; for example; they may recommend plan for maintenance equipment or buying new ones.

H. *Location*

It includes six sub-objectives named H1 to H6 and defined as shown in Fig.1. University location security, safety and ease accessibility are important criteria from the student's point of view. They achieve a significant correlation between the quality of education and the distance of a college from the nearest town centre. Also, transportation services play an important role in the assessment of university location. They may include several alternatives among which are availability of transportation services in campus and out of campus, as well as cost of transportation.

V. MODEL EVALUATION

Survey questionnaires are developed to collect information about current situation of higher education quality criteria at KAU. These questionnaires are adapted from a work explained in [9]. It is based on Servqual model aspects [8], although it does not use its defined dimensions. Two questionnaire are designed, one for students and the other for faculty members and expertise. The two questionnaires are developed, reviewed and updated with the assistance of KAU education expert consultants. Based on the results from these surveys, the main criteria for the main objectives and their related alternatives of the proposed model are identified. Then, the AHP method [27] is used as a tool for assessment of the weights of the model criteria and their priority. Table 2 shows the pairwise comparisons matrix among the main eight objectives of the higher educational quality model proposed, using the data collected from the developed questionnaires. Another additional eight pairwise comparison matrices are constructed to calculate the ranked weights for the sub-objectives, using AHP-Expert Choice [28].

VI. RESULTS AND DISCUSSION

Based on the data collected from section (V) above, a group of eight main criteria with a total of 53 alternatives as shown in Table 2 are identified, in order to design the higher education quality model for enhancing service quality at KAU. Results in Table2 showed that the main eight criteria, including: Curriculum (A), Staff (B), Career Prospects (C), Infrastructure (D), e-Services (E), Library Services (F), Administrative Services (G), and Location (H) are ranked with 19.7%, 17.3%, 15.9%, 12.7%, 11.7%, 9.8%, 7.2% and 5.9% due to importance levels, respectively. The analyses of these criteria are explained in details next sections.

TABLE 2
PAIRWISE COMPARISON MATRIX.

	Curriculum	Staff	Career Prosp.	Infrastructure	E-Services	Lib.Services	Adm. Serv.	Location	Weights
Curriculum	1.00	1.00	1.00	2.00	2.00	2.00	3.00	3.00	19.7%
Staff	1.00	1.00	1.00	1.00	2.00	2.00	2.00	3.00	17.3%
Career Prospects	1.00	1.00	1.00	1.00	1.00	2.00	2.00	3.00	15.9%
Infrastructure	0.50	1.00	1.00	1.00	1.00	1.00	2.00	2.00	12.7%
E-Services	0.50	0.50	1.00	1.00	1.00	1.00	2.00	2.00	11.7%
Library Services	0.50	0.50	0.50	1.00	1.00	1.00	1.00	2.00	9.8%
Admin. Services	0.33	0.50	0.50	0.50	0.50	1.00	1.00	1.00	7.2%
Location	0.33	0.33	0.33	0.50	0.50	0.50	1.00	1.00	5.9%

A. *Curriculum Quality*

Six criteria are used to characterize the curriculum. Both faculty members and students were asked to give the importance rating these criteria. Results are shown in Fig.2; where appropriate scientific topics were the most important criteria. It can affect Curriculum with a 22.2% importance level. The second important criterion for this criterion is requirements of the labor market, with 20.1% importance level. Enhances student skills & self-capabilities is the third important criterion that can affect Curriculum in the model with 16.3% importance level. Prerequisites come in the fourth rank with 15.1% importance level. Weekly timetable and Elective modules have 13.4, and 12.8% importance level, respectively. Details of these ratings in relation to the model design are shown in column (A) in the Fig.2.

B. *Staff Quality*

Students and faculty member's questionnaire surveys reported that Staff within the university plays an important role in affecting the education quality. They have reported that Academic qualifications and Professional experience is the top of most importance level of this criterion. The applied AHP is used to assess quality determinants, to measure their weights to discover those that influence students' satisfaction most. Academic qualifications and Professional experience get 20.6% and 18.6% with respect to the staff criterion, respectively.
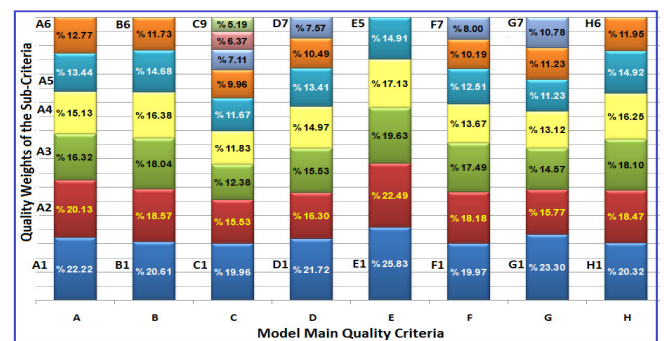

Fig. 2: Weight of alternatives to the HEQAM Model.

The third source of Staff quality criteria is the Research activity with an importance level of 18%. Cooperative, Academic advising, and Communication skills affect Staff quality criteria with 16.4%, 14.7%, and 11.7% importance level. Column (B) in the Fig.2 represents the Staff sub-criteria weights in percentage.

C. *Career Prospects Quality*

Another important factor that affects the higher education quality is Career Prospects. Students and faculty member's surveys reported the sub-criteria that affect this factor. Perspectives for professional career were the most frequently reported factor with an importance level of 20%. The other important factors that affect Career Prospects Quality are Institution's links with business, technical skills, communication skills, Linguistic skills, job day programs, studies abroad, exchange programs, and postgraduate programs.

Column (C) in the Fig.2 represents the Career Prospects sub-criteria weights in percentage.

D. Infrastructure Quality

This is one of the key criteria found and has been high-lighted by both students and faculty members in the survey. Results showed that Modern & High quality classrooms and laboratories have 21.7% importance level with respect to Infrastructure Quality. The other related important level weights of the Infrastructure Quality sub-criteria is shown in column (D) of Fig.2.

E. e-Services Quality

In the survey faculty members and students rated the criteria of providing Academic and Admin-website Services as the most important criterion that may affect the E-Services with a 25.8% importance level. The other related important level weights for E-Services sub-criteria is shown in column (E) of Fig.2.

F. Library Services Quality

Results show that, the criteria of Availability of textbooks and journals were the most important criterion that may affect the Library Services Quality with 20% importance level. The other related important level weights of for these Library Services Quality sub-criteria is shown in the column (F) of Fig.2.

G. Administrative Services Quality

Results show that, the criteria of Effective, accurate, and prompt services were the most important criterion that can affect the Administrative Services Quality with a 23.3% importance level. The other related important level weights of for these sub-criteria is shown in the Fig.2, column (G).

H. Location Quality

Results show that the Safety and Security is the most important criterion that may affect the Location with a 20.3% importance level. The other related important level weights of these sub-criteria are shown in Fig.2, column (H).

VII. MODEL QUALITY WEIGHTS COMPARISON AND RECOMMENDATIONS

All quality of model weights related to each criterion is shown in Fig.3. Comparison between different criteria's weights related to the criteria with the overall ranking for criteria's weights related to the HEQAM Model is shown in Table 3. The column of the total quality criteria (TQC) is computed by multiplying of weights related to criterion by the weight of the quality of the sub-criteria. For example, 19.7 X 22.2 = 4.4, 19.7 X 20.1 = 4, and 19.7 X 16.3 = 3.2, etc, hence the column of the TQC is computed as shown in Table 3. This table indicates the alternatives quality percent-age alternatives quality weights arranged in ascending order. For example, the appropriate scientific topics (A1) have the first priority in the Curriculum, while the Academic qualifications (B1) have the first priority in the Staff quality. Table 4 shows the relation between the qualities of the sub-criteria alternatives and their weights related to the total quality of the model (TQM). The sub-criteria alternatives that occupied the first ten positions are:

(1) The appropriate scientific topics for a student's scientific path (A1).
(2) Curriculum line with the requirements of the labor market (A2).
(3) Academic qualifications (B1).
(4) Modern & High quality classrooms and laboratories (D1).
(5) Professional experience (B2).
(6) The Curriculum enhances student skills & self-capabilities (A3).
(7) Perspectives for professional career (C1).
(8) Curriculum has prerequisites for the certain courses (A4).
(9) The website provides academic and administrative services (E1).
(10) Research activity (B3).

These results have to be taken care of by the higher authorities at KAU. And be taken as recommendations to follow up in order to achieve high quality education.
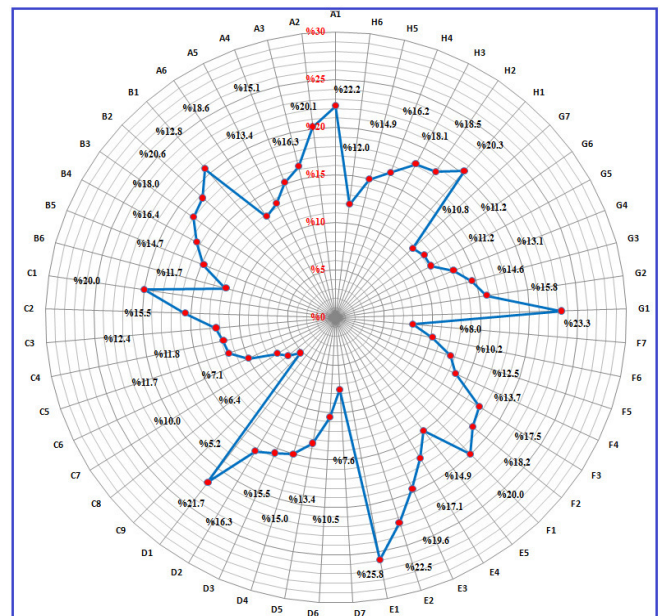

Fig.3: Ranking of all alternatives' weight to the HEQAM Model

TABLE 3
CRITERIA AND ALTERNATIVES OF HEQAM MODEL.

#	Main Quality Sub-Criteria	Alternatives	Weights related to Criterion	Weights related to TQC	Average Weights
A	Curriculum 19.7%	A1. The program provides the appropriate scientific topics	22.2%	4.4%	3.3%
		A2. Curriculum line with the requirements of the labor market.	20.1%	4.0%	
		A3. The Curriculum enhance student skills & self-capabilities	16.3%	3.2%	
		A4. Curriculum has prerequisites for the certain courses.	15.1%	3.0%	
		A5. Weekly timetable	13.4%	2.6%	
		A6. Variety of elective modules/modules on specialization areas	12.8%	2.5%	
B	Staff 17.3%	B1. Academic qualifications	20.6%	3.6%	2.9%
		B2. Professional experience	18.6%	3.2%	
		B3. Research activity	18.0%	3.1%	
		B4. Faculty is cooperative and responsive.	16.4%	2.8%	
		B5. Appropriate academic advising.	14.7%	2.5%	
		B6. Communication skills	11.7%	2.0%	
C	Career Prospects 15.9%	C1. Perspectives for professional career	20.0%	3.2%	1.8%
		C2. Institution's links with business.	15.5%	2.5%	
		C3. Enhance technical skills.	12.4%	2.0%	
		C4. Enhance communication skills.	11.8%	1.9%	
		C5. Linguistic skills.	11.7%	1.9%	
		C6. Employment opportunities through job day programs.	10.0%	1.6%	
		C7. Opportunities to continue studies abroad	7.1%	1.1%	
		C8. Availability of exchange programs with other institutes.	6.4%	1.0%	
		C9. Opportunities for postgraduate programs.	5.2%	0.8%	
D	Infrastructure 12.7%	D1. Modern & High quality classrooms and laboratories.	21.7%	2.8%	1.8%
		D2..Catering services	16.3%	2.1%	
		D3. Sport facilities.	15.5%	2.0%	
		D4. Medical facilities.	15.0%	1.9%	
		D5. High quality university administration buildings.	13.4%	1.7%	
		D6. Availability of services to host social and cultural events	10.5%	1.3%	
		D7. Students' hostel .	7.6%	1.0%	
E	E-Services 11.7%	E1. The website provides academic and admin. Services.	25.8%	3.0%	2.3%
		E2. Effective, accurate, and prompt services .	22.5%	2.6%	
		E3. Prompt technical support.	19.6%	2.3%	
		E4. E-Service accessibility through Different ways.	17.1%	2.0%	
		E5. E-Service through social networks.	14.9%	1.7%	
F	Library Services 9.8%	F1. Availability of textbooks and journals	20.0%	2.0%	1.4%
		F2. Easy borrowing process	18.2%	1.8%	
		F3. The availability of library services electronically.	17.5%	1.7%	
		F4. E-library	13.7%	1.3%	
		F5. Sufficient places to sit and read	12.5%	1.2%	
		F6. Working hours	10.2%	1.0%	
		F7. Librarian Cooperativeness	8.0%	0.8%	
G	Adminstrative Services 7.3%	G1. Effective, accurate, and prompt services	23.3%	1.7%	1.0%
		G2. Sufficient working hours.	15.8%	1.1%	
		G3. The availability of administrative services at the university website.	14.6%	1.0%	
		G4. Availability of Technical support for e-services.	13.1%	0.9%	
		G5. Friendliness	11.2%	0.8%	
		G6. Availability of Adv. materials for services.	11.2%	0.8%	
		G7. Clear guidelines and advice	10.8%	0.8%	
H	Location 5.9%	H1. Safety and Security department .	20.3%	1.2%	1.0%
		H2. Accessibility	18.5%	1.1%	
		H3. Availability of transportation services (out campus).	18.1%	1.1%	
		H4. Cost of transportation	16.2%	1.0%	
		H5. transportation services among the university buildings(in campus)	14.9%	0.9%	
		H6. Availability of places for parking.	12.0%	0.7%	

VIII. CONCLUSION

This paper proposed a higher education quality assessment model (HEQAM). It consists of eight sub-criteria, including 53 alternatives. The main criteria include Curriculum, Staff, Career Prospects, Infrastructure, E-Services, Library Services, Administrative Services, and Location Quality. The model is applied in KAU, for evaluating the education quality. The issue of main quality criteria and sub-criteria has been addressed to define determinates and their respective weight in the overall quality. The assessment of the university education quality from both students and expert's perspective are achieved using developed questionnaires. The work also provided recommendations on quality improvement of the institution based on its findings. The multi-criteria decision making AHP method was applied for qualitative and quantitative the model criteria. Results proved that the quality criteria that occupied the first five position included: the appropriate scientific topics for a student's scientific path (A1), Curriculum line with the requirements of the labor market (A2), Academic qualifications (B1), Modern & High quality classrooms and laboratories (D1), and Staff Professional experience (B2). The model quality weights obtained for the overall criteria have to be considered highly recommended factors to be followed for improving university education quality in the Kingdom of Saudi Arabia universities.

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TABLE 4
RANKING OF ALL QUALITY OF THE SUB-CRITERIA ALTERNATIVES W.R.T. MODEL TOTAL QUALITIES (TQM).

#	Sub-Criteria Alternatives	Weights relate TQM
1	A1. The program provides the appropriate scientific topics	4.4%
2	A2. Curriculum line with the requirements of the labor market.	4.0%
3	B1. Academic qualifications	3.6%
4	D1.Modern & High quality classrooms and laboratories.	2.8%
5	B2. Professional experience	3.2%
6	A3. The Curriculum enhance student skills & self-capabilities	3.2%
7	C1. Perspectives for professional career	3.2%
8	A4. Curriculum has prerequisites for the certain courses.	3.0%
9	E1. The website provides academic and admin. Services.	3.0%
10	B3. Research activity	3.1%
11	B4. Faculty is cooperative and responsive.	2.8%
12	A5.Weekly timetable	2.6%
13	B5. Appropriate academic advising.	2.5%
14	E2. Effective, accurate, and prompt services .	2.6%
15	A6. Variety of elective modules/modules on specialization areas	2.5%
16	C2. Institution's links with business.	2.5%
17	E3. Prompt technical support.	2.3%
18	D2..Catering services	2.1%
19	E4. E-Service accessibility through Different ways.	2.0%
20	C3. Enhance technical skills.	2.0%
21	F1. Availability of textbooks and journals	2.0%
22	C5. Linguistic skills.	1.9%
23	D3. Sport facilities.	2.0%
24	D4. Medical facilities.	1.9%
25	F2. Easy borrowing process	1.8%
26	E5. E-Service through social networks.	1.7%
27	G1. Effective, accurate, and prompt services	1.7%
28	F3. The availability of library services electronically.	1.7%
29	D5. High quality university administration buildings.	1.7%
30	C4. Enhance communication skills.	1.9%
31	C6. Employment opportunities through job day programs.	1.6%
32	F4. E-library	1.3%
33	F5. Sufficient places to sit and read	1.2%
34	H1. Safety and Security Department	1.2%
35	B6. Communication skills	2.0%
36	H2. Accessibility	1.1%
37	C7. Opportunities to continue studies abroad	1.1%
38	H3.Availability of transportation services (out campus).	1.1%
39	C8. Availability of exchange programs with other institutes.	1.0%
40	G2. Sufficient working hours.	1.1%
41	F6. Working hours	1.0%
42	H4. Cost of transportation	1.0%
43	D6.Availability of services to host social and cultural events	1.3%
44	D7. Students' hostel .	1.0%
45	G4. Availability of Technical support for e-services.	0.9%
46	C9. Opportunities for postgraduate programs.	0.8%
47	H5. transportation services among the university buildings(in campus)	0.9%
48	G5. Friendliness	0.8%
49	G7. Clear guidelines and advice	0.8%
50	G6. Availability of Adv. materials for services.	0.8%
51	G3. The availability of administrative services at the university website.	1.0%
52	F7. Librarian Cooperativeness	0.8%
53	H6. Availability of places for parking.	0.7%

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