



NEW INFORMATION AND COMMUNICATION TECHNOLOGIES (ICTS) FOR EDUCATION-EXPLORING E-LEARNING POTENTIAL TO EMPOWER OMAN

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ABSTRACT:

The New Information and Communication Technologies (ICTs) are changing the face of education, including higher education worldwide. The developing nations are also not lagging behind in this endeavour and are making the most of the ICTs to bolster their education systems. The new technologies are emerging as a part of on-campus delivery as well as open and distance modes of higher education delivery.

This is apt even even in the case of Oman and the Arab States, which despite a rich and time-tested intellectual tradition, and notwithstanding the region's tremendous human capital, the potential of people in the Arab region is constrained by barriers to knowledge acquisition, dissemination, production and utilization,

In this context, the present paper discusses the need for a paradigm shift to have blended modes of learning-traditional and e-learning. It dilates on the framework in which e-learning can operate and the initiatives to be taken by Oman in its march towards a knowledge society.

Keywords: E-Learning, Oman, New ICTs for Education, Framework.

I. INTRODUCTION

The New information and Communication Technologies (ICTs) are changing the face of education, including higher education worldwide. The developing nations are also not lagging behind in this endeavour and are making the most of the ICTs to bolster their education system. The new technologies are emerging as a part of on-campus delivery as well as open and distance modes of higher education delivery. They are being used for diverse purposes: developing course material; delivering content and sharing content; communication between learners, teachers and the outside world; creation and delivery of presentations and lectures; academic research; administrative support. student enrolment. This is despite challenges of inadequate telecommunication infrastructure. lack of training resources for teachers, lack of skilled and experienced information technology specialists to assist with development and maintenance and support of ICT usage in the developing world. Positive ICT policies and investments are clearly beneficial to HEIs, even though ICTs have not replaced classroom-based modes of learning or teaching. Undoubtedly, ICTs can provide greater access for different target learners, and have become vehicles for enriched pedagogical experiences, particularly for distance' educators and learners separated by time and space.

2. OVERVIEW OF EDUCATION IN ARAB STATES

The potential of people in the Arab region is constrained by barriers to knowledge acquisition, dissemination, production and utilization "despite a rich and time-tested intellectual tradition, and notwithstanding the region's tremendous human capital." This was the message of the Arab Human Development Report (2001): Building a Knowledge Society of the United Nations Development Programme and also the motivation and foundation for the series of the Arab Knowledge Report 2011.

Echoing similar views, the Middle East quarterly published by the Middle East Forum states - 'Arab countries have made great strides in education, particularly since the middle of the twentieth century. Nevertheless, educational achievement in the Arab countries as a whole, judged even by traditional criteria, is still modest when compared to elsewhere in the world, even in developing countries.'

In an age of knowledge intensity, poor knowledge acquisition, let alone its production, is a serious shortfall. A telling indicator of the poor level of educational attainment in the Arab countries is the persistence of illiteracy rates that are higher, and educational enrolment rates that are lower, than those of dynamic less developed countries in East Asia and Latin America.

While education has made headway among the younger generations, illiteracy has proved difficult to eradicate. Therefore, the overall educational achievement among adults in Arab countries remains low on average. Arab countries have nevertheless made tangible progress in improving literacy: the estimated rate of illiteracy among adults dropped from approximately 60 per cent in 1980 to around 43 per cent in the mid-1990s. However, illiteracy rates in the Arab world are still higher than the international average and are even higher than the average in developing countries. Moreover, the number of illiterate people is still increasing, to the extent that Arab countries embark upon the twenty-first century burdened by over 60 million illiterate adults, the majority of whom are women.

The mid-1990s witnessed higher total enrolment rates for the secondary and tertiary levels in the Arab countries (54 per cent and 13 per cent, respectively) compared to developing countries (49 per cent and 9 per cent, respectively). However, these percentages are lower by far than those prevailing in the industrialized countries for that period (106 percent and 60 percent, respectively). Arab countries are not expected to catch up with the industrialized countries' mid-1990s enrolment levels for all three levels of education before 2030.

Statistics on Oman indicate that the country is ranked 78 in the Human Development Index and is listed in the Medium Human Development category and has an education enrolment ratio of 0.67 slightly higher than the ratio in Arab countries which stands at .62. The adult literacy rate stands at 71.71% (UNESCO, Education for All report)

Given these figures, there is no denying the fact that Oman, and other Arab countries, are facing a great challenge in education which can be overcome. Education should play a significant role in achieving social advancement in Arab countries.

3. OMAN INITIATIVES

Visionary Arab leaders recognize that their countries need to regenerate, enlarge, organize, and deploy their knowledge capabilities in order to prosper in a world of globalized information, technology and markets. They have realized the significance of knowledge economy so as to improve the systems of their etc.

His Majesty Sultan Qaboos, in his 2006 speech to the Oman Higher Education Council said:

"...education, training and employment [is] an issue which we regard as the cornerstone of the future and the main stimulus enabling us to reach our goals."

(Source : <http://www.omani.info/education.htm#speech>)

Keeping His Majesty's vision in view, the Sultanate of Oman in its Seventh five-year economic plan (2006- 2010) aims at achieving an annual growth rate of three per cent. The Government wants to encourage private sector enterprise through policies and incentives, and to stimulate trade and investment..

The plan is also aimed at:

- maintaining inflation rate at its current low level
- improving higher education opportunities
- creating job opportunities to Omanis
- rationalizing public expenditure
- increasing non-oil revenues
- investing public resources in sustainable development projects
- raising the production of different economic sectors including oil and gas
- enhancing the efficiency of the administrative system of the state
- managing population issues and human resources development
- ensuring women empowerment.

(Oman Chamber of Commerce and Industry)

In order for Oman to achieve some of the above listed objectives and join the League of Nations which have evolved to knowledge societies some out of the box thinking would not be futile. Some serious questions need to be addressed:

- Can the adoption of the economy of knowledge and its growth in developing help to generate a society of knowledge'?
- Does Oman have the wherewithal to transit towards the knowledge economy providing its necessities?

- What can it do to reduce the gap in information technology which separate between them from the North?
- How do we address the gap between the market demands and the available skill sets among professionals ?

Oman's e-learning initiatives-a paradigm shift, are bold and futuristic as e-learning has the potential to raise the level of education, literacy and economic development. It is a shift towards all inclusive education covering diverse segments of the society. It is not replacement of the traditional, conventional classroom learning with e-learning. It should be a blend of both.

4. **KEEPING PACE**

Globally, in recent times, educational institutions, corporations, and governments across have started reexamining the way training and education are imparted. e-learning has now become a crucial part of their strategy to deliver knowledge. E-learning has witnessed a complete resurgence after the dotcom bubble burst in 2001. The growing popularity of the Internet has bolstered the e-learning initiatives of several global corporations. Estimates indicate that the current e-learning global market size is over \$20 billion, which has grown ten fold since 1999. There are several names for open, flexible and distributed learning activities, including e-learning, Web-Based Learning (WBL), Web-Based Instruction (WBI), Web-Based Training (WBT), Internet-Based Training (IBT), Distributed Learning (DL), Advanced Distributed Learning (AOL), Distance Learning, Online Learning (OL), Mobile Learning (or m-Learning) or Nomadic Learning, Remote Learning, Off-site Learning, a-learning (anytime, anyplace, anywhere learning), etc. Quite simply e-learning can be defined as a learning, training or education program by electronic means. It includes Online lectures, tutorials, performance support systems, simulations, job aids, games, and more. Some view e-learning as a means to effective learning due to its ease of access and the pace being determined by the learner: e learning permits the delivery of knowledge and information to learners at an accelerated pace, opening up new vistas of knowledge transfer.

The reason that educational planners/administrators, policy makers and academicians are bullish about the sector is the rising demand for training from corporates paired with demand from institutes and vocational training. With increased PC penetration, schools and colleges can look to provide an alternative learning solution to students.

It seems imperative that e-learning would coexist with other technologies and ways of acquiring knowledge. And as soon as low cost PCs would be made available and broadband will penetrate deeper, across Oman, there are chances that e-learning will strengthen.

Oman, is heading towards e-Oman. It has set up the Information Technology Authority and is in the incipient stages of integrating ICT in education. The ITA has launched the Community Knowledge Centres (CKCs). The CKCs across the country are a part of the Community IT Training CITT project which falls under the National IT Training and awareness Framework Initiative (NIITA) a core initiative of ITA to transform Oman into a

digital society. The primary objective of the CITT project is to train Omani citizens in basic Information technology skills in order to reduce the IT illiteracy and to bridge the digital divide. Through the CKCs some 60,000 Omani nationals over the next three years, will be trained and awarded certificates. This is a small step forward.

Also, its e-learning initiatives in the Ministry of Higher Education will give an impetus to the Sultanate's efforts to attain the target of increasing the gross enrolment ratio by widening the reach of education to the remote and marginalised areas in the country. e-learning is slowly gaining foothold in Oman, thanks to an increasing emphasis on honing individual skills. The Oman e-learning market is still at a nascent stage. Oman has learned lessons from the success of the e-way in the West and today the educational picture is being replaced by e-governance, e-classroom, e-tutorials. With the Oman economy unfazed by the recent financial crisis, there is need for skilled employees. Even companies are now looking to leverage technology to reduce costs incurred for training. As against the earlier method of classroom training, a virtual training programme turns out less expensive and easier to execute.

5. SOUND FRAMEWORK VITAL

Design, development, implementation and evaluation of open, flexible and distributed learning systems require thoughtful analysis and investigation of how to use the attributes and resources of the Internet and "digital technologies in concert with instructional design principles and issues important to various dimensions of online learning environments.

After reflecting on various factors important to open, flexible and distributed learning environments, it is apt to mention Badrul Khan's "Framework for E-learning", These factors can encompass various online learning issues, including: pedagogical, technological, interface design, evaluation, management, resource support, ethical and institutional. In addition, five key challenges that policymakers in developing countries must reckon with when making decisions about the integration of ICTs in education, namely, educational policy and planning, infrastructure, capacity building, language and content, and financing.

Various factors discussed in the eight dimensions of the framework can provide guidance in the design, support learning, education, and useful for learning, education, and training. development, delivery and evaluation of flexible, open and distance learning environments.

Page 83 Sub heads 6, 7 , 8 fist para

Programmers and other creative individuals involved in the design and creation of the e learning The hosts consist of the organizations and equipment utilized to present/provide the e learning to the learners. The learners are the users (students, readers, and/or workers) of the e.-learning_141

Each of these categories of people has specific technology requirements. The learner's technology has to be the driving factor in the determination of which technology and technique to use in the design and hosting activities.

A thriving sector brings along with it newer career prospects. The same applies here. Instructional designers are required to give shape to the raw project. Graphic designers and animators who have knowledge of tools such as Photoshop, Flash, etc can definitely pursue a career here. There is also a high requirement of GUT experts, web designers, database designers, software developers etc along with multimedia specialists.

Although one would expect such 'IT' related jobs in a space like e-learning, there are also openings for technical writers and content writers. Subject matter experts in the generic domains are also sought out.

The supply in this industry can hardly keep pace with the global demand. The demand in Oman has just started building up. With providers of e-learning tools witnessing phenomenal business growth, the e-learning market is going to get only better and bigger in the time to come.

9. EVALUATION

- Establish a Centre for planning and quality as the degree is considered a criteria to work in Oman as in other countries. This requirement puts a lot of pressure on the degree and on the quality of e-learning programs. Academic institutions should work hard to ensure that online programs are of the same quality as the traditional programs, or probably even better, in addition to increasing the awareness in the society about the benefits of e-learning. The programmes whether online or face-to-face should be based on the outcomes of these programs; otherwise, students may seek the shortest path to get the job, regardless of the quality of the program.
- To increase validity and assure authentication, the certification process should be assigned to an independent agencies so that assessment parameters can be formulated to ensure equivalency of degrees offered in traditional. courses and online course.
- Some universities/institutions in the West have commercialised the e-learning courses with the introduction of on-line certification and degrees.

10. INSTITUTIONAL PLANNING AND RESOURCE SUPPORT DIMENSION

An institutional framework-structure, has to be in place, perhaps on the following lines: There should be a national plan for e-learning in higher education in Oman. The five Year Plans should have detailed procedures to incorporate e-learning in the academic programs and, in addition, to build the necessary infrastructure.

Establish an apex body, a national Center for e-learning in higher education, and in the long run establish a Oman National Virtual University.

Some other essential elements of planning for e-learning are listed below:

- A thorough analysis of the educational system, institutional practices and arrangements .

- Identify, drivers and barriers to ICT use need to be identified, including those related to curriculum and pedagogy, infrastructure, capacity-building, language and content, and financing.
- Identify educational goals at different education and training levels and identification of stakeholders and the harmonizing of efforts across different interest groups.
- Identify sources of financial support.

11. BE WARY

One needs to be cognizant of certain limitations of e-learning and the learning needs of diverse segments.

As noted by Allen (2007) e learning is not well suited for teaching all interpersonal skills (i.e. various personal communications and anger management skills where vocal, facial expression and body language play a significant part in the communications itself).

E-learning is also not well suited for teaching original thinking. However, properly designed and implemented e-learning can effectively and efficiently meet an organizations factual, theoretical, logical, and procedural training needs. As these types compose the vast majority of any organizational training needs, it is apparent that this method of training can be very well suited for organizational training.

Despite such limitations, Oman could benefit in many ways from the use of e-learning. Among those benefits is the fact that e learning courses save on travel covers distances, administration, and facility costs. There is also a significant savings realized in less time away from work. For learners spread across multiple locations, traditional education becomes a constraint. All learners need to assemble in a classroom. The pace at which the student picks up lessons is not the same for all in a classroom but this handicap is overcome in e-learning as learner are treated as having equal abilities and there is little flexibility in terms of timing and completion of the course.

It can be made compelling and interesting with multimedia, and the student can be given multiple learning paths depending on his or her needs. A traditional learning structure does not guarantee the delivery of a consistent message, whereas consistency is assured in e-learning.

More importantly, effective. e-learning results in improved learning and improvements in business productivity. The major advantage of e-learning is that it is self-paced and learning is done at the learner's pace. The content can be repeated until the trainee understands it. E-learning is interactive too. With the growth of e-learning, more and more pupils will opt for it, as there would be no worry that the maths teacher will beat them for a sum gone wrong. Also, there will also be no fear of coming late to class and then standing outside the classroom waiting for permission to enter. More and more working professionals and student would be interested in learning the e-way because of flexibility that e-learning offer. E-learning will soon become a great tool to enhance qualifications and getting promotions in the

job market. To sum up, the future of e-learning is bright. Countries without university education can access universities in other countries via the Web, a solution much cheaper than building university infrastructure.

12. PROBLEMS

The constraints of e-learning include--learner management , content creation and delivery administration management system . Of the three, content creation and delivery I think is more important from the learner's point of view. It's still all about the learning (although, management and administration are key to a systematic approach to any program).

In the context of Oman, lack of course content could prove to be a major obstacle, especially outside the mainstream focus areas of IT education, English- language content and tutorial-like courses. There will be high demand for people who can develop multi, lingual courseware that addresses various topics. The key problem areas would be tack of personal touch, control supporting infrastructure access and frequent changes in the role of instructors. However, there is significant knowledge retention. High quality e-learning solutions are being developed across the world with · the right technology and industry support in sectors as distinct as steel, IT, automobiles, cement and telecom. Industry watchers estimate that because of its advantages , Oman is bound to grow in stature as the hub for e-learning programmes.

13. WHAT COULD BE DONE?

Attempts to enhance and reform education through ICTs require clear and specific objectives, guidelines and time-bound targets, the mobilization of required resources, and the political commitment at all levels to see the initiative through. Switching over toe-learning is a change management issue and one needs to be more guarded in the approach. Higher educational institutions in Oman should start looking at e-learning more seriously and follow the education and communication strategy of organisational change where the stakeholders should be informed as to how the change will affect them. First, all stakeholder groups should be made aware of the e-learning initiatives. An assessment of the readiness for e-learning among faculty, students, and staff; is imperative. Comprehensive e-learning cannot be successful if faculty members are not psychologically, technologically, and pedagogically ready to teach online. E-Leaming initiatives may not be successful if faculty members are not ready to adopt this new innovation.

Next is the return-on-investment (ROJ), implying that students ought to get quality, meaningful learning experiences through e-learning. Proper· instructional design and learning design principles need to be applied for appropriate e-learning materials so that students are satisfied with e-learning, both in the form of a supplement to their face-to-face classes as well as stand- alone online courses.

The Ministry of Higher Education needs to stimulate a new learning culture and e-learning must become a policy issue. Government must recognise the e- learning industry as a



separate forum and not treat it as part of the IT enabled services (ITeS) or a sub sector of the IT industry. In a social set up such as Oman

Oman where the concept is still new, one crucial element that will make a difference in generating a good response is marketing. This not only holds true for segments such as government and education, but for the corporate sector as well. Experts strongly feel that there needs to be met and a right mindset for the adoption of e-learning. The other point is content. If content providers are giving off-the-shelf content, there should be scope for customisation since each organisation has its own needs.

14. BOTTOM LINE

The Oman market is still young. The higher education scene has taken firm roots. Oman should continue to adopt the concept of e-learning in order to meet its education needs and seize business opportunities. The need of the hour is a vision and a policy framework to expedite work on this count and enable Oman to take the e-learning route.

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