Providing an Effective Strategy to Improve Virtual Learning in Iranian Higher Education System

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ABSTRACT

In the twenty-first century and in today complex and competitive world, rapid environmental changes, every minute, have encountered educational institution with growing threats; and certainly, the success of these institutions in today social system is depend on a leading and change oriented leadership and management, so that be able to provide and predict necessary requirements to meet such threats. One of applied approaches which can be used in this field is implementing distance education; because, through this approach optimal use of human resources as the most important capital for managers will be possible. Therefore, this research has been performed based on this important and critical issue, and by using its results, one will be able to conclude correctly: if establishment factors and variables and application of virtual learning being identify, ultimately one can try to make optimally use this new training method. What have been emphasized and analyzed in such research as independent variables, which affect implementation of virtual learning in Iranian higher education centers and institutions are: culture, managerial and technology structure, through which mentioned factors has been investigated in target statistical universe. This study has been carried out to investigate the problems of distance education in Iranian higher education centers and has been tried to provide an efficient strategy; this research, through statistical inferential methods, using results of distributing questionnaire, and by statistical analysis, has been tried to prove research secondary hypothesis, which are relationships and the impact of independent variables of culture, managerial and technology structure on dependent variable of virtual education. According to obtained results, technological structures, human resource development, especially specialists and professors, organizational culture in relation to distance education, as well as new management structure are the main factors to improve function of distance education in higher education distance learning institutions.

KEYWORDS: Distance Education, Higher Education Institutions, Culture, Technology, Managerial Structure

1-INTRODUCTION

According to growing role of knowledge in different scientific and technical domains, and the importance of optimal utilization of available resources, as well as, according to the necessity of attempts to survive and development in today competitive world, organizations have been tried to use and apply knowledge more than before. Therefore, their activities, to have a sustained and continues presence, should be concentrate on knowledge. In this regard, what is apparently important is planning and applying virtual education system, so that this goal could be achieved according to it. It is obvious that, in practice, those educational institutions will be more successful which in planning process, in order to discover, sharing, and storing experts' knowledge have been successful, and be able to play a determinant role through providing and applying virtual education.

Nowadays assets of an educational institution not only are physical capital, but also intellectual and scientific capital is significant, so that ignore them may be result in organization drive down and bankruptcy. On the other hand, the growth of the internet and e- commerce, and the necessity of paying attention to human resource perspective in the fields of creativity and innovation, developing a new educational style, in order to apply approaches and behavioral patterns in conjunction with the expertise and experience of employees has been inevitable, so that, both organization and employees can take advantage it. Usually, creation of new information needs innovation. Therefore, virtual education, in order to provide information, on the basis of today knowledge, is particularly important to most educational institutions. Innovation and creation of information is an ongoing process,

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which today knowledge creates and defines it; and people, in this way, by its continuous production and combination are able to make collective knowledge (Safavi, 2008: 47 - 65).

Virtual education in an institution is composed of strategies and processes which are able to meet knowledge requirements of all educational institutions, especially in the field of higher education, students and teachers. To implement virtual education, a relatively long time interval, providing intellectual, cultural, technical, educational, knowledge center contexts, and providing the technology infrastructure are necessary. Therefore, it should be acknowledged that institutions those have been successful to adequately take advantage virtual education topics, have greatly increased their abilities, so that, gradually, have moved toward constructing a learning organization. Due to emergence of internet and e-commerce, and new economic conditions, and development of communications paying attention to specialist human resources in organization became more important. Thus, designing an educational style that through it one is able to develop an approach appropriate to behavioral conditions and patterns, and the type and level of staffs' professional skills is very important because using it will result in added value to both parties.

To create such processes, and in fact, cultural and social concept of "globalization", concentration of all human beings will has meaning around education and using it to better life, therefore, the majority of leading organizations in the world are focused on establishing virtual education of knowledge management, and according to innovative and multiple achievements in the field of scientific and information technology have been planned implementation of this model, and as a result providing basic changes in all communicational measures .

Researches which have been performed in Iran are as follows:

"Comparing academic achievement of admitted MA students in comprehensive universities and admitted students at the same course through university entrance exam in University of Payame Noor"; this study by using descriptive research method has been survey type and its statistical universe includes MA students in Tehran, Isfahan and Tabriz University of Payam Noor. Research findings have shown that academic achievement of admitted MA students in comprehensive universities has been more than admitted students at the same course through university entrance exam; and academic achievement of MA students in the Human science, as well as married MA students, and also employed MA students who are admitted comprehensive universities compared to students who are admitted through university entrance exam at the same course has been more than others (Attaran, 2005).

Hashem Far Danesh, (2001) in an article entitled " necessary contexts and strategies to develop distance education in Iran", has tried to explain normative-descriptive model which has been provided to develop universities in higher and distance education centers and say: universities and higher education centers after occurrence of fundamental transformation and basic changes in all fields of their activities have been encountered with important decision and choices; these decisions, specifically are presented in four field:

A. Perception, understanding, absorption and acceptance of new epistemological approaches
B. Identifying and applying new approaches of learning psychology
C. Full knowledge and application of new communication technologies
D. Precise identification of economy in higher and distance education centers activities

Universities and higher education centers after detailed analysis of above four major factors should chose appropriate approaches in any field to execute and practical implementation of any decision. It has been started from incorporation of new technology in teaching and learning lessons and available courses, and will end to offering lessons through distance education, offering courses through distance education, and finally developing virtual university.

Research which is entitled "designing an instructional model to web-based education", has presented a study on designing an instructional model which is compatible with online training. Four instructional design theories that are compatible with web-based education include:

A. Elaboration theory
B. Domain theory
C. Work model synthesis
D. Four-components instructional design (Montazer, 2005:101-145)

Eskandarian and Kahani (2001) have been presented an article entitled "an Overview on Web-based distance education systems". In this paper, the total performance of a comprehensive distance education system has been divided into three categories which are:

A. Educational activities consist of preparing and completing training content of educational courses, developing training courses, establishing virtual classes.
B. Research activities consist of group and individual projects, and organizing conferences and seminars.

C. Administrative activities consist of educational programs, student admissions, resource and tools management (Eskandarian& Kahani, 2002).

1- Practical Performed Samples in Iran

2-1-Ministry of Education (Iran)

Organization for Educational Research and Planning in autumn of 2002, with the aim of teaching and learning in a web-based environment, and in particular creating the experience of being students in a virtual classroom, for the first time in Iran, tried to establish this virtual classroom (TTOC(Training teacher online class). This practice was an opportunity to some experts in different parts of Ministry of Education, so that will participate in these classes as student, and will be familiar closely and experimentally with the characteristics of the virtual class. TTOC virtual classroom has been established along with 30 students in an eight-week course which students, will be attended in them at least 6 hours per week.

2-2-General Department of Technical and Vocational Education of Isfahan Province

Teaching Photoshop, HTML, internet, different software, advanced topics in web design and teaching Excel and Word are some parts of this network. Everyone has selected his/her favorite program will move forward lesson by lesson and there is some specified date to solve problems. Those who obtain a score more than 75 percent will get certificate.

2-3- University of Shiraz

This university which aim to help developing public education, preparing Facilities of having high education for talented people and improving scientific and cultural level of society and providing some part of necessary specialized personnel of Iran, has admitted students through comprehensive programs, virtually in Bachelor degree in the 2003-2004school year; this university currently is establishing MA classes in the field of IT. Lessons and programs of this course are providing via internet to student and continuous present of students in the classrooms is not necessary.

2-4- University of Payame Noor

This university has been selected as the pole of Iranian virtual education. But in some cases have some shortcomings. Of course according to performed plans this University will be Iranian largest virtual universities, and this can be predictable according to all made progresses. In this regard, the University of Payame Noor, to implement and development of e-learning has been tried to set up a department which is called Dane she Stan. Managing numerous professional seminars in the field of e-learning in Iran represents Iranian positive approach toward this technology in accordance with growth and development programs (Tavakoli, 2011:33-38).

Ability of new technologies will make possible global communications of students, professors, graduates and researchers in a flexible and constantly changing environment to production and distribution of knowledge. Iranian higher education system to meet increasing growth of population and exponential increase of social demands to achieve educational opportunities, especially at high and academic levels, as well as disabilities and limitation of financial resources to meet these demands, and moving along with global progress should make some decisions to reduce mental, social, cultural, and economic damages result from unanswered requests, and think about strategies and mechanisms beyond the old structures . And by development of virtual universities in parallel and along with traditional universities, as a supplement, not substitute or rival, there will be various, rich and wide educational opportunities for applicants. Although moving towards establishing virtual institutions in Iran has started in recent year, it is obvious realization and success of these movements and actions involves investigation of their theoretical and perceptional dimensions in execution. In fact, the important point is that one can manage classes so that know what students do them, and the sense of presenting in the classroom is maintained, then student outside of the classroom will complete his/her individual homework and finally send them. There are, at the end of each chapter or page, some questions that students must answer them to pass it, and they will be monitor online, and the percentage of wrong answers will be characterized. This will help next design, and the most important point is collective work.

Research Spatial and Temporal Domain

The type of research which has been used was applied one, and during it five virtual education centers in Iran, Iranian Distance Higher Education Center, The Centre of Communication Industries Applied Science in Tehran, Payame Sadr's Education Center, Electronic Teaching Center in Shiraz and Educational Center of Tehran University (Faculty of Medicine and Nursing) have been investigated within a period of 6 months in 2011.

These institutions, as the most important and the most advanced centers of distance education have been active in the fields of medicine and industry and have been played an important and vital role in providing necessary training.

In this regard, Morey (2000) to change higher education institutions and moving them towards virtualization has provided a framework in which a research has been performed based on the skills and expertise of professors as

well as educational content. He believes that virtual combination of universities together and their integration are essential in achieving goals of higher education, particularly in research goals. He believes this important issue will result in cultural advances (Morey, 2000:25-39),

In a research, which has been carried out by Khoshnoodi Far et al (2011), and entitled "the process of curriculum internationalization through distance learning approach in Iranian higher education", they concluded that distance education approach due to high flexibility and passing geographical, political, economic, and cultural boundaries can be an effective strategy In this process.

They also emphasized human resource development and technological infrastructures, as well as they believe clarification of law is the most important elements in development of distance education in Iran, (Khoshnoodi Far, 2011: 77-106).

Problem Statement

According to great impact of organizational management and education culture in educational organizations, as well as technological developments, increasing expectations and student population changes, stakeholder demands to accountability and new instrument and providing educational text all are current challenges that will make essential requiring innovation in higher education. Encountering with these challenges is great problem which result in achieving an environment with limited financial resources, and it is clear that educational institutions should review their activities' traditional methods , and in order to organization's survival at present and future try to apply new methods and techniques. The emphasize of research field and development to innovation in higher education institutions to enhance educational value for students, and improving effectiveness of all learning based processes, and efficiency of supportive performance, learning based procedures are critical and essential. Therefore, this research, according to studying culture and organizing, which is key elements of a general relationship in society, has chosen new approach.

Research Objectives and Hypotheses

The main goal of this research is:

"Providing an effective strategy to improve virtual learning in Iranian higher education system"; mean while to better achieving the main goal of this research, there are a series of secondary objectives, which on the one hand, drawing main direction of research will be possible and on the other hand, such goals will be examined as effective independent variables relative to dependent variables.

Secondary Objectives

A. Studying and determining the impact of organizational culture in Iranian distance higher education
B. Studying and determining the impact of managerial structure in Iranian distance higher education
C. Studying and determining the impact of technology in Iranian distance higher education

The Main Hypothesis

Mentioned triple independent variables in distance education have effects on Iranian distance higher education.

Secondary Hypothesis

A. Organizational Culture has effects on Iranian distance higher education.
B. Managerial structure has effects on Iranian distance higher education.
C. Technology has effects on Iranian distance higher education.

Statistical Universe

Mentioned institutions have approximately 200 personnel that half of them are managers, experts and technicians. Therefore, all managers, experts and technicians of these institutions have been considered as research statistical universe.

Application of Research Results

According to the size and importance of public and nonpublic organizations, and the necessity of development and expansion of distance education institutions, results of this study can be used initially in the educational center of "Ministry of Science, Research and Technology", and then , in other organizations that have the same mission and goals. According to structure of virtual learning management, available data in the organization and its resources (both explicit and implicit knowledge of people, databases, documentation, etc.) should be identified, achieved, and then should be managed properly. Then, data should be analyzed to lead in synergy and recreation. Otherwise, all conducted efforts will remain unfinished. Structural design to create knowledge includes entrance of new information into system, and the result of their combination to make organizational decision. This act should be done in all organizational levels.

2- MATERIALS AND METHODS

This study to achieve acceptable results has tried to use statistical methods which are necessary in scientific researches, as well as it will be utilized, so that in order to have proper operation obtained results being applied in

the form of methods, academic and research programs. Thus, mentioned methods has tried to use questionnaire comply with the Likert Scale, as well as statistical analyzes, such as Chi-Square Test, Somers D Test, and finally Regression. Moreover, after gathering questionnaires, obtained results have been analyzed statistically by using SPSS15 software. This software has capability of describing data, testing hypotheses, evaluating relationships, and describing statistical operations.

Data Collection Instrument and Data Analysis

In order to study and achieve strong and reliable results, as well as in order to collect necessary data a questionnaire contains of 30 questions was designed and was distributed among statistical universe. In addition, because data analysis through identifying and understanding current situation was necessary, field study as well as inferential and descriptive statistics was used as follows:

T-Test

This test has been used due to using five point Likert type scale questionnaire to determine utility level by using average comparison.

Chi-Square Test

This test has been used in order to ensure the existence or lack of existence a relationship between independent and the dependent variables.

Somers D Test

This test has been used to determine the amount and the type of relationship between independent and the dependent variables.

Validity and Reliability Calculation

Available questions in this questionnaire have been designed so that can have necessary validity and reliability to answer secondary question of research hypothesis. Therefore mentioned questionnaire, initially has been offered to teachers and experts, and their validity and reliability were guaranteed by using their opinions. To ensure reliability, 30 questionnaires for each of independent variables, and 30 ones to total calculation of questionnaires, were distributed among statistical universe, and after gathering were calculated through software of SPSS15; due to this fact that the value of questionnaire Cranach's alpha (0.957) were more than 0.7,its reliability was confirmed.

The Results of Averages Calculation

After gathering questionnaires the average of each independent and dependent variables will be calculated (See Table 1).

Table (1) - The averages of independent and dependent variables

Variables	Averages
Virtual education	2.809
Managerial structure	3.250
Technology	3.626
Culture	2.859

As it is obvious from table (1) the averages of independent variable of culture and dependent variable of virtual education are less than 3 and the averages of independent variables of managerial structure and technology have been achieved more than 3.

Chi-Square Test for Variables

Since the independent variable in this test is culture, and the dependent variable is virtual education the chi-square test has been used in order to assess the relationship between mentioned variables, and obtained results have been revealed in relevant tables (see tables 2, 3 and 4)

Value	Degree of Freedom	Significance level(bilateral)	Calculation
570.000	36	0.000	Pearson chi-square

The First Hypothesis

The test null hypothesis (H0): two variables of culture and virtual education are independent of each other.
The test opposite hypothesis (H1): two variables of culture and virtual education are dependent.

Table 2- calculation of chi-square for independent variable of culture

Value	Degree of Freedom	Significance level(bilateral)	Calculation
89.106	36	0.000	Pearson chi-square

The Second Hypothesis

The test null hypothesis (H0): two variables of managerial structure and virtual education are independent of each other.

The test opposite hypothesis (H1): two variables of managerial structure and virtual education are dependent.

Table3 - calculation of chi-square for independent variable of managerial structure

Value	Degree of Freedom	Significance level (bilateral)	Calculation
128.474	42	0.000	Pearson chi-square

The Third Hypothesis

The test null hypothesis (H0): two variables of technology and virtual education are independent of each other.

The test opposite hypothesis (H1): two variables of technology and virtual education are dependent.

Table 4-calculation of chi-square for independent variable of technology

Value	Degree of Freedom	Significance level (bilateral)	Calculation
570/000	**36**	0.000	Pearson chi-square

The Results of Chi-Square Calculation

According to obtained results and this fact that level of significance is less than 0.05 there is a relationship between three independent variables of culture, technology and management structure and the dependent variable of virtual education, therefore, all hypothesis of h1 in research will be approved.

Somers D Test for Variables

After ensuring the existence of relationship between independent and dependent variables, and confirm of research secondary hypotheses, in order to determine the amount and type of relationship, Somers D has been calculated.

Table 5- calculation of Somers d for the dependent variable of culture

Calculation	Amount	Asymp.Std.	T-statistics	Significant level.
Somers D	0/435	0.063	6/063	0.000

Table 6- calculation of Somers d for the dependent variable of structure

Calculation	Amount	Asymp.Std.	T-statistics	Significant level.
Somers D	1	0/000	32/176	0.000

Table 7- calculation of Somers D for the dependent variable of technology

Calculation	Amount	Asymp.Std.	T-statistics	Significant level.
Somers D	0.290	0.087	3.335	0.001

The Results of Somers D Calculation

As it is observed in Tables 7, 8 and 9:

- Significance level of the independent variable of culture is less than 0.05, therefore, the relationship between this variable and dependent variable of virtual education has been intensified, and this relationship is direct relationship.
- Significance level of the independent variable of structure is less than 0.05, therefore, the relationship between this variable and dependent variable of virtual education has been intensified, and this relationship is direct relationship.
- Significance level of the independent variable of technology is less than 0.05, therefore, the relationship between this variable and dependent variable of virtual education has been intensified, and this relationship is direct relationship.

It should be acknowledge that there has been similar results in the study of Baker et al (2003) and Khan (2005);as well as these findings are in consistent with the results of Rena and Keith (2004) studies.

4- conclusion:

4-1-Analyzing Independent Variables of Culture
According to this fact that resultant significant level of chi-square and Somers d calculations is less than 0.05, there is a relationship and intensity between this variable and dependent variable of virtual education, of course this result on the basis of previous studies and research statistical results is reasonable. However low level of resultant utility in comparison with average, can be due to unwillingness of statistical universe toward sharing knowledge among them. General analysis about this variable is that statistical universe to provide answers to questions has been paid attention to current condition.

4-2-Analyzing Independent Variables of Managerial Structure
According to this fact that resultant significant level of chi-square and Somers d calculations is less than 0.05, there is a relationship and intensity between this variable and dependent variable of human resources. However, independent variable of structure has an impact about 43 percent on human resource which is significant. Important point about this variable is that, there, in organizational chart, should be a unit, which is called virtual education management, and it can be revealed the influence of dependent variable on this variable. Meanwhile, as a result of creating such structure, certainly preparing and developing, methods and procedures, and operational processes are also should be considered which indicate the importance of this issue.

4-3-Analyzing Independent Variables of Technology
According to this fact that resultant significant level of Chi-Square and Somers D calculations is less than 0.05, there is a relationship and intensity between this variable and dependent variable of virtual education. However, independent variable of technology has an impact about 29 percent on virtual education which is significant. Important points about this variable are:
- Awareness of the respondents about technology
- Expanded and diverse use of intranets and Internet has been resulted in the influence of this point.
- Availability of multi-skilled personnel in subordinate units

For example, an expert can do his/her tasks toward some financial issues, sales and contracts, inventory, and some other proficiency by using specialized software and hardware. Research statistical results indicate that statistical universe have a relatively good satisfaction toward existing technology and its impact on virtual education.

5- Recommendations
According to obtained results of the statistical analysis, which have been mentioned, as well as relationships between dependent variables of culture, structure, and technology, and the dependent variable of virtual education, there will be some recommendations and strategies as follows. According to this fact that in distance learning, culture, structure and technology are important factors, it was found that each of these factors certainly play an effective role in expansion and improvement of distance learning. Thus, in this model, such factors are important. But, on the basis of prevailing environmental status on Iranian distance learning, other factors should be addressed; therefore, in addition to strengthening following items, which are derived from survey questionnaire, some other variables, such as financial and human resources should be considered.

Solutions Resulting from Survey Questionnaire
1. Providing appropriate cultural contexts in companies and organizations; this issue especially is important for organizations that are responsible of expansion and development of distance learning systems. The most important such organizations are subordinate organizations in Ministry of Science and Higher Education, Ministry of Education, Ministry of Health and Medical Education, and Ministry of Culture and Islamic Guidance.
2. Training managers related to providing and expanding method of virtual education system; this issue based on undeniable role of managers in training talents and using technical and professional capacity of human resources in organizations is particularly importance. In general, the managers of organization can be fruitful through providing coordination and required control.
3. Establishing necessary procedures ,instructions and processes ; as we know, the existence of systems and standard procedures to Operational zing distance learning system not only can reduce tensions and rework will help, but also definitely will improves the quality of target training.

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