Assessment of readiness for establishment of web-based business processes (Case study of Zabol University)

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ABSTRACT

In the information era, all the processes, sciences and different structures, under the shadow of IT and communication, grow and differ so fast that it puts staff and organizations in need of some tools to use them for coordinating themselves with the fast evolutions that have happened. Therefore, officials should perceive the potential advantages of achieving applications of IT and communication and they should apply these applications in their universities. This current research has the aimed of studying the preparation for establishment of web-based business processes in Zabol University. The method of research is descriptive-survey research. In this research, all the officials and experts of the organizational scope of Zabol University have been chosen as actuarial society. Since the actuarial society was very small, sampling in the form of census was used, so the whole actuarial society was chosen as sample. Therefore, the total number of officials and experts in the organizational scope are 57 People that were chosen as sample. For collecting data, questionnaire with adoption of Kirty Roykar (2004) has been used. The justifiability of the questionnaire is content type and its stability has been calculated by using Cranach's alpha coefficient of 98%.

Introduction

From the end of the 50th decay, an evolution begun in the world that was called the third wave. From that time until now, IT, being the guide of this pioneer wave, has provided man with new innovations. The speed of these innovations has increased so much that with the development stages of an innovation not completed yet, a newer product with better facilities. More comfortable and less costs are presented (Yaghoobi and others, 2008) changes very the method that we do daily activities and the method that we prepare ourselves for the future. Many of these changes, request major changes in business that its aimed is controlling the difficulties and taking advantage of situations.

Consequently, the topics that have been discussed in previous years in the literature of education have experienced major changes. Nowadays there is a massive unity among people, officials and educational decision-makers in making invisible changes that are effective on many aspects universities (olkan, 2005).

Expression of the problem

Exchanges between people, firms with each other, people with firms and governments has quickly changed from its traditional sense, based on the exchange of documents and paper evidences, to making exchanges by using systems, based on electronic information.(Salami Fard and Abbasi, 2008)

Nowadays one of the most important objectives of organizations is automating their current activities to have more and better efficiency from their existing potentials. The existing software with numerous capabilities in order to accelerate the affairs and total dynamic localization according to work processes of the customer, and with using technology based on

the web it gives you the opportunity to do your current administrative affairs of your organization electronically, in or out of your organization's place. Today's world is the world of science, knowledge and information and the improvement of any society is based on the development of information. Considering the fact that the nature of high education is creating information and exchanging knowledge, it's logical to accept that the evolutions of IT will change faculties and universities and this issue is unavoidable. The growth and development of the World Wide Web has created countless opportunities, in such way that it has affected all the human activities and even daily affairs. Educational and research activities based on web and computer is obvious for everyone and doing these activities without using these tools is impossible (Vaezi and Noorafrooz, 2008).

The application of internet and web network in different levels and dimensions of the society in general, and specifically in universities, requires observance of the level of skills and limits and the factors of creation and development of the web environment, in addition to preservation of current planning processes and procedures (Ebrahim Abadi, 2009).

Importance and necessity

In the information era, the style of people's life, business and transactions, making relations, doing researches and studies with getting help from electronic government, electronic commerce, electronic economy and electronic education, has changed in such a way that has never did before.(information society and electronic education. One of the characteristics of the business world is permanent continual and fast change in the costumers needs. In the present commerce, which is full of

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competition, the organization which has a proper system for getting informed of these changes as soon as possible and has the ability to quickly answer to them, will have a good chance o surviving, otherwise it won't have a good chance of remaining in the competition field. Organizations have learned through experience that functional approach eliminates dynamicity and motion. Task based organizations can hardly show flexibility against environmental changes. An approach that is suggested to organizations, rather than functional approach, is process approach (Soltany and Esmail loo, 1383). In an era that gaining facilities and information is possible with a mere click of a mouse, speed and flexibility are necessities for the progress of an organization. In such environment, production and service institutes are persistently faced with change in the type of operation, type of products, organizational infrastructures and equipments. Similarly, educational institutes, especially high education sections, are not excluded from this fact. In other words, parallel to such changes, the face of education is also changing.(information society and electronic education,1384).

Concept and importance of electronic preparation

Electronic preparation means the ability for accepting and using IT and its relevant applications in societies that different factors affect the quality of using IT and the preparation of societies and organizations.

Due to different reasons, countries evaluate the level of electronic preparation in their societies. It must be said that the main objective of all countries from this evaluation, is to join the world information society, so that all the members of the society would be able to create, receive, send, use and share information for economical, social, political and cultural development of their societies and organizations(transferring the digital era, 2003).

Electronic preparation is the entrance gate to the new era. Therefore, designing proper electronic evaluation patterns, matching the inside conditions of a society, with the goal of measuring electronic preparation, and detecting the lever points, is necessary (Yaghoobi, 2006).

Concept of business process

Process is the introduction to a group of activities that are done for converting inside data into outside data. In the example of university, all the inside data like students, teachers, budget and equipments are used for education. In easier words, process is the real and logical sequence of relevant activities. (shaker, shahram,2003). Process can be thought of as a chain of values that each stage (each particle of the chain) adds a value to the previous stage. Therefore, business processes are important activities in an organization that are not limited to functional boundaries and they relate human resources, managerial and technological skills for the concentration of the organization on the strategy of creating value for beneficiary and customers. In the definition of process oriental, it is said that it's a method that brings the organization competition advantage, by putting business processes as axis and eliminating activities without additional value.

Web

In the recent decay we have seen one of the most important technological revolutions in the modern era: web revolution. Not only that web changes our way of working, studying, playing and managing our life, but it also has deeper effects with more speed than the other revolutions(like the industrial revolution).

Internet and the World Wide Web brought about a lot of creativity. This technology strengthened a few new commercial models. Some organizations changed their current model so to become cooperated with this new technology (Locas, Henry, 2007). Nowadays regarding the advantages of internet and IT, many organizations and information systems have focused on information systems based on the web, since they give the capability for reaching numerous channels in the competition environment.

Similar to other facilities of the internet, web is based on services that through them, one can reach a large amount of internet sources. Unlike the complexities of internet, the nature of the web is quite simple. On the other hand, world web is the biggest collection of information that has been gathered till now and it's an effort to relate human beings with the strong method. This network, with its developed facilities, is itself one of the most advanced tools for libraries and information centers. The growth and development of the web's application in compare with other tools and facilities of the internet, is due to its two main advantages that are its usage in multimedia environment and its hypertext capability. World Wide Web is the most popular service of the internet, after e-mail.

World Wide Web made interactive pages to be put on the internet that different people could perceive and use them. Using protocols (HTML&HTTP) which could be perceived and used easily caused the fast development of the web. Other than information explosion, the today web is faced with non-homogeneity of platforms. Not only that information is not in a physical place, but it's placed on systems with various hardware, operating systems and software. Preparing a situation for reaching these information from a unique duct, is a reason for using web portal. Usually having centralized software that makes the access and sharing of information between different software in an organization possible, is an important necessity. Users are interested to have access to all their required facilities and information that are in different systems, through an access point. System guides and managers have the same request about guiding all the systems through a central and integrated system (Sajjadi, 2007).

Portal (successful tool of organizations for presenting web-based business processes)

The word portal has become very general and popular. The concept of portal and its technology has become visible and is subject to change. Portal is a door to the information world and information sources, it's categorized and is identical to the user's requirements. Portal is a middle web page that provides the opportunity for easy accessibility to facilities and information that the user needs for a special purpose (Sajjadi, 2007).the thing that is obvious in the last decade, is that most firms have changed from a big centralized business to a network of small firms that are guided by a central firm. On the other hand, for intensive marketing and presenting the information of this network of firms to customers, the mentioned firms have been forced to design portal websites as a joint gate. This website is informed about the information structure of existing firms and is capable of searching for information in the whole network. Hence, customers will be able to reach all their required information from a central network. The facilitating rule of portal in doing administrative, commercial, educational and research and its multiple performance, has converted it to an electronic web-based work place for the users (Hosnavi and co-workers).

One of the most important capabilities of this technology is that by approaching to a single website, each user can have

access to all the information of the network that is connected to that website. So, with regard to the importance of each particle being aware of the chain of information supply of other particles. With the creation of a portal network, all the components of the supplement chain could be connected. An enterprise information portal (EIP), provides the members of an organization with an opportunity to reach all the information and applications that are related to their work, through a single place.

Organic portals were actually established and designed in an organization for two objectives. These two objectives include centralized management of organizational information and p[resenting updated informative facilities. on one hand, organic portals provide the opportunity for managers, institutes and organizations assistants, to have intensive management in the organization and they also put a clear window of the organization in front of their eyes. in addition to this, it informs users and subscribers about the latest news in their work area.

Verdict model

Numerous Magazines and publications show that people, processes and technology are three key components that should be considered for executing technology. As imet has said, these three components together produce commercial value. However, he adds that people, processes and technology need a leader. He gives an instance about the performance of an orchestra:

In an orchestra instrumentalist are present (people), musical tone exists (processes) and musical tool is also prepared (technology), but without a leader, the thing that is produced is merely sound, not music. This subject applies to selection and the execution of technology in companies. For the successful execution of any new technology, management is necessary.

Selection of any new technology inside an organization needs management and leadership. If management would share in the entrance of technology, it can well lead the successful selection and execution of the technology. In other words, management is an important item for the electronic preparation. So the fourth important factor is management. With regard to these 4 factors, the verdict model is structured so that the organization which wants to be prepared from the electronic point of view should have the below cases:

1- A management which believes in technology and does strategic actions for its selection, execution and usage, so to benefit from the technology.

2- Processes which support the successful selection of a technology and strengthen it.

3- People that have the skill and perception for believing the new technology.

4- Tools of technology and necessary infrastructure

All these factors are important for the preparation of an organization. Many organizations begin to put an information system into operation, without changing the work processes. This would be merely installing a software, not a comprehensive solution for the solving the current problems of an organization. If an organization completes the installment with automating ineffective processes, it shouldn't expect long-term effects (Rikar and coworkers, 2006).

Conceptual model of the research

Verdict model is used in this research. In this study the questionnaire with adoption from Kirty Roykar(2004) has been used. Questionnaire has sixty questions with 5 choices that has been designed in the form of not all to yes, totally.

It includes the below parts:

Managerial preparation: questions 1 to 21 written in the questionnaire.

Process preparation: questions 36 to 47 written in the questionnaire.

People's preparation: questions 22 to 35 written in the questionnaire.

Technological preparation: questions 48 to 60 written in the questionnaire.

The method of giving points in this questionnaire is that for evaluating the theory of answerers about preparation for the establishment of web-based business processes of Zabol University, answers to the questionnaire's questions are evaluated in the length of a 5 point ranking spectrum. This spectrum of the answer consists of <<not at all>>, << low>>, <<average>>, <<high>>, <<totally>> and for analyzing it, the codes 5, 4, 3, 2, and 1 have been considered.

Table 1. The scale used in the questionnaire

Options	not at all	low	average	high	totally
Codes	1	2	3	4	5

Main questions of the research

1- Is Zabol University prepared for the establishment of web-based business processes?

2- Is Zabol University prepared in the process factor for establishment of web-based business processes?

3- Is Zabol University prepared in managerial factor for the establishment of web-based business processes?

4- Does Zabol University have the preparation from staff's point of view, for the establishment of web-based business processes?

5- Is Zabol University prepared in IT infrastructure for the establishment of web-based business processes?

Research method

In this research descriptive-survey method is used. In this kind of research, the researcher tries to give the exact, true and disciplined description of the characteristics of a topic or situation. In this research, in order to complete the literature and educational history of the research, library studies and internet search has been used and in the ground studies, questionnaires and the study of evidences and documents have been used. In order to analyze the collected data, descriptive statistics and SPSS software have been used.

Sample, sample's mass and sampling method

Sample is a subsidiary collection from the actuarial society that researcher is able to expand the result to the whole actuarial society by reading it (Secaran, 1380). In this research, all the

officials and experts of the organizational scope of Zabol University have been chosen as actuarial society. Since the actuarial society was very small, sampling in the form of census was used, so the whole actuarial society was chosen as sample. Therefore, the total number of officials and experts in the organizational scope are 57 persons that were chosen as sample.

Results

In this research, data has been analyzed with employing descriptive and deduction methods and for testing the assumptions, test t with one sample and Croskal Walice test man Vitny u have been used, because the scales are ranked. All the actuarial calculations have been done with SPSS software, version 17. Detail results will be expressed in the following pages.

Main assumption: Zabol University is prepared for the establishment of web-based business processes.

Table 2. Results for the t test

Variable	N	M	SD	Test value	t	d.f	Si
Preparation for the establishment of web-based business processes	57	82/174	74/37	180	03/1-	56	30/0

The results of table 2 show that the mean and standard deviation relevant to the preparation of web-based business processes, are 174/82 and 37/74 that is smaller than the mean of the test (180) and this diversity with t= -1/03, d.f= 56 and sig= 0/30, is 99% no significant (p>0/01). Since diversity of the mean of the variable and test's mean is no significant, it could be said that Zabol University is in some degrees prepared for the establishment of web-based business processes.

First hypothesis: Zabol University prepared in the process factor for establishment of web-based business processes.

Table 3. T-test results for the process

Variable	N	M	SD	Test value	t	d.f	Sig.
process factor preparation	57	05/34	87/7	36	86/1-	56	06/0

The results of table 3 show that mean and standard deviation relevant to the process preparation for the establishment of web-based business processes are 34/05 and 7/87 that is smaller than the test's mean (36) and this diversity with t=1/86, d.f= 56 and sig=0/06 is 95% no significant (p>0/05). Since the difference between the variable's mean and the test's mean is no significant (they are rather close to each other), it could be expressed that Zabol University is to a small degree prepared for the establishment of web-based business processes in this factor.

Second hypothesis: Zabol University is managerially prepared for the establishment of web-based business processes.

Table 4. T-test results for the Managerial preparation

Variable	N	M	SD	Test value	t	d.f	Sig.
Managerial preparation	57	61/62	80/14	63	197/0-	56	84/0

The results of table 4 show that mean and standard deviation relevant to the managerial preparation for the establishment of web-based business processes are 62/61 and 7/87 that is smaller than the test's mean (63) and this diversity with t=0/197, d.f= 56 and sig=0/84 is 95% no significant (p>0/05). Since the difference between the variable's mean and the test's mean is no significant (they are rather close to each

other), it could be expressed that Zabol University is to a small degree fundamentally prepared for the establishment of web-based business processes.

Third hypothesis: Zabol University has the staff and employee's preparation for the establishment of web-based business processes.

Table 5. T-test results for the Employee's preparation

Variable	N	M	SD	Test value	t	d.f	Sig.
Employee's preparation	57	05/41	24/10	42	698/0-	56	48/0

The results of table 5 show that mean and standard deviation relevant to the preparation of staff and employees for the establishment of web-based business processes are 41/05 and 10/24 that is smaller than the test's mean (42) and this diversity with t=0/698, d.f= 56 and sig=0/48 is 95% no significant (p>0/05). Since the difference between the variable's mean and the test's mean is no significant (they are rather close to each other), it could be expressed that zabol university is to a small fundamentally prepared for the establishment of web-based business processes.

Fourth hypothesis: Zabol University has the IT infrastructure preparation for the establishment of web-based business processes

Table 6. T-test results for the IT infrastructure

Variable	N	M	SD	Test value	t	d.f	Sig.
Readiness infrastructure of IT	57	10/37	02/8	39	78/1-	56	08/0

The results of table 6 show that mean and standard deviation relevant to the IT infrastructure preparation for the establishment of web-based business processes are 37/10 and 8/02 that is smaller than the test's mean (39) and this diversity with t=-1/78, d.f= 56 and sig=0/08 is 95% no significant (p>0/05). Since the difference between the variable's mean and the test's mean is no significant (they are rather close to each other), it could be expressed that Zabol university is to a small fundamentally prepared for the establishment of web-based business processes

Fifth hypothesis: there is difference between the preparation for the establishment of web-based business processes and demographic variables (sex, work experience, educational degree and the work section).

Table 7. The results of Mann Whitney U test related to the variable of sex and the preparation for the establishment of web-based business processes

variable	sex	number	Degree of mean	Total degrees	Mann-Whitney U	Sig.
Preparation for the establishment of Web-based business processes	men	39	87/27	1087		
	women	18	44/31	566		
	total	57			01/307	45/0

As it's shown by the discoveries of table 7, the men who answered have the mean degree of (27/87) and the women who answered have the mean degree of (31/44). Since this difference with the Mann Whitney statistic (307/01) is 95% no significant, it could be deducted that preparation for the establishment of web-based business processes between men and women who answered is similar.

Table 8. The results of the Kruskal-Wallis test related to educational degree and preparation for the establishment of web-based business processes

variable	Educational degree	number	Degree of mean	K square value	Degree of freedom	sig
preparation for the establishment of web-based business processes	TECHNICIAN	3	35			
	BA	30	25/31			
	MA	12	13/26			
	PHD	12	75/24			
	TOTAL	57		09/2	3	55/0

The results of table 8 show that the K square is 2/09 with degree of freedom 3 and significant level of 0/55 is 95% no significant (p>0/05). Therefore we conclude that there is not a major difference between preparations for the establishment of web-based business processes based on the educational status of those who answered.

Table 9. Results of the Kruskal- Wallis test related to work experience and preparation for the establishment of web-based business processes

variable	Work experience	number	Degree of meal	K square value	Degree of freedom	sig
Preparation for establishment of web-based business processes	Under 5 years	21	05/28			
	5 to 10 years	23	67/31			
	10 to 15 years	8	13/24	36/1	3	71/0
	More than 15 years	5	50/28			
	Total	57				

The results of table 9 show that the K square is 1/36 with degree of freedom 3 and significant level of 0/71 is 95% no significant (p>0/05). Therefore we conclude that there is not a major difference between preparations for the establishment of web-based business processes based on the work experience of those who answered.

Table 10. Results of the croskal walice related to the work section and preparation for the establishment of web-based business processes

variable	Work section	number	Degree of meal	K square value	Degree of freedom	sig
Preparation for the establishment of web-based business processes	Administrative office	11	27/11			
	Research office	11	27/45			
	Student office	5	50/18			
	Cultural office	7	07/26			
	Educational office	17	47/16	76/26	5	000/0
	presidency	6	67/42			
	total	57				

The results of table 10 show that the K square is 26/76 with degree of freedom 5 and significant level of 0/000 is 99% significant (p<0/01). Therefore we conclude that there is a major difference between preparations for the establishment of web-based business processes based on the work section of those who answered.

Conclusion and suggestions

Results of table 2 show that mean and standard deviation related to preparation for the web-based business processes in Zabol university is equal to 174/82 and 37/74 that is smaller than the test's mean (180) and this difference with t= -1/03, d.f= 56 and sig= 0/30 is 99% no significant (p>0/01). It could be claimed that Zabol University, to a small degree, is prepared for the establishment of web-based business processes. This discovery does not have consistency with the results of Pooratashi and Rezvanfar (2008), Dehbani (2007), Kharaei asl (2009), Kamalian and Fazel (2009), Salim (2003), Snooj and coworkers (2004), Fagan and coworkers (2004), Ma and Lio (2005). They concluded that using web-based courses is efficient. But this discovery is consistent with the results of Noori, Kahani and Afkhami (2007) and Dararb and Montazer (2009), they had reported that using technology and web-based business processes in universities is very poor. Also in order to effectively establish web-based business processes, it's suggested to provide the following preparations before establishing it in the organization.

● . Arranging seminars and educational workshops for establishing web-based business processes

● . Before establishing web-based business processes in universities, cultural preparations and familiarization and creating a positive insight in officials, teachers and clerks should be done.

● . the skills that officials and clerks need for online learning, including personal skills, study skills, general skills for working with computer and internet.

● . For establishing web-based business processes, IT infrastructures that have a special rule in the success or failure of web-based business processes should, should be paid more attention.

● . All levels of management in a university should have a positive insight towards the services provided based on the web.

● . University should use IT tools for gaining competition advantage.

● . Allocating organizational budget to electronic service tools should be increased.

● . Creating the capability for accepting organic people for establishing the management of change and using new technologies.

● . Encouraging the employees to use IT tools for increasing efficiency.

● . Organization should be committed to solve the employee's problems while interacting with IT tools.

● . Detecting the defects of current business processes.

● The organization should use internet and domestic networks for saving and sharing information.

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