

The Role of Information Technology Centers in Improving Education: Analytical Study of Taibah University

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Abstract— Day by day, the Internet users are increasing and the penetration rate is moving up steadily all over the world. Using the Internet on a daily basis is becoming an essential activity for people specially educated people and those whom are enrolled on classes. This phenomenon is creating an outstanding chance for teachers and students at all levels to make the best utilization of this technology mainly for two reasons: first, to improve their education level seeking quality life. Secondly, they tend to create competitive advantage among their peers.

This research aims at highlighting the role of information technology centers towards improving education within various educational activities. The research is focusing on university education at Taibah University as a case study of newly established (in 2005) government universities at Kingdom of Saudi Arabia (KSA). The main objective of this research is to highlight the role of IT centre in improving the quality level of education. It is worthwhile affirming that the role of IT centers is an essential part of the IT Strategy Plan to encourage the value of e- Learning as one way of improving the education level outcomes at Taibah University.

Keywords- Information Technology; Education; KSA; Taibah University

I. INTRODUCTION

The Internet growth and population at KSA is moving towards increasing as shown in Table 1.

TABLE I. INTERNET GROWTH AND POPULATION STATISTICS AT KSA [3]

Year	Users	Population	% Pop.
2000	200,000	21,624,422	0.9 %
2003	1,500,000	21,771,609	6.9 %
2005	2,540,000	23,595,634	10.8 %
2007	4,700,000	24,069,943	19.5 %
2009	7,761,800	28,686,633	27.1 %
2010	9,800,000	25,731,776	38.1 %
2012	13,000,000	26,534,504	49.0 %

The computer and information revolution, which is changing the face of the entire world, has changed our vision to all educational aspects, i.e. schools; teachers, students, and all other factors related this important service (the education) in our lives. Schools, colleges, institutions, and universities are seriously considering the adoption of the this new trend towards improving quality level of education elements by redesigning education service to be more IT-oriented targeting better objectives in term of overall achievement. Subset of the many devices and tools, which have emerged as a result of information technology (IT) revolution, are listed below to show some examples but not limited to.

1- Computer tools for educators such as laptops, interactive smart boards, cameras, and data show devices. A study [1] has shown that assigning a laptop to a teacher encourages him/her to deliver quality education and enhances course planning and related administrative issues.

2- Computer labs: they are used to conduct practical courses using computers to explain various concepts via real experimental environment. Computer labs enable teachers to deliver different formats of teaching material to the audience by using the facilities available in the lab. These formats can be audio, video, or text material (integrated or separate). They can be presented in computer labs to students in a good quality, which saves lots of resources and provides better chance for the student to benefit from such technology.

3- Mobile computing devices (such as smart phones, hand-held tablets) which have emerged during the last five years. They are playing an interesting role in education that was unpredictable before. These devices are small-size machines, portable and lightweight. They can be connected to the Internet, have a good memory size that can hold several gigabytes on a tiny metallic piece. These devices can be used for education, learning, reading and other social activities in one session. Furthermore, they are seriously becoming more acceptable by various levels of individuals starting from novice up to professors within education domain and covering other slices of communities that are interested in using such technology.

4- Home computer encourages students to make more and make better researches and do their homework assignments. It does not need a lot of space and can be used by more than one person at the same house. In addition it sets an example to other family members to use computer for better education and performance. Moreover, it provides a chance to the parents to see how their dependents are performing by accessing their grades over the Internet. At one study [6], it was found that students, who are using computers at home, have achieved better results in mathematics in comparison with other students who are not doing the same practice.

5- CDs, DVDs, scanners, digital cameras, flash memory, and other similar accessories. They are providing electronic-formatted lectures or self-learning materials that are providing students with an easy access to the online materials (i.e. eBooks, online exercises, interactive activities, group task, etc) consolidating interaction regardless of time, location, and any other conditions. Full degrees can be arranged and possessed by utilizing contemporary facilities thorough which students and their teachers may meet each other individually or in groups online (Video Conference Lectures).

Using the above tools is supporting non-traditional methods for the purpose of establishing new majors by benefiting from the new communicative Internet infrastructure. It is well-known that lots of people are suffering from several life-conditions not enabling them to receive education properly, which means that they can use any of these tools to promote their educational level.

II. EDUCATION IN THE KINGDOM OF SAUDI ARABIA AND TAIBAH UNIVERSITY

In the following sections, the research will display various activities conducted by Taibah University through its IT centre in the field of education and e-learning. It will also show the aspects in which information technology and communication (ITC) is heavily used towards promoting the quality education at the university. One important issue that should be pointed out is that the Kingdom adopts the single-sex education practice, i.e. males and females are separated by the law and there is a strong commitment and implementation of this segregation principle between both genders. This principle creates a lot of challenges and obstacles against the educational programs in the country. Information technology could be the only solution to this cultural and social issue as it provides several techniques to facilitate education for both genders and implementing the law in this context. One of ITC main objectives is to provide education and exchange of opinions and conversation via tools such as Whiteboard, Blackboard, and Moodle, immediate chat software programs (Skype, Tango, and Viper) and hardware tools such as video cameras, webcams, and microphones.

Higher education e-learning is the most important e-Learning type, out of many others, since it addresses the university-level education and focuses on advanced courses' material, diversity in culture, and enriches special interests between educational participants.

III. EDUCATIONAL ROLE OF THE INFORMATION TECHNOLOGY CENTRE

Since its establishment in 2005, Taibah University has planned to make the IT centre as its engine to achieve its business objectives, competitiveness policy, and financial investments. The university has invested millions of riyals in its IT centre and planning to invest more for achieving its strategic objectives in the field of higher education in the Kingdom. The university started its plan by focusing on students and professors as the core business customers and upon the success within these two segments the remaining segments can follow consequently. In the following sections, the research will display the activities, actions, and services provided by the university via its IT centre towards improving the education service and facilitating it.

A. Distance Learning Program

Taibah University has established an entire educational program called Distance Learning Program using the cutting-edge IT technologies to encourage students on learning and getting a degree using various IT tools to satisfy the strategic objectives of this program and serving the local community. The IT centre has played a major part via creating the suitable environment to help students and tutors achieving their goals. The IT centre has purchased and installed proper software and hardware that enables students to access the related courses' material via the web. The tutors were empowered by having software tools that enable them create, update, and publish the related material on the website of the university. Moreover, the website has several channels that facilitate the communication between the tutors and the students regardless of time and place such as e-mail and short text messages via the mobile phones

B. E-learning forum

The university website (www.Taibahu.edu.sa) provides academic official material for all concerned parties at the university enabling teachers, instructors, supervisors, and students to access the required material anytime and anywhere.

C. Blended learning

Current facilities provided by the IT centre at the university efficiently helps the educators and students adopt blended learning approach. It is mandatory by the university's regulation to attend certain percentage of lectures and to take exams within the university's premises. The IT centre is facilitating these regulations by providing electronic education material to all concerned parties through implementing latest techniques. The current environment encourages both types of blended education i.e. synchronous and asynchronous since it allows students to enjoy available educational material at their locations and times.

annual calendars are all published interactively on the portal for daily usage as well as for history purposes.

D. Events and actions

The contribution of Taibah University, represented by performing various scientific and academic activities (conferences, open lectures, exhibitions), is enabling different stakeholders of the community (especially females) attending and contributing to these activities because of gender segregation principle. These activities have contributed to spread the culture of e-learning (through students, lecturers, and the local community), encouraged accepting the idea of e-learning and raised the awareness level of related knowledge at this subject. In case of male-campus activities, the IT center transmits such activities to the females' campus for the exchange of benefits and knowledge.

E. Agreements

Taibah University has signed several agreements with local (Saudi Electronic University, King Saud University) and international universities to exchange expertise and knowledge between universities. In order to overcome emerging difficulties related to the transformation from traditional to electronic education, the university is continuously conducting training courses to educate professors on the best practices concerning the preparation of new contents using the best set of software tools. Further, the university has established financial increments scheme for those professors whom are considered as an active producers of digital contents via monitoring their production quality.

F. Web Services

The IT centre has created several web services and utilized other widely-used services that facilitate education process activities for students, tutors, and employees. Examples of these services are:

- YouTube channel: This channel contains various types of media related to the university and it contains rich inventory of contents both in Arabic and English. The IT centre has created this channel to enable university clients publishing, almost, any legitimate material that can be of academic benefit to the students, to other teachers and other administrative functioning units in the university seeking further information about the progress and involvement of faculty staff in the electronic education
- Portal website: The IT centre has developed professional portal website that provides various services for students such as registration, accessing grades, producing various certificates and time table schedule. It also provides web-based advertisements to all university stakeholders. Professors are required to use the university website to record grades and produce several other statistics on class or student performance. Moreover, circulars, decisions, advertisements, and

IV. SUMMARY

As a realistic proof of the progress gained by Taibah University on its success towards improving its quality education, the latest ranking of the University during 2013 has made a big jump in comparison with other older traditional universities as shown in Fig. 1, 2 and 3. Fig. 1 shows the University is occupying an advanced position within local universities in spite of its short age (8 years). Fig. 2 and 3 shows the improvement which the University has established, though measuring the Internet utilization, over a period of one year. These figures show strong evidence that the IT centre at the University is a major player in participating promoting the University position among local and international universities.

Saudi Arabia

ranking	World Rank	University	Det.	Presence Rank*	Impact Rank*	Openness Rank*	Excellence Rank*
1	420	King Saud University	■	173	678	160	886
2	626	King Abdulaziz University	■	17	1468	465	1287
3	726	King Fahd University of Petroleum & Minerals	■	1013	1218	664	913
4	1776	King Faisal University	■	1366	2088	3729	2171
5	2213	Islamic University of Al Madinah	■	1229	2899	615	5203
6	2385	Taibah University	■	4507	3683	2400	2542
7	2684	Nairan University	■	2123	2836	4435	3311
8	2621	Umm Al-Qura University	■	1044	2385	7623	2827
9	2855	King Khalid University	■	2148	3739	6206	2362

Figure 1. Ranking web of universities at KSA as of July - 2013 [4]

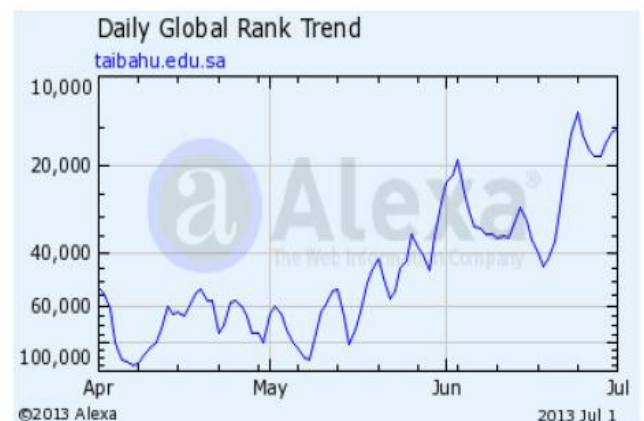


Figure 2. Rank of Taibah University as of July - 2013 [4].



Figure 3. Rank of Taibah University as of Sept - 2013 [5]

The IT centre at the University has a strong direction towards adopting emerging trends in IT such as cloud computing and mobile learning as major initiatives towards improving education.

REFERENCES

- [1] Kerr, K., Pane, J., & Barney, H. (2003). Early effects and plans for future evaluation. Santa Monica, CA: The RAND Corporation.
- [2] Saudi Arabia | Ranking Web of Universities. (2013, July 4). (Cybermetrics Lab - CSIC) Retrieved July 4, 2013, from Ranking Web of Universities (aka Webometrics Ranking): <http://www.webometrics.info/en/Asia/Saudi%20Arabia>
- [3] Saudi Arabia Internet usage and Telecommunications Report. (2012, June 30). (Internet World Stats) Retrieved June 30, 2013, from Internet World Stats Usage and Population Statistics: <http://www.internetworldstats.com/me/sa.htm>
- [4] University |Ranking Web of Universities. (2013, July 4). (Cybermetrics Lab - CSIC) Retrieved July 4, 2013, from Ranking web of universities: <http://www.webometrics.info/en/detalles/taibahu.edu.sa>
- [5] University |Ranking Web of Universities. (2013, Sept 25). (Cybermetrics Lab – CSIC) Retrieved Sept 28, 2013, from Ranking web of universities: <http://www.webometrics.info/en/detalles/taibahu.edu.sa>
- [6] Wenglinsky, H. (1998). Does It Compute? The Relationship between Educational and Student Achievement in Mathematics. Princeton, New Jersey: ETS Policy Information Report.