

Evaluation Models for E-Learning Platform in Riyadh City Universities (RCU) with Applied of Geographical Information System (GIS)

Abdulaziz I. Alharrah* Amer N. Almetair, Nasser M. Alzeer

Department of Geography, College of Arts, King Saud University, P O Box 2456, Riyadh 11451, Saudi Arabia.
alharrah@ksu.edu.sa, amermetair@yahoo.com, nmzeer@ksu.edu.sa

Date Received: October 5, 2014, Date Revised: November 14, 2014

Abstract: *E-learning that integrates digital knowledge content, network and information technology has become an emerging learning method. As the e-learning platform approach is becoming an important tool to allow the flexibility and quality requested by such a kind of learning process. There is a new kind of problem faced by organizations consisting in the selection of the most suitable e-learning platform. This paper proposes evaluation model for E-Learning platform in Riyadh City universities (RCU) with Applied Geographic Information System (GIS). The E-Learning platform solution selection is a multiple criteria decision-making problem that needs to be addressed objectively taking into consideration the relative weights of the criteria for any organization. We formulate the quoted multi criteria problem as a decision hierarchy to be solved using GIS. AGIS-based evaluation index system and web-based evaluating platform were established. In this paper we will show the general evaluation strategy and some obtained results using our model to evaluate some existing commercial platforms. The results of evaluation model are outlined as follows: Total weights of the proposed framework in management feature is 20.25/25, in collaborative feature is 9.2/10, in adaption learning path is 6.8/10 and in interactive learning object is 5/5. The total weights of all features are 41.25/50. In this study an evaluation model was applied on Riyadh City universities like KSU, IMAMU, NAUSS, YU and FU. Then, the results were compared with each other. The total weights of KSU was 41. While the total weights of FU, IMAMU, YU and NAUSS was 40, 37, 36 and 32, respectively. Evaluation process shows that the proposed framework satisfied the objectives with applied GIS.*

Keywords: *E-Learning, LCMS, GIS, AHP, Multiple Criteria Decision Making Problem.*

I. INTRODUCTION

E-Learning has become a catalyst for change in teaching and learning. It supports skills needed in a knowledge-based society, such as collecting, analyzing and applying information appropriately and comprises different teaching methods, such as information management, creative thinking, critical thinking, problem solving and collaborative learning [1].

Every comprehensive university has a three folded missions: teaching, research and serving the society and therefore e-learning must take an active role in achieving these missions. It must fit in the new system and change the way of learning, teaching, researching and make business .

E-learning is a common method able to present the

content of the course in a longer period compared to classroom environment and other methods. Through E-learning the education is available all the time, during the seven days and twenty-four hours a day. E-learning reaches more learners, and it ensures the learning environment, which is independent of time and place. A geographic information system (GIS) integrates hardware, software, and data for capturing, managing, analyzing, and displaying all forms of geographically referenced information. GIS technology can be integrated into e-learning platform and GIS allows us to view, understand, question, interpret, and visualize data in many ways that reveal relationships, patterns, and trends in the form of globes, reports, and charts in RCU[2].

So the goal of this paper is to show models for

selecting the most suitable E-Learning solution in RCU with applied GIS. In literature, there are approaches to the E-Learning Platform in RCU. A common approach is the introduction of some evaluation grids able to evaluate the various aspects of an E-Learning platform. The weak point of this approach is in the subjective of the judgments. The starting point of the proposed model is the formulation of a multi criteria decision problem to be solved by the Analytic Hierarchy Process (AHP) [3].

This paper proposes evaluation model for E-Learning platform in RCU with Applied GIS. The E-Learning platform solution selection is a multiple criteria decision-making problem that needs to be addressed objectively taking into consideration the relative weights of the criteria for any organization. We formulate the quoted multi criteria problem as a decision hierarchy to be solved using the GIS. AGIS-based evaluation index system and web-based evaluating platform were established. In this project we will show the general evaluation strategy and some obtained results using our model to evaluate some existing commercial platforms with Applied GIS.

II. RELATED WORK

Recently, many researchers study the issue of e-learning platform and technology, and provide a brief overview of LCMS, and discussed the background of e-learning that have been identified in the definition we define relevant. E-learning applications over the Internet that allows the coach to provide educational content standards-based communities of learners. Brooks, to provide the high popularity of these systems, they tend to have a minimum of cooperative awareness and navigation features, and students often find themselves learning in a vacuum without feeling the rest of the learning community is doing.

Hammami (2010), evaluation questions presented and their relevance to measuring the popularity of e-learning system, and participation of the participants and the interaction between them and they can be used to support services and decision-making [4].

Colace (2006) suggested concepts and applications of e-learning platform for the analysis of several decision criteria, implementation of the program steps in the fight against hunger. Finally we get the results of applying the proposed approach on some of the existing commercial and open source e-learning platforms. Graf (2002), the sample met the description of the structure of the course of adaptation and reflect different views of learners with different

learning styles[5].

The study of García (2005) provides a framework based on the use SCORM standard specifications that allow for trainers in the development of standard tests to evaluate e-learning programs. The proposed framework is based on a model curriculum Learning Assessment, which assumes three main areas of functionality of any learning platform: content, communications, and management. Has been applied to compare the two functions of the popular LMS specifications that support the Crimea. The paper describes some experiments that reveal the assessment for the lack of integration between levels of education in the curricula of e-learning.

Paper of Colace et al. (2008) proposes a model for the description, characterization and selection of e-learning platform. Selection of e-learning solution is a multiple criteria decision-making problem that needs to be addressed objectively, taking into account the relative weights of the criteria for any organization. We are in the development of standards and quoted a problem such as multi-resolution hierarchy can be solved using the analytic hierarchy process (AHP). In this paper we will present a general strategy and evaluate some of the results obtained using the model for us to evaluate some of the existing facilities of Commerce [6].

Yan-qing (2008) presented an AHP-based evaluation index system and established online platform evaluation, and discussed a model student-centered teaching, in which both teachers and support evaluation platform for the students. After applying the model of primary education in one academic year, found some problems, so that the model has been proposed improved teaching [7]. Lanzilotti et al. (2006), investigated the concept of quality of e-learning systems, and proposed a new framework, called tics (technology, interaction and content, and services). This framework is one of the aspects of quality e-learning content, "which focuses on the appropriateness and quality of educational materials that can be achieved through the design of learner-centered minute[8].

Chu, et. al. (2009) presented a systematic approach to teachers' knowledge modeling "to get on the platform of e-learning-based theory and technology of the system architecture, knowledge management and knowledge engineering. This paper focuses on the knowledge of modeling to teach math to students with learning difficulties sports to support the KM-based platform of e-learning [9].

Jurubescu (2008), suggested distinction between LMS and CMS used for content on the public Internet. On the other foot, we can define very expensive and so far very little is carried out one of the best tools that help us to deal with the realities of 21 in what concerns

RIYADH CITY UNIVERSITIES (RCU)

The city is in the interior of the Kingdom of Saudi Arabia, 900 Km from Jeddah city on the Red Sea and 400 Km from Dammam city on the Arabian Gulf. Along the road to Jeddah towards west of the city at about 100 miles lies the impressive Tuwaiq escarpment- brittle sandstone cliffs rising 60 to 150 meters for about 50 Km. In the south of the city at about 50 miles lies an extensive irrigated area. From east, the city is surrounded by greatest desert of the Middle East Rub Al Khali[11].

The city lies between 24° to 25° North and 46° to 47° east on the globe. The environmental protection

learning. Could be the motive behind the debate over the usefulness of one or another system is of the Organization of the costs involved before, and the desired efficiency, and availability of the product in the market [10].

area that is administered by the Riyadh Development Authority (ADA) consists of 5000 square kilometers with almost 600,000 land parcels. The city contains more than 100 administrative neighborhoods (districts), which are called “Hara” or “Hayy” in Arabic. These districts are planned to have their civic centers with all basic services such as medical clinic, school and post office etc. From north to south along the west side of the city, Wadi Hanifa flows. This is a natural valley which is a great source of natural landscape of the city[11]. Figure 1 shows the locations of the universities that selected to conduct this paper are:

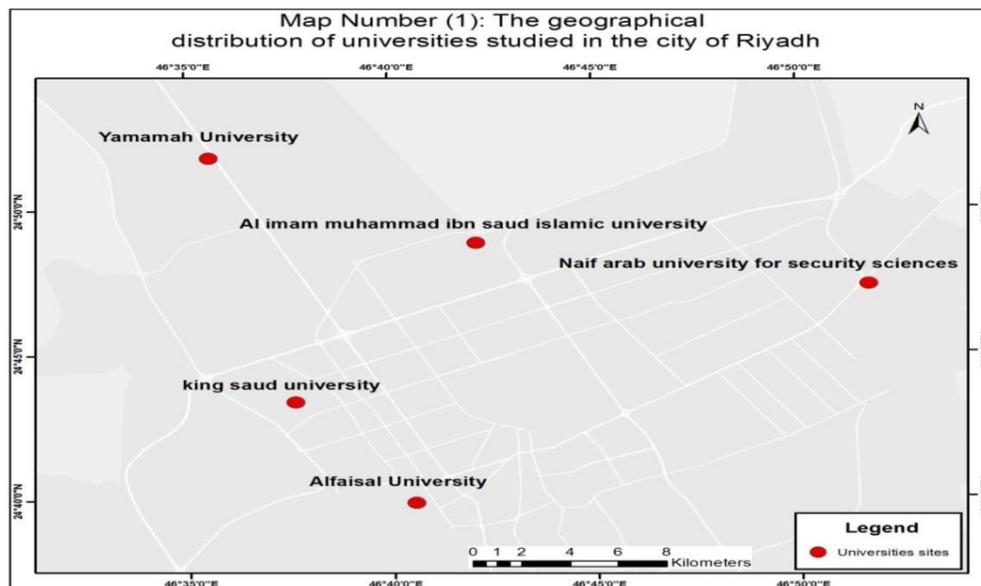


Fig. 1: Distribution of universities studied in the city of Riyadh

1. **King Saud University (KSU):** Establishing Saudi Arabia's first university was a response to the educational and professional needs of a young nation. Abdulaziz Al-Saud, proclaimed the King in 1932, and began laying the foundations for modernizing his country and establishing an educational system. In 1953, Saud, the eldest son of Abdulaziz, acceded to the throne upon his father's death. He would soon institute the Council of Ministers and establish the Ministry Education.

2. **Al - Imam Muhammad ibn Saud Islamic University (IMAMU):** Teaching Sharia knowledge prevailed most regions in Saudi Arabia before opening up government-run schools and Sharia institutes. Teaching was conducted at mosques and houses of scholars, who taught a lot of judges. His eminence Sheikh Mohammed Ibrahim Al-Sheikh – May Allah show mercy to him - and his brothers played a major role in disseminating knowledge of Sharia in Riyadh and the neighboring areas.

3. **Naif Arab University for Security Sciences (NAUSS):**The idea of establishing the Naif Arab University for Security Sciences, with a first conference of the leaders of the Arab police and security in the city of Al Ain, United Arab Emirates during the period from 18-21/12/1972. The Conference adopted a resolution with the number (17) which read as follows: (the cost Director-General of the Arab Bureau of Criminal Police to prepare a study on the feasibility of the establishment of the Institute for Research on the Arab level, the police and the studies that include the study of the project such as this requires the Institute and his expertise and funds to study and presentation of the next conference).
4. **Al-Faisal University (FU):**AL-Faisal University was established in 2002 at the initiative of the King Faisal Foundation leading its initiatives that go beyond the traditional concept of charity work, as the first non-profit private universities in the Kingdom of Saudi Arabia is committed to global standards of quality and characterized by their interest in the student and scientific research. The

pay-Faisal to achieve excellence and success board of trustees, which represents the founders of local and international are fully committed to a message university.

Al-Faisal University, began her career with four colleges are business, engineering, medicine and science, provides educational programs and world-class quality at the level of undergraduate and graduate to the elite of outstanding students of both sexes, the university also gives the opportunity for the Saudis and non-Saudis to join them.

5. **Yamamah University (YU):**Al Yamamah College (YC) was established in May 2001 by Al-Khudair family as their second major contribution to education in Saudi Arabia after establishing the first private school in Riyadh in 1957. Authorized as an institution of higher learning by the Ministry of Higher Education, Al Yamamah College opened its doors to male students in September 2004 and to female students in September 2006. Since then, the college has established itself at the forefront of educational innovation and excellence in the Kingdom.

LEARNING CONTENT MANAGEMENT SYSTEM (LCMS)

In our opinion the most part of contemporary E-Learning platform can be viewed as organized into three fundamental macro components: a Learning Management System (LMS), a Learning Content Management System (LCMS) and a Set of Tools for distributing training contents and for providing interaction [12].

The LMS integrates all the aspects for managing online teaching activities. The LCMS offers services that allow managing contents while paying particular attention to their creation, importation and exportation. The set of tools represents all the services that manage teaching processes and interactions among users. In the following, after describing in detail the characteristics of the LCMS, LMS, and set of tools, technological and pedagogical requisites for a distance learning application will be defined, in order to outline an evaluation model. LCMS includes all the functions enabling creation, description, importation or exportation of contents as well as their reuse and sharing. Contents are generally organized into independent containers, called *learning objects*, able to satisfy one or more didactic goals[13].

LEARNING PLATFORMS

Internet provides powerful tools for the exchange of information that can be used in different ways to learn on-line. Chat and e-mail is currently the most prevalent of these, because they grew up for the first time in the world of the Internet. However, new technologies, and the use of gang references allow wider access to the means of communication and audio / video in real-time as well as for the exchange of multimedia content. In the beginning, it was online learning platforms to integrate these services. NetMeeting is running for the application developed by Microsoft is a useful example to understand how to restructure the distance learning tool. Provides services such as NetMeeting is running are running on the line text chat, and video conferencing, and voice chat, and application sharing and whiteboard. At least until the first half of the 90s, and this way, and the prevailing platforms to organize distance education. Internet provides powerful tools for the exchange of information that can be used in different ways to learn on-line. Chat and e-mail is currently the most prevalent of these, because they grew up for the first time in the world of the Internet. However, new technologies, and the use of gang references allow access to a wider means of communication and audio /

video in real-time as well as for the exchange of multimedia content. Initially, it was online platforms to integrate these services to learn. NetMeeting is running for the application developed by Microsoft is a useful example to understand how to restructure the tool distance learning. Provides services such as NetMeeting is running on the line text chat, video conferencing, voice chat, application sharing and whiteboard. At least until the first half of the 90s, and this way, and the dominant platforms for the organization of distance education. Once been solved technological problems related to the delivery and implementation of such services, has begun industries to improve the platforms through the introduction of modules and services capable of managing the educational aspects (associated with the process of training) [14], as well as update the content and availability. Can be considered the most part of the e-learning platform contemporary organized in three basic macro components : learning management system (LMS) and (LCMS) and a set of tools for the distribution of the contents of the training and provide interaction [12]. LMS and integrate all aspects of the management of educational activities on-line. We can offer services that allow for the definition of content management,with special attention to create and import and export. A set of tools represent all of the services that manages operations of teaching and interaction between users. In the following, after describing in detail the characteristics of LCMS, LMS, and a set of tools and determine the technological and educational supplies for the application of distance learning, in order to identify the basic features of the model evaluation. Europe has been the solution of problems related to the delivery of technological and implementation of such services, industry began to improve platforms through the introduction of modules and services capable of managing the educational aspects (associated with the process of training [14], as well as update the content and availability. Can be considered the most part of the e-learning platform contemporary organized in three basic macro components: learning management system (LMS) and learning content management system (LCMS) and a set of tools for the distribution of the contents of the training and provide interaction [12]. LMS and integrate all aspects of the management of educational activities on-line. We can offer services that allow for the definition of content management, with special attention to create and import and export. A set of tools represent all of the

services that manages operations of teaching and interaction between users. In the following, after describing in detail the characteristics of LCMS, LMS, and a set of tools and supplies will determine the technological and educational application of distance learning, in order to identify the basic features of the evaluation model [6].

THEGISAPPROCH AND THESELECTION OFAN E-LEARNING PLATFORM

E-learning platforms have to meet some of the rules in order to be effective, and besides, some of the platforms can be truly effective only in certain well-defined location. It is clear that this is a problem of multi-criteria decision-making. So the first step is to adjust the interest rate sites, and in this paper we consider the following cases: ECDL course and playground blended university, professional training course. In the following paragraphs will describe in more detail the specific location. Even now, the first step is to determine the hierarchy of the AHP. Obviously, in this case, the first level is to choose the best platform for e-learning site selected. The second level consists of features that have in the account, technological and, in particular, we have introduced four main features: Management; Collaborative Approach; Management and enjoyment of interactive learning objects and Adaptation of learning path.

Obviously every feature involves, in their determination, some sub-features. In order to test our approach we selected the following platforms: KSU, IMAMU, NAUSS, YU, and FU

Now we can describe the details of the proposed approach for different scenarios. We should outline that is obtained from the analysis of various scenarios of real cases. In particular, we have considered scenarios that are in our university. The first involves the selection of e-learning platform for talent ECDL courses. In this case, the platform has to support the classes consisted of thirty students. These students are not really familiar with the computers of the world '. Thus, the advantage of ease of use has to be very carefully and evaluated. In this scenario, it is very important to track the progress of students. Another characteristic of this group is user bandwidth Internet connection is not very wide. The second scenario describes a typical case: the e-learning platform has to support the activities of some of the courses. Even in this scenario management tools are very important. Also collaborative tools have to be considered.

Another scenario involves the use of a platform for e-learning in the case of vocational training. In this case, the target group is not very skilled in the techniques of information and communication technology, and the need to interact with the user interfaces is very simple and clear drawing. In this case feature is really important to him. Also adapt the tools for learning path is important because the target group can be very heterogeneous. This is according to AHP approach we have to compare the different platforms to each other for each feature and scenario. First of all we have to declare the status of features ordered by importance.

II. METHOD

The methodology of this research study is qualitative and it involves the use of qualitative data, such as documents, participant observation data and case study analysis. The framework of this study is drawn from the best practices in building LCMS, literatures review and some experts' suggestions. The case studies are considered to assist in building the proposed framework.

The research methodology explains the relationship between the research problem, the literature review and the data collection method. The research methodology of this study is based on the collected data in an investigation of "real-life" situations, which is relevant to the research problem. The instrument was reviewed by e-learning AHP evaluation model, which was proposed by Francesco Colace in 2006 to determine the content and face validity. The evaluation model was evaluating four main features, management, and collaborative approach, management of the interactive learning objects and the adaptation of the learning path.

Selecting The Sampling Method

Sampling design will be collected by selecting a sufficient number of elements from Riyadh city universities. Then, those samples are studied to understand their properties or those samples characteristics to be able to generalize such properties or characteristic for other Riyadh city universities. Sufficient number of elements were selected from three public and two private universities in this study were selected randomly from universities, where 3 public and 2 private universities were selected using LCMS, three universities selected to the survey. Those five universities are three public universities KSU, IMAMU and NAUSS, and two private universities FU and YU. The responses were diverse, representing

different university. The judgment of the samples involve the choice of the university who is the most advantageously placed or in the best position to provide the information required. Purposive samples are often used to improve representative. In this regard, all the selected universities for this research conformed to the criterion chosen of the selection.

Collection Method

The chosen five Riyadh City universities the purpose of analyzing these experiments studies. The framework is an evaluated model by e-learning AHP evaluation model with applied GIS, which is proposed by Francesco Colace in 2006. The evaluation model is evaluating five main features in Riyadh City universities (King Saud University (KSU), Al - Imam Muhammad ibn Saud Islamic University (IMAMU), Naif Arab University for Security Sciences (NAUSS), Yamamah University (YU), Al-Faisal University and (FU).

In addition to these sources, various sources were consulted to define literature on blended learning systems, especially in learning content and LCMS. Then it is used to printed documents such as books, journals, magazines, newspapers, published and unpublished documents, company reports, letters, reports, Google earth, GIS, and email messages to provide a set of data around the Riyadh City universities experiment in E-learning systems. The documents include: E-mails, Pedagogical Analysis for MIS curriculum in Riyadh City, MIS-Online user guide, Technical committee meeting reports, Meeting Reports, GIS and Reports about accomplished stages. The communicated via e-mail with E-learning systems developers such as Robert instructional technology developer.

Comparing The Proposed Framework With Other Platforms

Francesco Colace in E-learning AHP evaluation model evaluated four features. Next, we will evaluate five E-learning system platforms in Riyadh City universities KSU, IMAMU, NAUSS, YU and FU. After this evaluation, we will display the total weights of these platforms. Then, we will compare these weights with the weights of the proposed framework. After this evaluation, we will display the total weights of these platforms. Then, we will compare these weights with the weights of the proposed framework with applied GIS.

1. Management Index

Management Index = IM = Obtained Value for the supported Tools / Max Value.

This indicator aims to evaluate how many of the services for the management of students and their progress in different platforms. In Table 1 we show the results that were obtained. In this table refers to the weight of the column the relative importance of this feature.

Table 1: Total weights of management feature for the evaluated platforms.

| Tool | Weight | KSU | IMAMU | NAUSS | YU | FU |
|---------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Course Management | 2 | 2 | 2 | 1 | 1 | 2 |
| Groups management | 2 | 1 | 0 | 0 | 0 | 2 |
| Contents Management | 1 | 1 | 0 | 0 | 0 | 2 |
| Contents Sharing | 1 | 1 | 0 | 1 | 1 | 0 |
| Import Standard content | 1 | 0 | 1 | 0 | 0 | 0 |
| Import Contents | 2 | 0 | 2 | 0 | 0 | 0 |
| New CoursesManagement | 1 | 0 | 0 | 0 | 0 | 0 |
| Report | 2 | 2 | 2 | 1 | 2 | 2 |
| Assessment | 1 | 1 | 1 | 1 | 1 | 1 |
| Multiple Question Test | 1 | 1 | 1 | 1 | 0 | 0 |
| Assessment Report | 2 | 0 | 0 | 0 | 0 | 0 |
| On-Line Registration | 2 | 2 | 2 | 2 | 2 | 2 |
| User Management | 2 | 2 | 2 | 2 | 2 | 2 |
| Progress Tracking | 2 | 2 | 2 | 2 | 2 | 2 |
| Connecting with other platforms | 3 | 3 | 3 | 2 | 3 | 3 |
| Total | 25 | 18 | 18 | 14 | 14 | 17 |

2. Collaborative Index

IC = Obtained Value for the supported tools / Max Value

This indicator aims to evaluate how many of the services "cooperative" in different platforms. The services platform that allows for interaction between students and / or teachers. In Table 2 we show the results that were obtained. In this table, column indicates the weight the relative importance of this feature.

Table 2: Total weights of collaborative feature for the evaluated platforms

| Tool | Weight | KSU | IMAMU | NAUSS | YU | FU |
|------------------|-----------|-----------|----------|----------|-----------|-----------|
| E-Mail | 2 | 2 | 2 | 2 | 2 | 2 |
| Forum | 2 | 2 | 2 | 2 | 2 | 2 |
| Chat | 2 | 2 | 0 | 0 | 2 | 2 |
| Streaming A/V | 2 | 2 | 2 | 2 | 2 | 2 |
| ContentsDownload | 2 | 2 | 2 | 2 | 2 | 2 |
| Total | 10 | 10 | 8 | 8 | 10 | 10 |

3. Adaptation Of User's Formative Learning Path Index

LPI= Obtained Value for the supported tools / Max Value

This indicator aims to evaluate how many of the services to adopt the path of constructive learning

used in different platforms. These services have to allow for the creation of personalized learning paths and continue to evaluate the students. In Table 3 we show the results that were obtained. In this table, column indicates weight importance of this feature.

Table 3: Total weights of Adaptation of learning path feature for the evaluated platforms

| Tool | Weight | KSU | IMAMU | NAUSS | YU | FU |
|-----------------------|-----------|----------|----------|----------|----------|----------|
| ProgressTracking | 2 | 2 | 1 | 2 | 2 | 2 |
| User Groupsmanagement | 2 | 2 | 1 | 1 | 2 | 2 |
| Report | 2 | 2 | 2 | 1 | 2 | 2 |
| Assessment | 1 | 1 | 1 | 1 | 1 | 1 |
| MultipleQuestion Test | 1 | 1 | 1 | 0 | 0 | 1 |
| AssessmentReport | 2 | 0 | 0 | 0 | 0 | 0 |
| Total | 10 | 8 | 6 | 5 | 7 | 8 |

4. Management And Enjoyment Of Interactive Learning Objects

MIO = Obtained Value for the supported tools / Max Value

This goal of this index to evaluate how many of the services to manage and enjoy the interactive learning objects in different platforms. In the table 4 provide you with a set of results that were obtained. In this table, column indicates weight importance of this feature.

Table 4: Total weights of interactive learning objects feature for the evaluated platforms

| Tool | Weight | KSU | IMAMU | NAUSS | YU | FU |
|-----------------------|----------|----------|----------|----------|----------|----------|
| Streaming Audio/Video | 1 | 1 | 1 | 1 | 1 | 1 |
| ContentsDownload | 2 | 2 | 2 | 2 | 2 | 2 |
| Content Sharing | 2 | 2 | 2 | 2 | 2 | 2 |
| Total | 5 | 5 | 5 | 5 | 5 | 5 |

Analyzing Results Of E-Learning Platform In Rcu By Appling Gis

At the end of this stage, we can compare "relative" results that have been obtained from the platforms in every advantage in order to obtain the status. According to the approach we have

identified the AHP weight "absolute" of each feature, taking into account the constraints of the specified location. According to the strategy to combat hunger, Figure 2 shows the comparison between the evaluated platforms.

| University | Total weights |
|--------------|---------------|
| KSA | 41 |
| IMAMU | 37 |
| NAUSS | 32 |
| YU | 36 |
| FU | 40 |

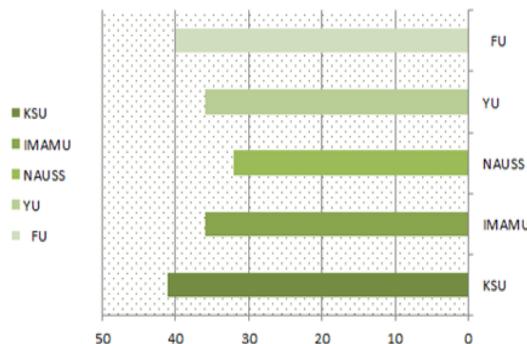


Fig. 2: displays a comparison between the evaluated platforms.

The highest weight evaluation model is (50) points. The proposed framework collection (50 points), this value is close to a much higher value. University collected the largest number of points (41) points. Moreover, the results Table 5 and figure 2 show that the blackboard and Model pads collected the largest number of points (41) points. Show that King Saud University collection points high (41) points. This value is equal to the highest weight in the evaluation model. NAUSS collected

the least amount of points (32) points. This value is less than the King Saud University in NAUSS (18) points, YU (14), IMAMU (13) and most of Al-Faisal University (10) points), and equal weights of King Saud University. Table 5 Sort the university evaluated in descending order according to their weights. Shows the evaluation process that satisfied the objectives of the proposed framework with applied GIS.

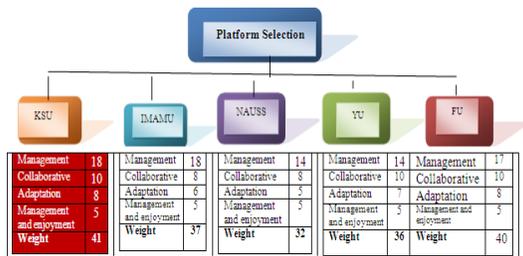


Fig. 3: Obtained Results for the KSU using GIS

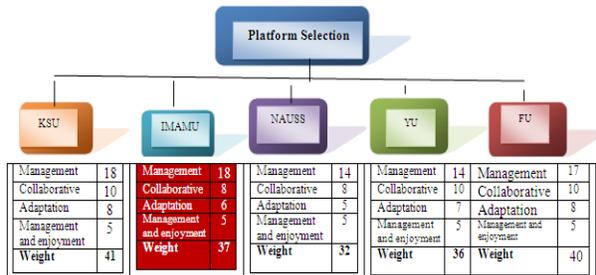


Fig. 4: Obtained Results for the IMAMU using GIS

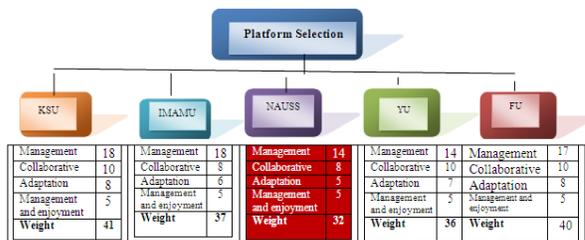


Fig. 5: Obtained Results for the NAUSS using GIS

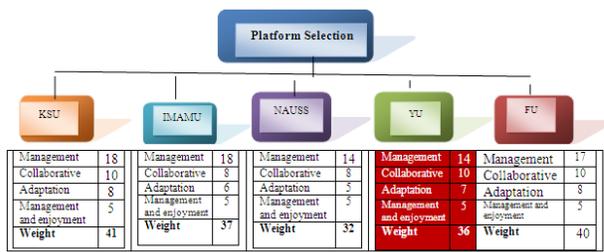


Fig. 6: Obtained Results for the YU using GIS

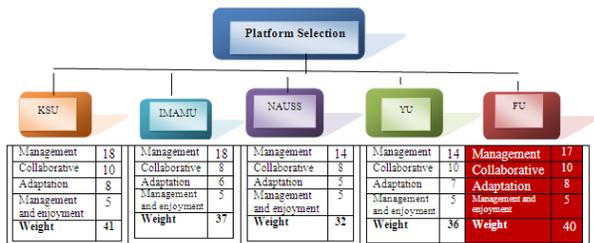


Fig. 7: Obtained Results for the FU using GIS

Figure 3, 4,5,6,7 shows the locations of the GIS approach allows not only to evaluate the platforms, but to test them at the site of application-defined. In fact platform lecturer has very good results in the first signatories of the five while it still is not true. In fact, in five cases each department or collaborative tools are not very important. Results obtained confirm that the difference between commercial platforms and open source in general is still very high, but we have shown a way as is the case in some cases this is not true. In this case could refer to the use of the platform is cheaper.

III. CONCLUSION

The main goal of this paper is to evaluate the conceptual framework to build a learning content management system. The evaluation process is based on e-learning model evaluation platform. It is proposed that this model by Francesco Colas in 2006. Evaluation model was assessed four main features management, and collaborative approach, management interactive learning objects and adaptive learning path). Involves every feature, in their determination, and some sub- features. Total weights of the proposed framework in management feature is 20.25/25, the feature is a collaborative 9.2/10, in the course of learning to adapt is a 6.8/10 and the object

in the interactive learning is 5/5. Total weights of all the features of 41.25/50. In this study, the evaluation model was applied to universities such as King Saud University, IMAMU, NAUSS, and Al-Faisal University YU. Then, the results were compared with each other. The total weights of King Saud University 41. While the total weights of Al- Faisal University, IMAMU, YU and NAUSS it was 40, 37, 36 and 32, respectively. Shows the evaluation process that satisfied the objectives of the proposed framework using GIS.

This task is not trivial because the good evaluation model that takes into accounts not only the platform and services, but also the location where it has to work. So in this paper we have provided valuation model approach based on the use of GIS. GIS approach, in fact, is useful in circumstances that require the consideration of various courses of action, and that cannot be evaluated by measuring Therefore, after a simple one. In this way we can evaluate e-learning platform to consider whether to apply at the site of interest, both in comparison to other platforms considered. We tested our approach on four e-learning platforms and five on-site. Results obtained are encouraging and effective. The proposed method, in fact, does not assess not only the platform but also the

effectiveness of the site into consideration. In this paper, for example, we have shown as is the case in some of the site offers a trading platform as the minutes are similar to those frameworks "academic." We aim to expand the scope of the proposed approach for a new site and platforms.

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