

Towards a Dynamic e-Learning Adaptation Framework for Saudi Arabian Higher Education Institutions: A Literature Review

^{1,2,3,4}Bader Alojaiman, ^{1,2,3,4}Fahad Alturise, ^{1,2,3,4}Dr. Robert Goodwin

^{1,2,3,4}School of Computer Science, Engineering and Mathematics, Flinders University

Abstract

E-Learning is one of the modern tools in various educational institutions worldwide. Few Middle Eastern countries integrated e-Learning systems in the educational structure. In Saudi Arabia, e-Learning is new system that academic staff used in improving the academic sources. The respondents in the study are faculty members and administrators of higher education. The proponent of the research get the perception of the Qualitative approach is used in the study to solicit experiences and feelings from the respondents. The study significantly found out that there are barriers that impede full adoption and utilization of e-Learning in Saudi universities. One of the major technical risks that come in the way of this new system is the accessibility/availability of the Internet. If the system is weak or the servers are down, the students will have problems completing their class. Recent researches shows that the students who do not have internet access at their homes have low grades than the students who can access internet at their homes. Also, hacking poses a threat to e-Learning. Lastly, one of the major factors that hinder its success is absence of e-Learning regulations from the government. In view of the lack of a holistic structure of factors to estimate the excellence of e-Learning system, the objective of this study is to hopefully add to the body of information in this area, by developing a structure for the assessment of quality in e-Learning programs. Changes in the e-Learning integration to the curriculum will help in fully maximizing the benefits delivered by e-Learning in tertiary education.

Keywords

E-Learning, Saudi Arabia, Higher Education

I. Introduction

E-learning concept has been around for decades and is one of the most significant recent developments in the information systems industry (Wang, 2003). E-Learning can be viewed as a web-based system through which learners can access information disrespect of their location and time. Online learning has many advantages over traditional learning techniques like time, employment etc. According to Freire, 1994; "e-Learning is one of the new learning trends that challenge the traditional "bucket theory" or the banking concept of education". The bucket theory represents the traditional learning system where the instructor consumes all knowledge and delivers it to learners in the class. A lot of research has been done in the field of e-Learning but the acceptance model given by (Ajzen & Fishbein, 1977; Davis, Bagozzi, & Warshaw, 1989; Oliver, 1980) and the expectation and confirmation model given by (Bhattacharjee, 2001; Lin, Wu, & Tsai, 2005; Wu et al., 2006) have make a role to some extent to the understanding of e-Learning success. These models basically spotlight the technology. e-Learning has been viewed as synonymous with Web-Based Learning (WBL), Internet-Based Training (IBT), Advanced Distributed Learning (ADL), Web-Based Instruction (WBI), Online Learning (OL) and Open/Flexible Learning (OFL) (Khan, 2005).

Adoption of e-Learning in teaching and organizations has formed new opportunities for interaction in education and learning activities. According to Cross et al. (2007), multimedia communities and virtual worlds provide a learning environment that stimulates learners' high order thinking and knowledge development and creates social groups. Continues development of network technologies has been proof of the improvement of client-server networks to wireless broadband technologies. The client-server architecture allows users to access the learning material from a centralized server. The innovation in client-server architecture through web-based features opened a gate way for

Internet/Intranet/Extranet technologies that provides virtual web based environments. And now the development of wireless technology provides the opportunity of learning through portable devices. According to a recent research report by RNCOS, "Saudi Arabia Education Forecast to 2016", the Kingdom of Saudi Arabia is fast up-and-coming as an e-Learning centre. It has also been noticed that number of internet users are constantly increasing in KSA and interest towards e-Learning is increasing because of expensive higher education. This paper will focus on the use of e-Learning in higher education in Saudi Arabia. It will highlight the reasons for the current state of ineffectiveness of e-Learning in higher education.

II. The importance of e-Learning in Saudi Universities

It is important to acknowledge the fact that e-Learning and e-Learning facilities are frequently being adopted in higher education institutions in Saudi Arabia. Asiri et al (2012) contend that this can be described as a phenomenon that is attributable to the consistent increase in the Saudi students' population in the higher institutions. For instance, during the 2013 academic year, there were a total of 1.2 million students from the total twenty eight universities (Ministry of Higher Education, 2013). Presently, Saudi Arabian universities and indeed colleges are encountering challenges stemming from overcrowding (Asiri et al 2012). In reaction to this surging demand, using ICT is from a general perspective being viewed as the most valid solution of counteracting this problem. Nonetheless, the pressing urge for the adoption of eLearning and computer technology in higher education in turn implies that the faculty members in Saudi Arabia must incorporate IT into their classrooms in addition to using IT resources as a constituent of their processes of teaching (Asiri et al 2012; Al-Khalifa 2010a).

On the downside, universities in Saudi Arabia are similar to other universities in countries that are developing in the sense that they

experience faculty members' shortage particularly in the medial and applied specializations (Mazi and Obuamh 2002). One of the most significant benefits of eLearning is that it assists in the reduction of dependency on the teaching staff at the local level according to Alzamil (2006). Therefore, the issue of shortages of staff members can be reduced significantly through the utilization of eLearning. This is because the Internet makes it possible to design interactive course material that can then be delivered via a network to students who are attending the course (Clark and Mayer 2008).

The system of education in Saudi Arabia reflects the characterization of every domain of the public life in Saudi Arabia on the basis of absolute separation of staff and students in terms of gender (Asiri et al 2012). Thus, institutions of education have had to offer separate staff and buildings for their female and male students. Consequently, this poses a major impediment on accommodation and available resources. To this effect, Alaugab (2007) asserts that the count of female instructors compared to that of their male counterparts is significantly lower at every academic level in Saudi Arabia. To this end, it is necessary to encourage the introduction of eLearning tools for the provision of e-courses for Saudi female students in various faculties. This is because such an arrangement would only demand a lower female instructors' number according to Asiri et al (2012).

Al-Balawi (2007) asserted that using information technology in Web-Based Instruction (WBI), distance learning or eLearning could be a way of dealing with the challenging circumstances in countries offering their citizens access to technology. In addition, the faculty's role in higher education throughout the world is shifting in response to the rapid technological evolution (Alshwaier, Youssef and Emam 2012; Al-Balawi 2007). Addressing WBI, Al-Balawi (2007) concluded that the general attitudes of faculty towards WBI were apparently positive. In fact, he proceeded to state that faculty believes that online courses reflected Saudi Arabia's future in higher education. Furthermore, faculty also believes that WBI has the capacity to enhance learning among students, motivate students to take extra interest in learning, be an excellent teaching tool for counteracting and compensating for gender segregation in the higher education system of higher learning (Al-Balawi 2007). Additionally, the introduction of WBI as a form of eLearning in the system of higher education has the potential to pose a challenge for the faculty according to Al-Balawi (2007). According to Mirza (2007), eLearning represents an excellent substitute for numerous students in Saudi Arabia who have interest in obtaining higher education from international universities that have reputation, but are unable to travel overseas due to financial, employment or family obligations. Moreover, eLearning in the industrialized world has registered impressive success since it affords students studying flexibility and convenience associated with cost, time and study pace (Mirza 2007). While there are numerous other reasons as to why Saudi Arabia needs eLearning, those reviewed here are the most outspoken. Besides, the issues that eLearning could resolve as stipulated in here, are longstanding and impenetrable without eLearning. In the next section, the researcher purposes to review literature about the current situation of eLearning in Saudi Arabia.

III. Saudi Arabia and e-Learning today

Saudi Arabia has long been accredited for the witnessed progress in higher education and e-Learning. Actually, the development and expansion in the higher education sector over the years 2004 to

2009 can be traced to the policy of opening a university quarterly, five colleges monthly, awards of 800 monthly scholarships to students studying abroad and the expansion of higher education from the original fifteen to eighty six districts (Al Malik 2009). In spite of such moves and credit for speed on the spread of eLearning in Saudi Arabia by some researchers such as Al-Shehri (2010), there seemingly lingers delay in the process of eLearning uptake in Saudi Arabian universities. Nonetheless, there have been several initiatives purposed at introducing eLearning to the kingdom's university and the country at large. Such initiatives include sessions on eLearning orientation and campaigns on the issue involving long and short courses for participants exhibiting interest (Al-Shehri 2010). In addition to those, there have been eLearning units' establishments in educational institutions and universities in particular. Among the most significant initiatives was the founding of the National Centre for eLearning and the introduction of localised eLearning programs whose aim is at the national eLearning certification (Al-Shehri 2010).

Among the most active organizations involved in either indirectly or directly with Saudi Arabia's e-Learning include the National Centre of eLearning, the Ministry of Telecommunication, the MHE, training and educational institutions, King Abdulaziz City for Science and Technology and the private sector, which includes business and education-oriented firms (Al-Shehri 2010). Acting as stakeholders, it is necessary for these organisations to come together for the purpose of formulating a common vision for the entire country's eLearning vision. Supposedly, this vision should have the sole objective of offering a sense of direction with the current realities through interpretation and prediction of opportunities and risks into the near and far futures (Al-Shehri 2010; Al-Shehri, Stanley and Thomas 1993). Besides, a common vision shared by all the stakeholders points to a clear direction and common purpose to the future. Therefore, Saudi Arabia's e-Learning strategic planning ought to consider every organisation's current realities, their opportunities and risks as well as goals attainable within a specified period of time. Generally, developing this vision is dependent on the identification of the E-learners who constitute the consumer base to this effect. Thus, the next section reviews literature concerning a Saudi government e-Learning initiative.

IV. Concerns and motivations of e-Learning stakeholders

According to Thompson and Strickland (2001), a stakeholder in the organisational context represents an organisation's constituency. Similarly, e-Learning stakeholders consist of those who affect it (Wagner, Hassanein and Head 2008) or are affected by it. In light of this realisation, the researcher established the major higher education e-Learning stakeholder groups. These are discussed in the next subsections starting with students who are the core stakeholders as e-Learning customers.

A. Concerns and motivations of students

In the higher education context, stakeholder students of e-Learning are the graduate or undergraduate students who enrol for e-Learning programs in a college or university (Wagner, Hassanein and Head 2008). Among the principal concerns of students is the fact that e-Learning poses a holistically new environment of learning for students and therefore requires a different set of skills to succeed (Romiszowski 2004). For instance, the New Media Consortium (2007) argues that research, evaluation and critical thinking skills

are gradually becoming significant since students have surging information volumes from various sources to consult. In addition, students are afforded increased independence especially those in entirely electronic courses compared to the traditional setting. As a result, this necessitates that they exude high motivation and commitment towards learning according to Huynh et al (2003). All this is demanded of them with comparatively lesser social interaction with an instructor or peers (Wagner, Hassanein and Head 2008). On the other hand, there is tendency for online students to perform equally well to those who study in traditional classrooms. Unfortunately, online students register higher incidences of incomplete grades or withdrawal according to Zhang, Zhou and Briggs (2006).

Another student concern is that e-Learning's nature demands a given technical sophistication level (Wagner, Hassanein and Head' 2008) although this problem subsides with increased computer literacy (Alfahad 2012). For instance, rising young adult populations are attending university with an increase in enrolment of students aged between eighteen and twenty-four being more rapid than the entire generation's increase in Canada (Statistics Canada 2005). Prensky (2006) and Prensky (2001) termed the generation aged under forty digital natives. Since the digital natives have grown up in the era of extensive electronics' use like video games and television corresponding to a reduction in reading, they learn in different manners compared to the age groups that are relatively older. In fact, Woodill (2004) stated that the digital natives have tendency to have a time sense that is more fragmented and a span of attention that is relatively reduced. Resultantly, they normally get bored and disappointed with commonplace applications of e-Learning (Wagner, Hassanein and Head 2008). Arguably, digital learning based on games and simulations may suit this group much better. In fact, research has connected higher interactivity levels and learner control with heightened student satisfaction in the e-Learning context (Zhang et al 2006).

Concerning student motivations, they tend to get the motivation for using e-Learning as a means of gaining admittance to higher education according to Wagner, Hassanein and Head (2008). While to others it could be a traditional course element, other students would rather undertake online courses entirely. For the latter group especially, e-Learning could provide higher education access that they would otherwise not have had access to owing to their time and geographic constraints (Kabassi and Virvou 2004; Huynh et al 2003). The next subsection proceeds with e-Learning stakeholder concerns and motivations' literature with focus on instructors.

B. Instructor concerns and motivations

Inasmuch as students are perceived to be the bearers of the greatest changes introduced by e-Learning technologies, instructors are also faced with the same fate due to the necessity for acquisition of new skills' sets to ensure success (Jones 2003). Instructors normally change from assuming the role of primary students' knowledge source to being student knowledge resources managers within the settings of e-Learning (Romiszowski 2004). For instance, instructors deliver content to the class and reply to their queries in a classical scenario of a classroom. Conversely, instructors are more of content coordinators that students peruse at their own convenience in an environment characterised by technology only e-Learning that is asynchronous (Teo and Gay 2006). Consequently, the most significant skills that instructors must possess may be dependent on their course's e-Learning attributes (Wagner, Hassanein and Head 2008). As earlier pointed out, Jones

(2003) affirms that e-Learning demands some level of technical sophistication from students and equally from instructors. In addition, the administration of the courses may demand that an instructor learns how to work with new software applications (Wagner, Hassanein and Head 2008). Besides, new technology use could be extensive especially in situations where an instructor is also responsible for content creation. Several studies reveal that the major problems associated with e-Learning initiatives' technical support include knowledge deficiency concerning how to effect instructional design alteration so that it becomes effective for operative for courses using technology. On the other hand, confidence lack in utilising the applications for purposes of teaching has been blamed for poor technical support in e-Learning programs (Arabasz and Baker 2003).

An instructor may also worry about e-Learning tools' acceptance by students (Wagner, Hassanein and Head 2008). Scholarly evidence (e.g. Lee, Cheung and Chen 2005; Mahmud et al 2005) establishes that perceived enjoyment and perceived usefulness are very significant for e-Learning applications' adoption by students (Ajzen 2005). For the purposes of increasing perceived enjoyment and perceived usefulness, an instructor ought to vary the content types, offer immediate feedback, encourage interaction and create fun in order to enhance acceptance according to Lee, Cheung and Chen (2005). The time period taken by instructors to develop and administer e-Learning programs is another significant consideration (Wagner, Hassanein and Head 2008). Some researchers argue that e-Learning courses' delivery is not as labour intensive. Nonetheless, Doughty, Spector and Yonai (2003) found that support staff and faculty expended almost double the hours they used in the provision of online course versions in comparison to traditional delivery. This leads Wagner, Hassanein and Head (2008) to conclude that resistance to extra workload has likelihood of occurring persistently unless there are incentives offered to motivate instructors to utilize e-Learning technology. On the other hand, instructors may use e-Learning in delivering their courses for various reasons. For instance, an instructor may be pressured or encouraged by the institution that he or she works with. Additionally, an instructor may be motivated by the desire to reach a wider students' audience or they may have interests in the advantages offered by learning that is mediated by technology (Wagner, Hassanein and Head 2008). Both students and instructors as e-Learning stakeholders are hosted by educational institutions. In turn, this makes educational institutions e-Learning stakeholders too from an all-inclusive perspective. Therefore, the next section is suitable in its purpose to address literature about concerns and motivations of educational institutions.

C. Concerns and motivations of educational institutions

Budgetary constraints are often primary concerns for educational institutions (Huynh et al (2003) and in this context the higher education institutions. Indeed, tight budgetary allocations make it hard for the implementation of campus-wide solutions for e-Learning that are also broad. Moreover, individual departments tend to roll out their own solutions that could be inconsistent with the other institution constituents according to Sun Microsystems (2003). In turn, this leads to a decline in the potential for interdepartmental efficacies and can further complicate the process for the students, faculty and staff, especially in the event that they are engaged in over one department (Wagner, Hassanein and Head 2008). On the other hand, e-Learning programs are likely to require

technological upgrades that are considerably expensive based on the technological infrastructure that an institution has put in place (Weller 2004). In addition, e-Learning systems normally call for various elements that include systems for course management, adequate bandwidth, sufficient computer facilities at the disposal of students and classrooms that are technologically equipped (Arabasz and Baker 2003). Consequently, such technological increments demand equal increments in the number of staff as well (Young 2001). This being the case, the impact is that higher educational institutions are faced with the dilemma of implementing and upgrading advanced technologies to enhance e-Learning and to acquire more staff who are conversant and effective in the delivery of e-Learning against the escalating costs associated with such advancements.

Educational institutions are also faced with the significant consideration of how the effectiveness of providing e-Learning will be evaluated (Wagner, Hassanein and Head 2008). Usually, educational institutions base their scales on Return on Investment (ROI) within the infrastructure of technology and content outcomes of the course (Romiszowski 2004). Bottom line, only when learning takes place can an exercise in e-Learning be said to be effective according to Wagner, Hassanein and Head (2008). Criticising the tendency organisations have of focusing on ROI, Weller (2004) cautions that this is likely to promote cheaper development of programs at the expense of how effective learning in the e-Learning context is. This challenge tallies with that of making advancements technologically and the need for more staff, while simultaneously making efforts to lower e-Learning investment costs in attempts to evade excessive expenditure and the risk of failed e-Learning program sustenance.

Another considerable challenge that educational institutions as e-Learning stakeholders encounter is faculty resistance. For instance, Hyunh et al (2003) contends that numerous members of the faculty hold firm belief that e-Learning is comparatively inferior to instruction conducted face-to-face. Nonetheless, studies (e.g. Alfahad 2012; Hisham 2011; Kamla and Hafedh 2010; Alhelih 2004) have exposed the absence of a significant difference between how students perform in either method. On the other hand, the extra time that the administration of e-Learning courses necessitates as discussed earlier on may be a contributor to faculty resistance according to Wagner, Hassanein and Head (2008).

In line with faculty resistance, employers pose a significant challenge for educational institutions when it comes to accepting online education (Wagner, Hassanein and Head 2008). For instance, students are less likely to seek enrolment in online degrees when the employer is less likely to employ students who already have such degrees. Therefore, it is in the best interests of the institution to promote the acceptability and consequential adoption of online education among the various potential employers (Wagner, Hassanein and Head 2008).

The motivations that drive educational institutions as e-Learning stakeholders are significantly outnumbered by the challenges they face. For instance, institutions of higher education incorporate technology in their classrooms for the purposes of facilitating delivery of lectures and creation of fresh learning opportunities that are mediated by technology for the students (Wagner, Hassanein and Head 2008). In addition, higher educational institutions offer e-Learning and distance learning in order to make it available to larger student pools. In the advent of e-Learning's widespread acceptance and increments in the number of online courses, physical boundaries for students and institutions of higher education are

eliminated (Young 2001). While educational institutions are central in hosting e-Learning programs and indeed delivering them with the assistance of faculty and staff, they greatly depend on the content developers to come up with content for them to implement. Therefore, this makes content developers core stakeholders in e-Learning uptake and delivery. Consequently, it is imperative that the concerns and motivations of content developers are reviewed as well. This review appears in the next section.

D. Content developer's concerns and motivations

In the context of higher education, content for online courses may be developed by the instructors or outsourced from other developers. Indeed, the latter has developed an expansive market for commercial educational content developers with the growth that e-Learning has registered globally. This is especially targeting the introductory courses that multiple institutions offer consistently (Wagner, Hassanein and Head 2008). Their main concern as content developers in e-Learning has tendency to gravitate in the lines of intellectual capital rights according to Hyunh et al (2003). Thus, the independent providers of content have a duty to make sure that they retain their copy rights. This will assist them in selling the products they come up with to multiple customers according to Wagner, Hassanein and Head (2008).

According to Teo and Gay (2006), technological standards for another concern that is relevant for content developers as stakeholders. Nonetheless, there is need for content to be created in a manner that will afford its usage throughout several platforms of e-Learning technology. Arguably, failing to ensure this poses a risk of restricting their probable target markets (Wagner, Hassanein and Head 2008). Equally, it is critical to ensure that content offered conforms with the methodologies of learning that are currently being used at different institutions thereby bearing the likelihood of leading to effective learning (Greenagel 2002). Undeniably, content type, individual learner characteristics and learning environment can impact on learning (Zhang et al 2006). Thus, it is important for the content developers to be aware and concern themselves with this.

Normally, content developers get their motivation from the desire to offer content modules that are likely to foster effective learning (Wagner, Hassanein and Head 2008). On the other hand, profits motivate commercialized content developers to come up with content modules with adequate flexibility for ready utilization throughout the institutions with little effort put towards adopting such modules (Zhang et al 2006). In line with content developers' concerns and motivations are technology providers whose concerns and motivations are reviewed next.

E. Technology providers' concerns and motivations

This stakeholder group shares most of the concerns and motivations with the content developers' stakeholder group. Nonetheless, the urge to provide environments of learning that is likely to lead to successful students' learning (Wagner, Hassanein and Head 2008). Their main concerns include those of the content developers such as technological standards. Nonetheless, interoperability is enhanced by adherence to known standards especially because educational institutions implement various solutions through departments (Friesen 2005; Young 2001). On the other hand, pressure directed at this stakeholder groups mainly forms from consistent consumer expectations and hardware evolution. This pressure compels technology providers to hastily pursue markets with innovative product offers (Hyunh et al 2003). Consequently,

the pursuance cost of the consistent innovation demands containing for the sake of business sustainability according to Dalziel (2003). The next e-Learning stakeholder group covers employers, whose literature review appears in the next subsection.

F. Employer concerns and motivations

In the context of this study, employers include the organisations that are likely to hire higher education graduates. Usually, employers have exhibited leniency for reputable institutions' online education. Nevertheless, there seems to be general online degrees' acceptance (Chaney 2002). Employers normally are faced with the risk of restricting the potential hires' pool by denying e-Learning value and this is the main motivation for their acceptance of e-Learning

graduates. Moreover, such denial is likely to limit the activities of developing courses and professionalism in which employers may actively participate in (Wagner, Hassanein and Head 2008).

On the other hand, employers are concerned about the reduced relational interaction that is inherent in many e-Learning courses (Wagner, Hassanein and Head 2008). Typically, Gunasekaran et al (2002) contend that employers rank relation interactions highly than they do expertise and technical skills. For instance, some employers are of the opinion that e-Learning may be fit for content delivery while it lacks the capacity to develop the relational skills valued so high by employers (Wagner, Hassanein and Head 2008).

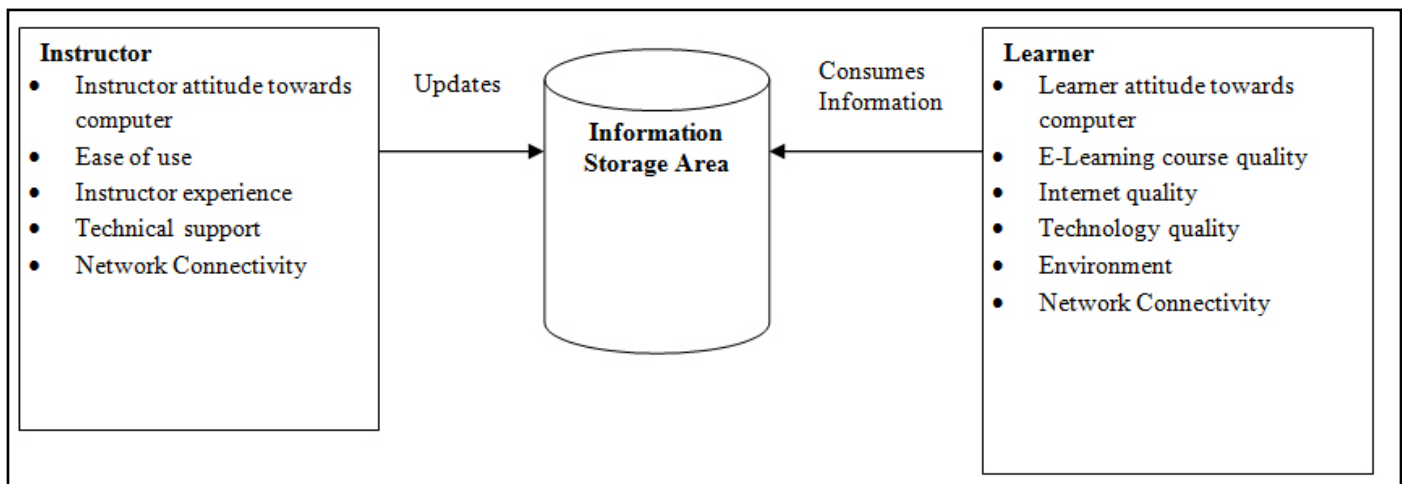


Fig. 1: E-Learning System Considered

V. Conclusion and Future Directions

E-Learning is a measure of the excellence of a country's information, interactions and technical communications and the ability of its customers, industries and governments to exploit ICT to their benefit. According to Ibrahim, et al., 2007, "An ever-increasing number of students withdraw from distance education courses opting for a traditional classroom setting." Many students are hesitant to register in and often withdraw from e-Learning courses for a number of bases. An ultimate fundamental justification for this trend is still missing. However, it has been recommended that the cultural differences of the students have a major reason on the students' enthusiasm and capability to contribute in e-Learning courses. Whereas Western students have a more individualistic learning style that relies on analytical analyses, non-Western students have a more collective learning style that utilizes a holistic approach to analysis (Al-Harhi, 2005).

The educational structure in Saudi Arabia has been the subject of many editorials variety from its explicit religious environment to the status of women within it. E-Learning may be extraordinarily attractive to women in Saudi Arabia. According to a research in 2000 the number of females in schools exceeded the number of males. Specifically in 2000, the number of Adult women enrolled in educational institutes was 74,000 compared to 34,000 men (Rugh, 2002). The continuous increase of women interest is been a challenge for Saudi universities. To handle this situation a sort of e-Learning has been utilized in Saudi Arabia in past. This distance learning was used extend access to courses to women that were traditionally only offered on men's campuses, as women and men

classes and campuses are segregated. In these cases, the men's class that is being taught by the instructor is broadcasted to the women's classroom, where the women can participate in the class by being heard, but not seen by their male counterparts (Rugh, 2002).

Learning institutes play the most necessary role. To answer the question whether e-Learning is feasible in Saudi Arabia the two issues should be tackled carefully. Firstly define a strategic plan to determine the reason of late adoption of e-Learning in Saudi Arabia, secondly the need of e-Learning in institute and thirdly identify the e-learners. Following figure depicts that importance of strategic plan in contrast of e-Learning. Hitherto, literature concerning the definition of e-Learning has been reviewed and the researcher has established that there is not a common agreement on its definitive definition. Consequently, definitions in the pedagogical, technological and distance learning perspectives were reviewed whereby it was clear that the three approaches are significantly dependent on one another. For the sake of this study, the researcher inferred that e-Learning stems from the concept of distance learning to include pedagogical and educational approaches through technology. Afterwards, literature concerning why Saudi Arabia needs e-Learning was reviewed covering the general benefits of e-Learning and Saudi-specific benefits. The successive section reviewed the present e-Learning situation in Saudi Arabia with the literature incorporating various initiatives such as GOTEVT and post-GOTEVT initiatives like NCeDL were discussed. A subsequent section addressed literature about Jusur LMS, while literature on concerns and motivations

of e-Learning stakeholders was reviewed last covering students, instructors, educational institutions, content developers, technology providers and employers.

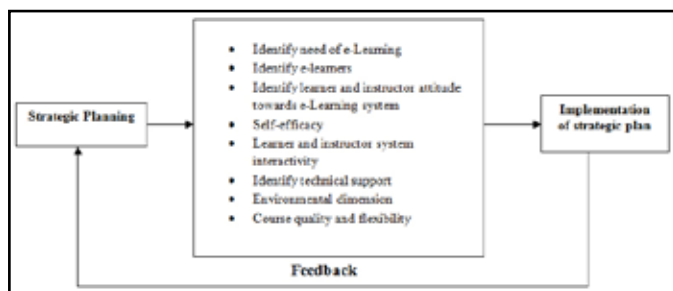


Fig. 2: Importance of strategic plan in contrast of E-Learning

Seels and Richey (1994) have recognized a variety of variables which affect deployment processes in general, the level of user independence, and complications to the use of instructional technology. On the other hand, Zhao, Pugh, Sheldon, and Byers (2002) have observed that the successful utilization of technology for teaching and learning purposes is affected by three main factors, namely innovator, innovation, and context (MJ Asiri et al. 2012). Innovators are instructors, innovation refers to the technology and context refers to the accessibility of infrastructure with common support inside the learning environment.

However, a learning environment rich with technology is insufficient and inadequate to guarantee successful utilization and implementation of technology in higher education (Albirini, 2006). Definitely, the instructor's approval of technology plays also an important role in best deployment of learning management system in higher education. Their complete approval of a system would lead to boost in usage and encourage students to use LMS (Learning Management System) in their classes. This means in the context of education that although the government and relevant ministries can initiate various technology programs, its successful uptake will greatly depend on the teachers or instructors who deploy the technology in their classrooms (Mahmud, 2006).

While this literature review lays significant foundation for this study, it fails to adequately address delay in e-Learning uptake in the Saudi Arabian universities. While some researchers (e.g. Al-Khalifa 2008, 2010) acknowledge delay in the uptake, they fail to explain why there is such a delay as this study does. Possibly, this failure also explains why there lacks research evidence that investigates the coping mechanisms that faculties have in embracing e-Learning and determining the differences in e-Learning uptake among university schools and faculties to the best of the researcher's knowledge. Thus, this research provides a unique stance that has yet to be addressed effectively or at all in the e-Learning higher education research scope.

VI. Acknowledgment

This research is supported by Saudi Arabia Cultural Mission.

References

[1] Ajzen, I., 2005. *Attitudes, personality, and behaviour*. Milton-Keynes: Open University Press

[2] Al-Balawi, M. S., 2007. *Critical Factors Related to the Implementation of Web-Based Instruction by Higher Education Faculty at Three Universities in the Kingdom of Saudi Arabia*. Unpublished doctoral dissertation, University of West Florida.

[3] Al-Harathi, A. S. (2005). *Distance higher education experiences of Arab Gulf students in the United States: A cultural perspective*. *The International Review of Open and Distance Learning*, 6(3). Retrieved from <http://www.irrodl.org/index.php/irrodl/article/viewArticle/263/406>

[4] Al-Khalifa, H.S., 2010a. *e-Learning and ICT integration in colleges and universities in Saudi Arabia*. *eLearning Magazine*. Retrieved May15, 2014, from <http://elearnmag.acm.org/featured.cfm?aid=1735849>.

[5] Al-Shehri A.M., Stanley I., and Thomas P., 1993. *Developing organizational vision in general practice*. [Online]. *BMJ*, 307, 101–103. Retrieved June 27, 2014, from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1693498/>

[6] Al-Shehri, A.M. (2010). *E-learning in Saudi Arabia: 'To E or not to E, that is the question'*. *Medical Education*, 17(3), 147–150.

[7] Alaugab, A. M., 2007. *Benefits, barriers, and attitudes of Saudi Faculty and students toward online learning in higher education*. Unpublished doctoral dissertation. University of Kansas.

[8] Albirini, A. (2006). *Teachers attitudes toward information and communication technologies: the case of Syrian EFL teachers*. *Computers & Education*, 47, 373–398. <http://dx.doi.org/10.1016/j.compedu.2004.10.013>.

[9] Alfahad, F.N., 2012. *Effectiveness of using information technology in higher education in Saudi Arabia*. *Procedia - Social and Behavioral Sciences*, 46(2012), 1268-1278. doi: 10.1016/j.sbspro.2012.05.287.

[10] Alhelih, M., 2004. *The effect of e-Learning on the achievement in instructional technology course in comparison with the conventional method*. *Journal of Educational Science (Derasat)*, 33(1), 51-67

[11] Alshwaier, A., Youssef, A., and Emam, A., 2012. *A new trend for e-Learning in KSA using educational clouds*. *Advanced Computing: An International Journal (ACIJ)*, 3(1), 81-97. doi: 10.5121/acij.2012.3107.

[12] Alzamil, Z.A., 2006. *Students' perception towards the e-Learning at the GOTEVOT and the Arab Open University in Riyadh*. *Journal of King Saud University: Educational Sciences and Islamic Studies*, 18(2), 655-698.

[13] Arabasz, P., and Baker, M., 2003. *Respondent summary: Evolving campus support models for e-Learning courses*. [Online]. *EDUCAUSE Center for Applied Research*. Retrieved July27, 2014, from <http://www.educause.edu/ir/library/pdf/EKF/ekf0303.pdf>

[14] Asiri, M.J.S., Mahmud, R.b., Bakar, K.A., and Ayub, A.F.b.M., 2012. *Factors influencing the use of learning management system in Saudi Arabian higher education: A theoretical framework*. *Higher Education Studies*, 2(2), 125-137.

[15] Clark, R. C., and Mayer, R.E., 2008. *e-Learning and the science of instruction: Proven guidelines for consumers and designers of multimedia learning*. San Francisco, CA: Pfeiffer An Imprint of Wiley.

[16] Friesen, N., 2005. *Interoperability and learning objectives: An overview of eLearning standardization*. *Interdisciplinary Journal of Knowledge and Learning Objects*, 1, 22-31.

[17] Gunasekaran, A., McNeil, R.D., and Shaul, D., 2002. *e-Learning: research and applications*. *Industrial and Commercial Training*, 34(2), 44-53.

[18] Greenagel, F.L., 2002. *The illusion of e-Learning: why we're missing out on the promise of technology*. Retrieved February

- 23, 2014, from <http://www.guidedlearning.com/illusions.pdf>
- [19] Hisham B.H., 2011. Attitudes of Saudi universities faculty member toward using learning management system (Jusur). The 2011 New Orleans International Academic Conference, New Orleans, Louisiana USA.
- [20] Huynh, M.Q., Umesh, U.N., and Valachich, J., 2003. e-Learning as an emerging entrepreneurial enterprise in universities and firms. *Communications of the AIS*, 12, 48-68.
- [21] Jones, A.J., 2003. ICT and Future Teachers: Are we preparing for e-Learning? Paper presented at the IFIP Working Groups 3.1 and 3.3 Conference: ICT and the Teacher of the Future, January 27-31, 2003, Melbourne, Australia.
- [22] Kabassi, K., and Virvou, M., 2004. Personalized adult e-Training on computer use based on multiple attribute decision making. *Interacting with Computers*, 16, 115-132.
- [23] Kamla Ali Al-Busaidi and Hafedh Al-Shihi, "Instructors' Acceptance of Learning Management Systems: A Theoretical Framework", IBIMA Publishing, *Communications of the IBIMA*, Vol. 2010, Article ID 862128, 10 pages, <http://www.ibimapublishing.com/journals/CIBIMA/cibima.html>
- [24] Khan, B.H., 2005. *Managing e-Learning: Design, delivery, implementation and evaluation*. Hershey, PA: Information Science Publishing.
- [25] Lee, M.K.O., Cheung, C.M.K., and Chen, Z., 2005. Acceptance of Internet-based learning medium: the role of extrinsic and intrinsic motivation. *Information & Management*, 42, 1095-1104
- [26] Mazi, A. H. & Obuamh, A. R., 2002. The reality of the quantitative growth of the faculty members in Saudi universities and its future in King Saud University: case study. From King Saud University, Faculty of Education. Retrieved July 23, 2014, from http://colleges.ksu.edu.sa/Arabic20Colleges/CollegeOfEducation/Pages/COE_Conferences_Faculty_Development.aspx.
- [27] Ministry of Higher Education. 2011. Higher Education Statistics. Retrieved July 26, 2014, from <http://www.mohe.gov.sa/ar/Ministry/Deputy-Ministry-for-Planning-and-Information-affairs/HESC/Ehsaat/Pages/default.aspx>.
- [28] Mirza, A., 2007. Utilizing Distance Learning Technologies to Deliver Courses in a Segregated Educational Environment. In C. Montgomerie & J. Seale (Eds.), *Proceedings of World Conference on Educational Multimedia and Hypermedia*.
- [29] Prensky, M., 2001. Digital Natives, Digital Immigrants. *On the Horizon*, 9(5), 1-6.
- [30] Prensky, M., 2006. *Don't bother me mom - I'm learning*, St. Paul, MN: Paragon House.
- [31] Romiszowski, A., 2004. How's the e-Learning baby? Factors leading to success or failure of an educational technology innovation. *Educational Technology*, 44(1), 5-27.
- [32] Rugh, W.A. (2002). Education in Saudi Arabia: Choices and constraints. *Middle East Policy*. 11(2), 40-56. US-Saudi Arabian Business Council. (2012). Saudi government allocates \$154 billion in 2011 budget. Retrieved from <http://www.us-sabc.org/i4a/headlines/headlinedetails.cfm?id=891&archive=1>
- [33] Teo, C.B., and Gay, R.K.L., 2006. A knowledge-driven model to personalize e-Learning. *ACM Journal of Educational Resources in Computing*, 6(1), 1-15.
- [34] Thompson, A.A., & Strickland, A.J., 2001. *Crafting and Executing Strategy: Text and Readings*. New York, NY: McGraw-Hill.
- [35] Wagner, N., Hassanein, K., and Head, M., 2008. Who is responsible for e-Learning success in higher education? A stakeholders' analysis. *Educational Technology & Society*, 11(3), 26-36.
- [36] Wang, Y. (2003). Assessment of learner satisfaction with asynchronous electronic learning systems. *Information & Management*, 41(1), 75-86.
- [37] Weller, M., 2004. Models of large scale e-Learning. *Journal of Asynchronous Learning Networks*, 8(4), 83-92.
- [38] Young, K., 2001. The effective deployment of e-Learning. *Industrial and Commercial Training*, 33(1), 5-11
- [39] Zhang, D., Zhou, L., and Briggs, R.O., 2006. Instructional video in e-Learning: Assessing the impact of interactive video on learning effectiveness. *Information & Management*, 43, 15-27.
- Mr. Bader A. Alojaiman is pursuing his Ph.D from the School of Computer Science, Engineering and Mathematics, Flinders University, Adelaide, Australia. He has obtained his Master of Information Technology from Griffith University, Gold Coast, Australia and his Bachelor of Computer Science from Edith Cowan University, Perth, Australia. He is a Lecturer in Computer Science at College of Science and Arts at Shaqra University. His areas of interests include: ICTs in Educational Institutes, pedagogy, government policies and strategies etc. He is having more than 7 years of teaching experience in addition to his 12 years in IT Industry. He can be reached at: Flinders University, Adelaide, 5001. Email: bader.alojaiman@flinders.edu.au
- Mr. Fahad M. Alturise is pursuing his Ph.D from the School of Computer Science, Engineering and Mathematics, Flinders University, Adelaide, Australia. He has obtained his Master of Information Technology from Flinders University and his Bachelor of Computer Science from Qassim University, Qassim, Saudi Arabia. He is a Lecturer in Computer Science at College of Science and Arts at Rass, Qassim University. His areas of interests include: ICTs in Educational Institutes, pedagogy, government policies and strategies etc. He is having more than 3 years of teaching experience in addition to his 2 years in IT Industry. He is a member of Australian Computer. He can be reached at: Flinders University, Adelaide, 5001. Email: fahad.alturise@flinders.edu.au
- Dr. Robert Goodwin resides in Adelaide, South Australia, and received his BSc with honours (communication studies) from university of South Australia and PhD in Physics from university of Adelaide, Australia. He has always enjoyed teaching both at high school and University level in Physics, Mathematics and Science Education, and is currently senior lecture in Information Technology at Flinders University of South Australia. His research interests relate to the application of information technology in business and education. In particular, he is interested in developing models for strategic planning in the application of ICT in developing countries. Dr. Goodwin is a research program leader, member of Australian Computer Society, member of the programing committee and peer reviewer for 5 international conferences