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A Model for Utilizing Social Softwares in Learning Management System of E-Learning

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Abstract
Although social softwares are interactive and communication tools that play an effective role in the field of learning and teaching, unfortunately, the interactive educational method using web2 tools is a new approach in Iran. In the other hand, the learning management system used by many virtual universities to improve the learning and learning process of students has some shortcomings and problems. According to research conducted by researchers, the combination of a learning management system and a social software in universities has reduced many of these constraints. The purpose of this research is to provide a model for utilizing social soft wares in a learning management system. In this regard, the research strategy is to provide a research model and validate it. This research is applied in terms of purpose, and in terms of information gathering, it is a descriptive survey. The data gathering tool was a researcher made questionnaire. Sampling method is targeted judgment. Therefore, by reviewing the literatures, first, the capabilities of various social softwares (wiki, blog, social networking, podcast and tag) were identified in the field of learning and education and a model for using these softwares in each module of the learning management system in order to overcome some of the problems caused by these systems in virtual universities were provided. Then, the proposed model was approved by a survey of 15 experts in the fields of e-learning and communications and media. Based on the findings of the analysis of the collected data, the use of various social softwares in the LMS modules was confirmed and ranked in importance.

Keywords
E-learning, Learning Management System, Web2, Social software.

Introduction
E-learning development presents novel possibilities from learning and causes changes in teaching method. Researchers define e-learning as the evolution network technology for the design, presentation, selection, management and development of learning. E-learning is the presentation of educational content through electronic media such as satellites, compact discs, and internet and extranet. From a strategic perspective and as defined by researchers, e-learning is an innovative approach to providing a well-designed, learner centered, interactive and easy to learn learning environment for each person, anywhere at any time [1].

E-learning is a teaching method through electronic communications such as the internet and extranet [2]. An e-learning system is a web based information system that provides learners with a flexible route [1].

Learning management system (LMS), is a software that is designed to facilitate learning. This software provides a suitable platform for connecting students, academics and authorities of institutions and universities as well as providing students with access to educational content presented through the internet and web browsers. Learning management systems are an infrastructure for e-learning which manage the progress and activity of learners [3]. whilst being an accessible technology and accepted in most higher education institutes [4]. Given the capabilities of this software, operations such as registration, selecting units, attending online

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classes, viewing educational content, viewing grades etc. are possible. By using this software, administrators, relevant authorities, lecturers and students will be able to view, edit, delete, add or extract information according to their type and level of access. Students will select their course syllabus and receive educational content, complete tutorials, and participate in examinations whilst communicating with other students and lecturers [5]. The use of these systems entails advantages such as reduced teaching costs, travel requirements, laboratory or educational facilities, reduced time waste for students, and educating a large number of students in a short time. These systems have been designed to enhance the active participation of learners in relevant topics, chat rooms, discussion rooms and other commonly utilized tools. Using this system entails the provision of the most appropriate lessons in a time efficient manner at highest quality for learners. Other traits of this system include increasing the capabilities of students in optimal learning of information, managing skills, analyzing educational requirements, conducting live classes, and allocating resources [5]. Although most features of the learning system have a positive impact on improving educational content, there are other features that may be deemed negative [1]. Despite the numerous benefits of conducting educational web based courses, empirical research has shown that the providers of this type of training lack educational and technical quality and are not able to achieve educational objectives in a comprehensive manner. Some of the potential weaknesses of these systems are: [6].

- Possibility of reduced learner focus and attention due to the lack of face to face communication between the teacher and student
- Possibility of reduced class efficiency due to frequent occurrence of such courses at ineffective times or the high number of learners compared to in-person training
- Possibility of reduced quality of data transfer due to communication infrastructure weaknesses among the parties

Overall, in spite of positive and negative points, there are much more advantages of virtual education systems which result in the increasing use of these systems in various educational and academic centers.

Web 2.0 is a term used to describe web based technologies that enable users to create and manage website content. Web 2.0 is used to facilitate sharing, creativity and collaboration among users. These programs rely on social engagement and interaction among users, providing them with the opportunity to easily download and share content with other users and allow users to save and categorize content as well as comment on written topics. Users transform to content creators instead of content consumers [7]. The social software is the interactive aspect of Web 2.0 which enables users to easily create content on the web [8]. Boyd (2007) believes that such softwares are designed to facilitate communication and social participation, discover and share information collective, produce and manage content, enable continuous knowledge acquisition, content modification, prioritize personal requirements and enable communication among members of a group whilst supporting interaction and social network creation, thus playing a vital role in improving the learning process [9]. Therefore, a social software can be generally described as a tool that supports group engagement. Its key aspect is the widespread participation that generates shared information [1]. Softwares such as weblog, wiki, social networks, podcast and tags are among this interactive softwares.

One of the web based software that is used in teaching is weblog. Prior to weblogs, there were websites that provided information for users. On these websites, information change and loading were solely possible for the website owner [10]. Weblogs are web pages accessible by the public in order to view and study new content when needed. Users are free to comment but are not able to change the original content. This is the main difference between weblogs and wikis [11].

A wiki is an option in which all registered users are permitted to edit, omit or add new web pages on the website. Each change on the pages is reversible. Wikis provide a simple user interface, allowing them to generate pages and use markup languages [10]. The texts provided by

the wiki can also be viewed and edited by users. Numerous wikis (such as Wikipedia) enable to user to compare the content of a page before and applying the changes. Wikis are interactive websites that users can contribute to [11].

Social networks are dynamic networks where members, communications and links are constantly increasing [12]. These networks are a place for users to gather in cyberspace, thus enabling extensive interactions. Essentially, users are able to cooperate, interact, communicate and share content around the world. The common trait of social networks is the user-based property and content creation by users. In these environments, each user shares the generated content with other users whilst users can also view and utilize the existing content. These networks are considered to be the most widely used web tools [10].

The word "podcast" comes from the combination of the words iPod and broadcasting. Podcasting is a method of presenting content through web distribution [11]. A podcast is a radio program or similar, which is digitally recorded and uploaded to the internet for downloads, and then run on audio devices. By using podcasts, users can present their audio and verbal compilations to their listeners. Podcasts are also called audio weblogs and are the latest technology of broadcasting over the internet [10].

A tag or label is a description of content in the form of one or more words from the user's point of view. Each user can express their views on a given data object in the form of a tag. Researchers believe that tags enable users to not only create content (data), but also to edit content that describes the content (data cloud) [8]. Markup is a tool that is used by users to maintain tagged web pages with keywords. Therefore, users are able to store collections of web based resources at any time in the database so that they can be retrieved and shared in the future [8].

Problem statement

With the spread of ICT and its impact on the field of education, a huge change in learning environments has been formed. Compared to the traditional education environment, the virtual learning environment has unique features and capabilities in communicating, interacting, creating educational opportunities, and so on. In the era of communication and technology, many traditional structures have changed in societies and have been replaced by day-to-day technologies to better respond to the needs of people in the community. Education is also no exception. For many years, the educational system, especially in developing countries has traditionally provided educational services. At present, with the advancement of technology, humans live in a rapidly changing environment [13].

With the advent of the use of information technology in all aspects of life and the impact of this technology on educational environments, education professionals are of the opinion that modern educational environments have unique features that not only facilitate the learning and learning process for teachers and students, but also involve students' minds and they create the focus, attention and accuracy of the student on the subject matter [14].

A new generation of web sites, also known as Web 2 or Web Reading and Writing, provides users with the ability to control events and information, and takes on an active and fundamental role for users in the information architecture. Additionally, there are quick ways to build sites without the need for programming skills that create interaction, application, editing and rapid development, and the ability to use them in teaching by students and teachers. The benefits of Web 2 are the creation, development and editing of content by an individual or group of people and the replacement of collective knowledge instead of traditional education and is used as a complementary educational tool in the classroom [7].

This new method of ICT education and the use of media and social media capabilities which are interactive Web 2, have transformed all forms of learning and teaching in the 21st century. This learner-centered approach and changing the role of instructors from transferring knowledge

to facilitators, in addition to increasing the effectiveness of teaching at university and higher education institutions, as well as increasing the motivation of learning and creativity of learners, create a facilitating environment in which learners play a more active role in the learning-teaching process [15]. Although social softwares allow users to collaborate, communicate, and interact with each other [8], In fact, they are interactive tools that play an effective role in the field of learning and teaching, and especially the success of e-learning. A lot of research has been done by researchers in this area. Unfortunately, the educational method based on using of Web tools 2 is a new approach in Iran

Along with the increasing expanding of e-learning and social media in reputable universities around the world, e-learning managers and virtual universities need to take appropriate measures to extend this type of training to their centers. One of the key issues is to provide an appropriate platform for accepting this new educational method by the learners of the courses and improving the quality of this type of training. One of the key issues is to provide an appropriate platform for accepting this new educational method by the learners of the courses and improving the quality of this type of training and while the acceptance and trust of a person to continue to study in a virtual learning environment integrated with social software, it depends on his understanding of the ease of access to educational content in this environment and the understanding of its benefits.

A learning management system that can be used by faculty and learners to facilitate interaction and use of courses offered on the website. All content, updates, and events are posted on this system and students can manage their interactions through messages and emails, online forums [16]. Today, systems such as Blackboard, Moodle, Sakai, which are used in many universities around the world to improve the learning and learning process of students, suffer from deficiencies such as personal control of learners during learning, lack of communication channels between learners and teachers, Lack of coordination and cooperation between training courses. According to researchers, the integration of learning management systems and social software in universities has reduced many of these constraints [17]. On the other hand, while e-learning processes (content creation, Web publishing, and content access) support social software and social networks but one of the main problems is the low interaction among users in the e-learning environment. In the learning management systems, which are one of the learning tools for publishing web-based learning content, there is a lack of interaction and communication among users [18].

According to researches, there is no comprehensive study has been done on the integration of social software systems in learning management systems in e-learning with the aim of eliminating some of the problems of educational systems and promoting an interactive virtual education approach. Therefore, the general purpose of this research is to provide a model for the application of social software in e-learning learning management systems. Therefore, the general purpose of this research is to provide a model for the application of social software in learning management systems of e-learning.

According to the research model (Figure 1), social softwares (Wiki, weblog, social network, podcast and tag (markup)) often reduce or disappear the problems of each dimension of the learning management system.

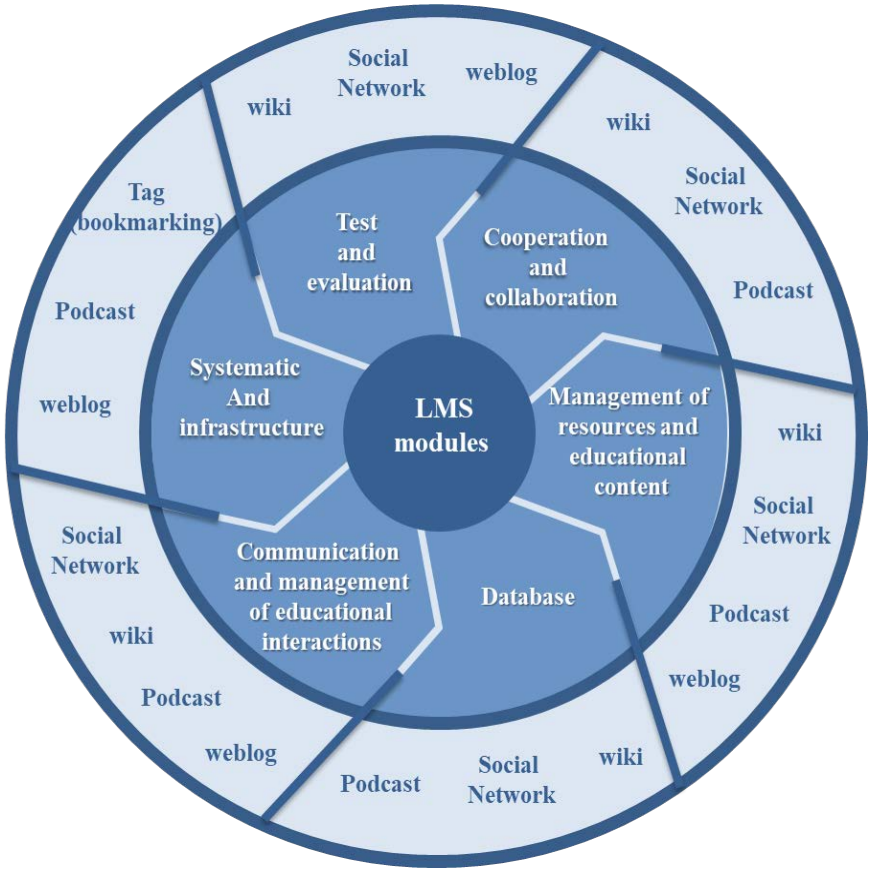

Figure1. Integrated model of social software with LMS

Literature Review

Social Softweres and Learning Management Systems

The main research in these two areas, and in particular the use of social softwares in learning management systems, which is the main subject of the present research to present a conceptual model, is described below:

Rozae et al (2012), in response to how a personal learning environment (PLS) is being developed as a platform for integrating formal and informal learning and developing self-regulation learning in the educational system, have conducted research with the aim of demonstrating the role of technology and its capabilities in educational approaches for formal and informal learning in educational content systems with the help of social software[18].

They found that the use of social softwares in the education system allows learners to manage their learning environments, which include learning activities and their communication with other users on social networks at any time and place. In the field of e-learning, personal learning environments have a significant role in knowing the principles of controlling learners and personalizing their learning environment. Today, the use of education systems based on Web2 is presented as a way to create personal learning environments.

Du et al (2012), in his research entitled "Providing an interactive platform for e-learning with through of integrating social software with LMS", by studying the interactive and participatory learning methodology in which their learning management system is based on social software (weblogs, Wikis, social networking, social bookmarking), decided to meet the social needs of virtual education. In response to the main question of the research, whether using the social

software systems in learning management systems can often overcome the shortcomings of these systems, they found that the interactive platform provided in the research create a personal space for each of the users to interact and collaborate with other users. This personal space includes the network of lessons, the social network of each person and their knowledge network. One of the features of this platform is to connect the components of this space to each learner. Therefore, in order to engage, interact and satisfy learners and professors in an educational system and e-learning platform, each user and learner are able to create their own personal social network and knowledge network during the learning process[17].

Rozhak et al (2012), conducted a study to integrate LMS with social networks as a way to increase the interaction between e-learning users. After introducing LMS and its integration with social networks, LMS weaknesses were expressed in terms of communication, interactions and collaboration among users. The Facebook social network with the capabilities to create a virtual e-learning class was selected for research. The researchers proposed two solutions to the LMS and social networking platform, with the aim of achieving a virtual classroom. Either need to update the LMS system to social networking capabilities, or update the social networking platform to support e-learning processes. In this study, the researchers integrated an e-learning system called Coome LMS (a media-based e-learning system that has text editing tools for video presentations) and the Facebook network, and optimized e-learning processes[18].

Durairaj and Umar (2015), in their research aimed at developing a conceptual framework for improving the level of interaction and knowledge structure of virtual students in online discussion forums, used three types of analysis methods (content analysis, cluster analysis, and network analysis (A tool used to access and analyze behavioral patterns and social relationships and user interactions in online forums) and theories (social constructivism, collaboration, online learning theory, and communication theory). The results of the findings to answer the question of whether it is can be increased the level of interaction of users in the virtual education system with the help of interactive tools such as forums and online discussions, showed that learning will be more effective when a suitable and applicable method is used to achieve user goals. Consequently, the conceptual framework consists of three models in the analysis of online discussion forums to increase the structure of knowledge and the level of interaction of users with interactive approaches and the creation of cooperation between learners and professors and supervision of teachers on student activities and their social interaction, will always be a practical and useful model for all institutions and universities around the world in the education and learning system[20].

Ozge et al (2010) in their research stated that virtual environments provide good opportunities for education. It also allows users to interact not only with other users in a 3D environment but also create their own educational content. So in a 3D virtual world (SL), Social media capabilities such as blogs and wikis Shows learning aspects and building social knowledge and collaboration. In the end, the researchers concluded that the combination of SL and LMS would improve the learning and eliminate most of the weaknesses of the learning management system[20].

The results of G .Mozhaevaa and Feshchenro (2010) to examine and analyze the behavior of e-learning participants in the use of information technology and technology showed that students and professors have a lot of limitations in the educational and e-learning system, and the focus is on the integration and integration of LMS and Social networks is essential in the field of learning and education[21].

Gremu & Halse (2012) study at the Rhodes University in South Africa aimed at increasing the educational value of integrating the social network and learning management system, Stated that in a LMS, the creation of electronic content only by users, such as system administrators and professors, and the use of the system is done only by students. These systems generally involve formal learning, while social networking involves informal learning and semantic learning. So

we can say that these two systems are complementary. Integrating social networking features into LMS and extending the learning system by incorporating social networking features provides opportunities for formal and informal learning[22].

In 2015,Eger performed a survey based on the statistical population of 512 university students and professors in order to find out the capabilities of the two tools of Facebook and LMS in the educational processes and use of the students and university professors of these tools and showed that the use of the facebook is only for educational purposes and learning processes. During the semester, students will use groups created on the Facebook network as well as participate in courses held at LMS University simultaneously. Research results indicate that all students use the LMS to carry out educational processes and use Facebook to communicate with their classmates and their professors. So if both tools are integrated seamlessly, students and professors will be assisted in their educational goals[23].

The results of Nadire Cavusa and Sezer (2010) research on determining Web tools used by students in educational environments and learning management systems suggest that these systems should be able To support some of the useful activities of teachers and students, such as discussing the lesson with classmates, providing quick feedback on online quizzes, accessing lessons at all times, managing file files (downloading, saving and opening files), connecting with classmates and Professors, group work, information on the titles of the remaining activities, easy announcement of news, Student's awareness of his performance[24].

M.D. Roblyer et al in 2010 aimed at studying the use of virtual social networks (Facebook) in higher education in response to the question of how to use social networks such as Facebook on the part of professors and students in academic institutions with the confirmation of educational goals, showed that by integrating social tools into a learning system, users can communicate widely in schools and universities. Most professors believe that they have a positive relationship with the students during their teaching with the help of these networks. Experts believe that virtual communication between students is an effective factor in learning[25].

Method

This research is applied in terms of purpose, and in terms of information gathering, it is a descriptive survey. In this research, with the aim of providing a model for utilizing social software in learning management systems, first, by reviewing the content of literature review, observing and comparing all learning systems used in e-learning centers and virtual universities in Iran, functional modules of learning management system was identified as a platform for e-learning at universities. Then, by examining the literature and research methodology and searching through the Internet and referring to scientific sites, Identified all the social software capabilities in the field of learning and teaching from different perspectives including the production of knowledge and content, collaboration and communication, software usage and the ability to increase user skills. After identifying the functional areas of the learning management system and social software capabilities, the proposed model of the application of various types of social software in the field of learning and teaching in LMS was designed. Based on this conceptual model, the learning management system consists of modules (test and evaluation), (Cooperation and collaborative), (management of resources and educational content), (communication and management of educational interactions), (database), and (system and Infrastructure). Based on this model, social networks, blogs, wikis, podcasts, and tags (markup) are used to eliminate or decrease some of the problems associated with each module of the learning system. After presenting the model, in order to validate the proposed model, a questionnaire based on the components of Table 1 containing 20 questions that illustrates the application of any social software in the LMS modules was developed according to the Likert range 5 options.

Teble1. Questionnaire questions based on conceptual model of research

LMS modules	Social Softwares
Test and evaluation	Q_1= Wiki Q_2= Social Network Q_3= Weblog
Cooperation and collaboration	Q_4= Wiki Q_5= Social Network Q_6= Podcast
Management of resources and education content	Q_7= Wiki Q_8= Social Network Q_9= Podcast Q_{10}= Weblog
Database	Q_{11}= Wiki Q_{12}= Podcast Q_{13}= Social Network
Communication and management of educational interactions	Q_{14}= Weblog Q_{15}= Podcast Q_{16}= Wiki Q_{17}= Social Network
Systematic and infrastructure	Q_{18}= Wiki Q_{19}= Social Network Q_{20}= Tag (Markup)

Due to the limited access to the whole of the experts in these areas, sampling method was Targeted judgment. The statistical sample and the statistical population in this study are the same. 70% of experts with less than 5 years of experience and 30% with experience of 5 to 10 years. 33% of the experts have a master's degree and 67% have PhD degrees. To analyze the data, mean test and Friedman test were used by SPSS software. Validity of the researcher-made questionnaire to determine the extent of application of each software in the LMS modules was verified by the experts. To determine the reliability of the questionnaire, Cronbach's alpha was used by SPSS software. The result was 0.94 and confirmed.

Results

In this section, firstly, with the help of studying the literature and literature of the subject and in the library method, the applications of various types of social software in the field of learning and education have been identified. Then, with the help of studying and comparing all learning management systems in e-learning campuses, the problems caused by these systems in e-learning universities were identified and in each of the relevant modules included (testand evaluation), (Cooperation and collaboration), (management of resources and educational contents), (communication and management of educational interactions), (database), and (systematic and infrastructure), are presented and embedded in the proposed model. Then, in order to validate the proposed conceptual model, a questionnaire with 20 questions was designed and sent to 15 experts with executive or research experience in the field of e-learning, communications, media, and social software. After collecting a researcher-made questionnaire, Kolmogorov-Smirnov test was used to examine the data distribution. According to the results of this test, it was determined that the distribution of data for all variables follows the normal distribution. Therefore, a mean test is used. For this test, the following assumptions were considered:

H_0= Experts do not agree on the use of social software in learning management systems.

H_1= Experts agree on the use of social software in learning management systems.

$< 3\mu$: H_0

$3 \geq \mu$: H_1

After applying the mean test on the data obtained from the questionnaires, the conceptual

framework proposed by the experts was confirmed. The mean test results are presented in the experts' view in Table (2).

Teble2. The mean test results from the experts' view in the validation of the conceptual framework of the research

Application of various types of social software in LMS modules	Test Value = 3						Test result
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference		
					Lower	Upper	
Q_1= Application wiki in test and evaluation module	1.871	14	0.082	-0.600	-1.29	0.09	H1 assumption is confirmed
Q_7= Application wiki in Management of resources and education content module	2.269	14	0.792	-0.067	-0.60	0.47	H1 assumption is confirmed
Q_{16}= Application wiki in Communication and management of educational interactions module	1.835	14	0.088	0.533	-0.09	1.16	H1 assumption is confirmed
Q_4= Application wiki in Cooperation and collaboration module	2.174	14	0.865	-0.067	-0.89	0.76	H1 assumption is confirmed
Q_4= Application wiki in Database module	1.861	14	0.119	0.733	-0.21	1.68	H1 assumption is confirmed
Q_3= Application weblog in test and evaluation module	2.807	14	0.433	-0.267	-0.98	0.44	H1 assumption is confirmed
Q_{10}= Application weblog in Management of resources and education content module	2.193	14	0.849	-0.067	-0.81	0.67	H1 assumption is confirmed
Q_{14}= Application weblog in Communication and management of educational interactions module	3.612	14	0.550	0.200	-0.50	0.90	H1 assumption is confirmed
Q_{18}= Application weblog in Systematic and infrastructure module	1.855	14	0.120	0.600-	-1.38	0.81	H1 assumption is confirmed
Q_2= Application social network in test and evaluation module	1.847	14	0.144	-0.600	-1.43	0.23	H1 assumption is confirmed

Q_8= Application social network in Management of resources and education content module	2.092	14	0.055	-0.067	-1.35	0.02	H1 assumption is confirmed
Q_{17}= Application social network in Communication and management of educational interactions module	1.851	14	0.169	-0.467	-1.16	0.22	H1 assumption is confirmed
Q_5= Application social network in Cooperation and collaboration module	1.834	14	0.238	0.333	-0.25	0.91	H1 assumption is confirmed
Q_{13}= Application social network in Database module	2.845	14	0.413	0.267	-0.41	0.94	H1 assumption is confirmed
Q_9= Application podcast in Management of resources and education content module	2.435	14	0.670	0.133	-0.52	0.79	H1 assumption is confirmed
Q_{15}= Application podcast in Communication and management of educational interactions module	2.131	14	0.277	-0.467	-1.35	0.42	H1 assumption is confirmed
Q_6= Application podcast in Cooperation and collaboration module	2.619	14	0.546	-0.267	-1.19	0.66	H1 assumption is confirmed
Q_{12}= Application podcast in Database module	1.857	14	0.167	-0.600	-1.48	0.28	H1 assumption is confirmed
Q_{19}= Application podcast in Systematic and infrastructure module	1.919	14	0.076	-0.667	-1.41	0.08	H1 assumption is confirmed
Q_{20}= Application Tag in Systematic and infrastructure module	1.778	14	0.108	-0.600	-1.35	0.15	H1 assumption is confirmed

As can be seen, based on the results of the mean test, the H_1 assumption is approved for the application of various social software (wiki, blog, social network, podcast and markup) in test and evaluation modules, Management of resources and education content, Communication and management of educational interactions, Cooperation and collaboration, database, and Systematic and infrastructure. This indicates that each social tool has the ability to solve or decrease the

limitations of each dimension of the learning management system .Social software capabilities in the field of learning and education increase interactions and communications, as well as manage the resources and e-content ... and provide a good context for increasing the interaction of students with classmates and teachers and even experts outside the educational system.

Now, in order to evaluate the importance of and application of any social software in solving some problems related to each module of LMS, Friedman's variance analysis test has been used at 95% confidence level. The assumptions of the test are as follows:

H_0= There is no meaningful difference between the Experts about the use of social software tools in the LMS.

H_1= There is meaningful difference between the Experts about the use of social software tools in the LMS.

According to the Friedman test, the meaningful number is less than 5%. Therefore, the H_0 assumption is not confirmed at the 95% confidence level, and it can be said that there is a meaningful difference between expert opinions on the use of any social software in solving some problems, and there are no similar ratings from the viewpoint of the experts. Table 3 shows the rating of the application of social software in the management of learning systems from the perspective of experts.

Teble3. Ranking of each social software in terms of application level in LMS modules

LMS modules	Social Softwares	Average rating	Rank
Test and evaluation	Wiki	1.90	2
	Weblog	2.20	1
	Social Network	1.90	2
Cooperation and collaboration	Wiki	1.97	2
	Social Network	2.20	1
	Podcast	1.83	3
Management of resources and education content	Wiki	2.47	2
	Weblog	2.77	1
	Social Network	2.00	3
	Podcast	2.77	1
Database	Wiki	2.37	1
	Social Network	2.00	2
	Podcast	1.63	3
Communication and management of educational interactions	Wiki	3.03	1
	Weblog	2.80	2
	Podcast	2.00	4
	Social Network	2.17	3
Systematic and infrastructure	Wiki	2.10	1
	Social Network	1.93	3
	Tag (Markup)	1.97	2

As you can see, the experts assigned the highest rank to the application of weblog in the test and evaluation module, the use of weblog and podcast in the Management of resources and education content module, the use of wiki in the Communication and management of educational interactions module, the use of social networking In the Collaboration and Collaborative Module, Wiki Application in the Database Module and weblog Application in the Systematic and Infrastructure Module. In general, it can be concluded that from the experts' view, only the tag (markup) has a lower rating than other applications software in terms of LMS, and in fact this software only applies to the systematic and infrastructure module.

Discussion and conclusion

Today, learning management systems in most e-learning campuses or Iranian centers and institutes lack communication and interaction between students and faculty members of e-learning courses in the virtual education system and this system can't ability to measure students' performance and assess how learners learn. This has led to a lack of control and monitoring of user activity. These systems, while providing some facilities and facilities, severely restrict others [19].

The inadequacy of online communities and collaborative activities and how to comment and provide an overview of critical discussions and questions and answers among users are the most important limitations of these educational systems. However, the capabilities of social software in the fields of collaboration and interaction and communication between learner and teacher, production Knowledge and e-content, increasing the skills of users in the field of learning and education, has helped to solve or decrease these problems. Therefore, the conceptual framework of this study provides an opportunity for utilizing a variety of social software tools for most e-learning centers to manage and improve communication and educational interactions among users of learning systems to create competitive advantage with other universities. For this purpose, the present study, after analyzing research carried out by researchers in the past, identified a variety of social software to decrease some of the LMS problems, and then provided a conceptual framework approved by the experts [19].

According to the results of the data obtained from the first questionnaire, which was distributed and collected in order to validate the conceptual framework of the research and as seen in Table (3), social software approved from the perspective of the experts includes the weblog, wiki and social network in the Test and evaluation module, weblog, wiki, podcast and social network in Management of resources and education content and Communication and management of educational interactions modules, wiki, social network and podcast in Cooperation and collaboration and databases modules and weblogs, podcasts and tags(Markup) in the systematic and infrastructure module.

Research Limitations

In doing this research, the following limitations apply to its results:

- Lack of access to some theses during the collection of data research at the literature review phase.
- Lack of access to IEEE database articles
- The lack of cooperation of the associations in the presentation of the papers adopted at the national and international conferences in the field of e-learning, which is being implemented annually.
- The impossibility of communicating with the executive committee of conferences because of the impossibility of using the sites after the time of the conference
- The completion of a questionnaire based on the views of experts requires highly-skilled and motivated people. Unfortunately, as many studies, this research has been faced with a lack of real experts and lack of opportunities to interact and benefit from their views.

Research suggestions

- To enhance the generalizability of the proposed model, it should be used from a wider statistical community that includes more professors, students and educational experts of most universities, and then the results will be evaluated and updated.
- The risks and challenges of using the social software used in this study examined in educational systems of universities and colleges of e-learning in order to increase the level of interaction and efficiency of educational management systems

- Application of other social software such as r. SS, telegram, etc., which today are used by the general public and especially learners, to be tested in various dimensions and functional modules of learning management systems
- Questionnaires to be presented to the experts to confirm or disapprove the use of social software in the subframes of the learning systems (for example: the test and evaluation module of the system includes how to present reports and the presence of learners, etc.)
- This research it must be done using operational research techniques such as MCDM for weighting components.

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