

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Library Philosophy and Practice (e-journal)

Libraries at University of Nebraska-Lincoln

2018

Assessing the Different Dimensions of the Portal Quality of Provinces of Public Libraries Based on the Delone and McLean Intelligence Success Model

Elahe Amir Inanloo

Islamic Azad University, Hamedan Branch, inanloo.lis@gmail.com

Fatemeh Mohammad Beigi

Islamic Azad University, Hamedan Branch, f_mohamadbeigi@yahoo.com

Follow this and additional works at: <https://digitalcommons.unl.edu/libphilprac>

 Part of the [Library and Information Science Commons](https://digitalcommons.unl.edu/libphilprac)

Amir Inanloo, Elahe and Mohammad Beigi, Fatemeh, "Assessing the Different Dimensions of the Portal Quality of Provinces of Public Libraries Based on the Delone and McLean Intelligence Success Model" (2018). *Library Philosophy and Practice (e-journal)*. 1792. <https://digitalcommons.unl.edu/libphilprac/1792>

Assessing the Different Dimensions of the Portal Quality of Provinces of Public Libraries Based on the Delone and McLean Intelligence Success Model

Elahe Amir Inaloo¹

Fatemeh Mohammad beigi²

¹ -Ph. D Student of Library And Information Science, Department of Knowledge and Information Science, Islamic Azad University, Hamedan Branch, Iran. inanloo.lis@gmail.com

² - Information Science and Knowledge PhD student at Islamic Azad University, Hamedan Branch, Iran ,F_mohamadbeigi@yahoo.com, ORCID: 0000-0001-7264-6415

Abstract

Method: The purpose of this research is applied research and based on the method of data collection, there is a descriptive (non-experimental) survey. The main tool for collecting data is the check list. The reliability of the check list was 0.854 by Cronbach's alpha, which indicates the reliability of the check list and the validity of the check list was confirmed through content validity and structural validity. The statistical population consists of 31 provincial portals affiliated with public libraries.

RESULTS: The results of the research indicate that the quality of the system of the portal of public libraries has been lower than expected and the quality of the information portal of the public libraries institution has been higher than expected and also the quality of the public libraries portal services has been lower than expected.

Conclusion: What is called the public libraries portal is a website and, of course, these news websites are very up-to-date and active in the field of news. And somehow they can be called news websites. Of course, according to the research findings of some provinces (such as East Azarbaijan province and Ardebil), they can be used as a template by providing scientific and educational materials and applying attractive design.

Keywords:

The success of the information system, the quality of the portal system, the quality of the portal information, the quality of service portal

Introduction and expression of the problem

The exact definition of the portal has always been a challenging topic (Soheilly, 2006). The portal is a special term for the age of computers and information networks, and its emergence dates back to the mid-1990s. The portal is derived from the Latin word "partale" meaning "City Gate" (Zhou, 2003). In the simplest sense, the portal is a gateway to the web. A platform is a platform that each user must use as a source page before moving on to other destinations. Portals reduce the amount of people roaming on the web. (Highway Computer Magazine, 2003). At the same time, the portals gradually become sites that each user uses throughout their day to manage a wide range of their daily activities, such as a complete survey of news stories, stock prices, Send e-mail and long-distance messages and join the forums. Portals, therefore, carry out very different tasks, but they all consist of five main elements: management, search, content, creation of work groups and individual creativity programs. The portal for information to organize a large collection of subject matter is for the purpose of establishing a link between individuals and information (Dias, 2001)

The use of information technology in modern times has changed the way of use in libraries. The use of the portal in libraries as a new model for providing information is increasing due to the ever-increasing use of information and communication technologies. The vast expansion of information technology and applications have provided opportunities for better distribution of education and, given the increasing use of the Internet, has become a flexible way for those who want to acquire the necessary knowledge. One can refer to the portal as an information system because, in general, information systems are systems that provide information for decision-making purposes to users.

Libraries and Information Centers Portal is one of a number of portals that are both informational and affiliated, and belong to an organization called the library. A library portal is a tool for advertising, marketing and providing information about the library and its services and how to use it. On the other hand, due to the close relationship with education and research, functions can be considered in this regard for the library portal. But the library portal, as a search interface and information retrieval, plays an important role in interacting with the library (Asadi, 1393).

Today, centers and organizations such as ministries, companies and organizations are influenced by virtual environments and are trying to introduce themselves through the World Wide Web and provide their services to users in this way. Since the website and portal of each organization are the point of contact between the organization and its users, it is necessary to consider the basic and standard criteria for designing the website and the portal (Daghkeleh, Bigdeli, Azimi, 1393). The implementation and implementation of a portal requires coordination between applications and databases controlled by different entities, and this control takes place at a level that may have never been experienced before in an organization. Creating a larger portal means building an interoperable bridges that are involved with the interface page and content. The Public Library Institute, as one of the cultural institutions and fully associated with public libraries, has worked with the other cultural organizations to provide their services and programs in a centralized manner in each province, in order to provide their services and programs. The designers of public libraries portals need to be aware of port services and measure the quality of their information services in order to achieve beneficial communication between themselves and users.

Quantitative studies have examined the quality assessment of portals in libraries or libraries 'affiliates. Therefore, in this study, we will examine the various dimensions of the quality of public libraries' portals based on the Delon and McLean information system's success model. Therefore, the three components of system quality, information quality and service quality are selected based on the Delon and McLean

information system's success model and are provided as a check list to check the quality of the portals mentioned.

Theoretical Foundations and Research Literature:

The success of the information system McLean and colleagues introduced a model of the success of the information system to investigate the perceptions of users about the quality of information and communication technology. This model describes the quality of information, the quality of the system, and the quality of service that individually affects the use of the system and user satisfaction. In the field of information systems, quality dimensions play an important role in determining the success of information systems. The McLean model and its colleagues provide a comprehensive understanding of the success of the information system and is widely accepted as a comprehensive model for evaluating information systems. This model is shown in Figure 1.

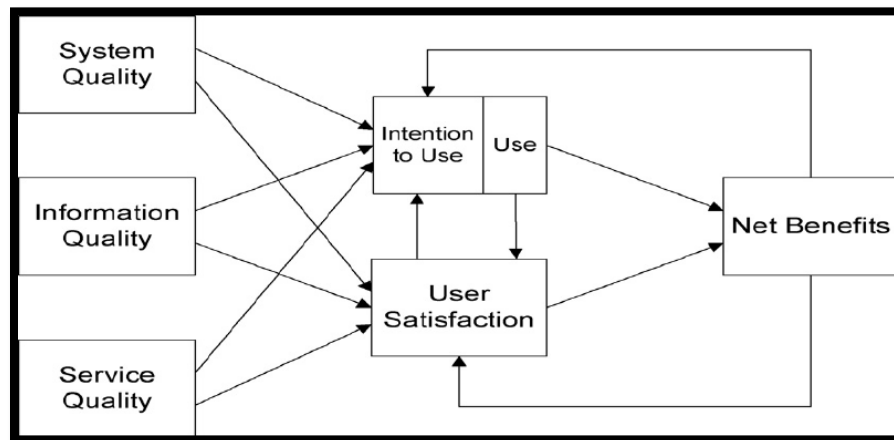


Figure 1. Updated D&M IS Success Model (Delone and Mclean, 2003)

The success model of the information system examines the five dimensions of system quality, service quality, information quality, use or application, satisfaction, and net benefits for measuring the quality of electronic services. DeLone & McLean McLean, 2003, Chien & Tsaur, 2007) & (DeLone examines more than 100 articles from authoritative publications in the field of information systems, and includes three basic dimensions of quality, including system quality, quality of information and service quality in the model. Have presented themselves as the main dimensions of measuring the quality of information and communication technology.

Quality of the portal

The quality of the portal system is measured through four indicators including ease of use, user interface, learning communities, and link comprehension. Ease of use is the extent to which an individual believes porting is simple and easy (Rai et al., 2002). The learner interface is the extent to which the user believes that the portal learning system is stable and that the response time is fast. Learning communities measure individual beliefs about the power of the system in supporting interactions between Teacher/learner And learner / learner. (Wang, 2003, DeLone & McLean, 2004)

Understanding links is an area where the user can easily decrypt and correctly interpret and interpret the portal's links (Muyllé et al, 2004). Information quality is measured through three indicators including content, information design, and cognitive attraction.

The quality of the content is the extent to which the individual believes that the information content of the portal is consistent with his wishes and needs (Wang, 2003). An information plan shows whether the outputs provided by the portal are clear and presented in a useful form (Muyllé et al, 2004). The cognitive appeal is the extent to which the individual believes that he is in a situation that is deeply involved with the portal (Parasuraman, 1985). Finally, quality of service is measured through four indicators including reliability, reliability, accountability and personalization. Reliability is the extent to which the information system brings its commitments to an end. Confidence is that the person believes the portal is confidential and protects the individual against the threats of secrecy (Parasuraman, 1985). Responding to the willingness or readiness of portal administrators to provide services. Finally, personalization of the degree of autonomy and freedom of action is presented by the portal to the individual (Wang, 2003). The conceptual model of this research is presented in Figure. 2.

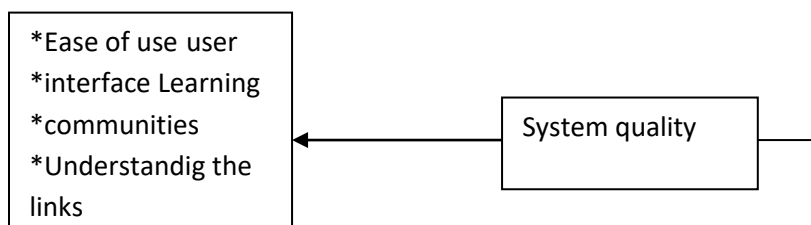


Figure 2: Conceptual Model of Portal Quality of Provinces Affiliated to the Public Library Unit

research questions

Accordingly, the main questions of the research are as follows:

What is the status of the public library institution's portal?

What is the quality of the information portal of the public libraries institution?

What is the status of the public library service portal?

research method

The purpose of this research is applied research and is based on the data collection method as a descriptive (non-experimental) survey. The main tool for collecting data is the check list. The reliability of the check list was 0.854 by Cronbach's alpha, which indicates the reliability of the check list and the validity of the check list was confirmed through content validity and structural validity. The statistical population consists of 31 provincial portals affiliated with public libraries. Indicators for measuring each aspect of the quality of the portals and options related to each one are given in Table 1.

Table 1: Portal Quality Measurement Indicators

Concept	Component	Items
System quality	Ease of use	Fit the system with the user's morale
		Easy to use system
	user interface	Integrated and coherent arrangement of portal pages
		The fast response to user clicks, the loading speed of the portal pages
	Learning communities	Discussion through the system
		The possibility of asking teachers through the system
		Share experiences of users
	Understanding the links	Properly functioning communication links
		Access to other useful links
	Information quality	The content
Easy understanding of educational content		
Information		The pleasure of the way information design

	plan	in the system, the proper arrangement of portal items
		Not annoying System Information Plan
	Cognitive fascination	Failure to feel the time when using the system
		Effective use of animation and graphic work
the quality of service	Reliability	Provide the necessary support as soon as possible
		The honest interest of the system in solving the user's problem
	Assurance	Confidentiality of trainees records during learning
		The gradual induction of confidence among learners during the course
	responsiveness	Lack of system response to requests
		Provide the service to the user promptly by the system
	Personalization	Ability to control the user learning process
		Ability to choose the content of the user learning course

Background research

Several studies have been conducted on the quality assessment of web pages, which illustrates the existence of various methods and tools in this regard. But none of these studies have evaluated the quality of the portals according to their features and functions as an information system. Therefore, this research studies the quality of provincial portals affiliated with the public libraries institution as an information system.

Janatyan et al. (2013) found that Persian websites in the field of depression in information indexes (average score 6.6), resource validity (average score 2 / 4), availability (average score of 1/2), links

(average score of 1.5), user support (average score of 3.9), and confidentiality of information (average score of 2.5) are not favorable and their rating is less than The average score was moderate and only in the design index (average score of 9) had a better and higher score. Among the websites reviewed, the website of the Iranian Psychological Association was the best, and the website for depression was the weakest website in terms of overall score.

Piri and Ebrahimi Lambe (2013) in a study entitled "Assessing the Satisfaction of Users with the Quality of Electronic Services of the Website of the Raja Passenger Trains Company" after criticizing the literature on quality and satisfaction of electronics, described the research model of "Eikual" and then using This model evaluates the quality of electronic services of Rijara passenger trains. The results of the research indicate satisfaction of users in many indicators of information quality and usability, and their satisfaction has not been gained in several indexes of the interaction of services.

Hashemzadeh and Asghari (2012) in a study entitled "Assessing the quality of Web portals of the General Directorate of Public Libraries in Khorasan Razavi Provinces and South Khorasan Provinces" showed that in assessing the dimensions of the Qual (quality of content, quality and security of electronic exchanges, usability and interaction quality Service) There are significant differences between users in terms of quality and expected quality, and the quality is at a desirable level. Examining the dimensions of the quality of the check list (writing, attractiveness and flexibility) also shows that in both the dimensions of writing and attractiveness at the good level and flexibility dimension is in the middle level.

Ali Beyg et al. (2011) conducted a qualitative assessment of the websites of central libraries of Iranian medical universities using the web-based method. The results of their research showed that the websites in terms of reliability criteria were highly desirable, in terms of efficiency, optimum performance, and in terms of reliability and usability, were moderate.

Tate et al. (2007) illustrated the effectiveness of this model in evaluating university portals using a Kuala model. The researchers revised the web site of Kuala and designed and developed a questionnaire tailored to the purpose of the research, a newer tool for evaluating the quality of web-based university websites.

Tarigan (2008) examined user satisfaction from Thailand's Business Library website based on a comparison of two web-qualitic tools and user-end user satisfaction theory in Doha and Torkasdah. His research results showed that the applicability components could satisfy 45% of the end-user satisfaction.

Research findings

In this section, all information is analyzed using a computer and through a software package of SPSS version 16 and two sections of descriptive and inferential methods. In the descriptive analysis of the information, firstly, the statistical indices of the variables such as mean, standard deviation Based on the existing guidelines, in the inferential statistics section, according to the nature of the research questions, one-sample t test is used.

The first part of the descriptive analysis of data

This research has been carried out on 31 websites of public libraries affiliated with the public libraries of different provinces of the country that have a web site. The statistical variables such as average and

standard deviations of the basic variables of the research were extracted in accordance with the relevant instruction. The resulting result is given in the following table.

Table 2 Statistical Indices of Different Dimensions of the Portal Quality of Public Libraries n =31

The present situation		Indicator
Standard deviation	average	
0.25	4.80	System quality
0.36	6.64	Information quality
0.19	4.81	the quality of service

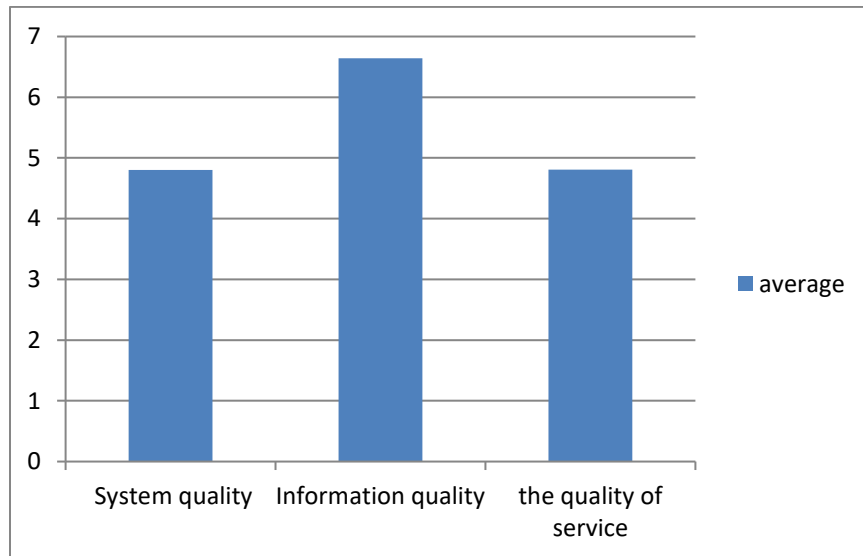


Diagram 1 Comparison of Different Dimensions of Portal Quality of Public Libraries

The results of Table 2 and Figure 1 show that in the current situation, the quality of information portal of public libraries affiliated with public libraries is better than the two aspects of system quality and quality of service.

Second part: Inferential analysis of data

In this section, the research findings are analyzed based on research questions. One-sample t-test is used to analyze the research questions according to their nature. Before that, it is necessary to report the

normalization of the distribution of scores. This presupposition is performed using the Kolmogorov-Smirnov test and the results are presented in Table 3.

Table 3. Kolmogorov-Smirnov Test Results for Normality of Variables

the quality of service	Information quality	System quality	Statistical Parameters	
31	31	31	Number	
4.81	6.64	4.80	average	Normal distribution parameters
0.19	0.36	0.25	Standard deviation	
0.07	0.09	0.08	Absolute	The highest level of difference
0.07	0.09	0.08	Positive	
-0.07	-0.06	-0.06	negative	
1.31	1.22	1.217	Kolmogorov-Smirnov (Z)	
0/455	0/139	0/210	meaningful level	

The results of the test in Table 3 show that the z-values obtained from the Kolmogorov-Smirnov test in the research variables are not significant at 5% alpha level, ie, the p-value in all variables is greater than 5 hundredths ($p > 0.05$). Therefore, we can say that the hypothesis is zero. As a result, parametric tests can be used to examine questions.

Research questions

In this section, using the single-sample t-test, the dimensions of the quality of the portal of public libraries are reported. In other words, the answer to these questions is how the quality of the portal of public libraries is.

First question: What is the status of the public libraries portal portal?

Table 4: Statistical Characteristics of the System Quality of the Public Libraries Portal

The standard error	The standard deviation	average	Number	Component Statistical Index
0.04	0.25	4.80	31	the System Quality of the Public Libraries Portal

The average quality of the public library institution portal system (4.8) shows that it is less than 0.05 in the average test value (5.5).

- Is the mean difference obtained with the expected average (5.5) statistically significant?
To answer this question, a single-group t-test has been used.

Table 5. Results of the t-test test of the quality of the public libraries portal portal

Difference of averages at 95%		Expected value for test = 3				variable
Highest value	Minimum amount	Mean difference	The significance level	Degrees of freedom	T value	the System Quality of the Public Libraries Portal
-.6056	-.7887	-.6971	.000	30	-15.549	

According to the results obtained from the t test, given the fact that t is calculated (15.5), the critical value of t (2.04) is smaller. Therefore, with 95% confidence, it can be concluded that the average quality of the system of the public libraries portal portal (4.4) with the expected average (5.5), and the answer to the first question can be claimed that the quality of the portal system of the institution of public libraries has been lower than the expected level ($P < 0.05$)

Second question: What is the status of the information portal of the public libraries institution?

Table 6 Characteristics of the statistical information quality of the public libraries portal portal

The standard error	The standard deviation	average	Number	Component Statistical Index
0.06	0.36	6.64	31	The quality of the information portal of public libraries

The average obtained information quality of the public libraries portal (6.6) indicates that it is higher at the level of 0.05 than the average test value (5.5).

- Is the mean difference obtained with the expected average (5.5) statistically significant?

To answer this question, a single-group t-test has been used.

Table 7: Results of t-test test. Information Quality of Portal Information System of Public Libraries

Difference of averages at 95%		Expected value for test = 3				variable
Highest value	Minimum amount	Mean difference	The significance level	Degrees of freedom	T value	The quality of the information portal of public libraries
1.2710	1.0086	1.1398	.000	30	17.741	

According to the results obtained from the t test, considering the fact that the calculated t (17.7) is larger than the critical table t (2.4), it can be concluded with 95% confidence. The average quality of the information portal of the institution of public libraries (6 / 6) with the expected average (5/5). In response to the second question, it can be claimed that the quality of the information portal of the institution of public libraries has been higher than expected (P <0.05).

Question 3: What is the status of the public library service portal?

Table 8 Statistical Characteristics of the Quality of Public Library Services Portal

The standard error	The standard deviation	average	Number	Component Statistical Index
0.03	0.19	4.81	31	The Quality of Public Library Services Portal

The average quality of services provided by the public libraries portal (4.81) indicates that it is less than 0.05 in the average test value (5.5).

- Is the mean difference obtained with the expected average (5.5) statistically significant? To answer this question, a single-group t-test has been used.

Table 8: Results of t-test test. Quality of services. Public Library Portal

Difference of averages at 95%		Expected value for test = 3				variable
Highest value	Minimum amount	Mean difference	The significance level	Degrees of freedom	T value	The Quality of Public Library Services Portal
-6227	-.7644	-.6935	.000	30	-19.986	

The results obtained from the t test, due to the fact that t is calculated (19.9), is smaller than the critical table t (2.04). Therefore, with 95% confidence, it can be concluded that the average quality of services provided by the public library institution (4.18) with the expected average (5.5) is significant. In response to the first question, it can be claimed that the quality of services provided by the public libraries portal is below the expected latency Was higher ($P < 0.05$).

Conclusion

Fortunately, the public libraries have, in recent years, taken significant steps to improve the status of websites related to provincial departments. However, according to the contents of the present research, providing a detailed and comprehensive definition of the portal and the website and the expression of these two, the website which has been called the Public Library Libraries, and these websites are very up-to-date and active in the field of news. . And somehow they can be called news websites. Of course,

according to the research findings of some of the provinces (such as East Azarbaijan and Ardebil province) providing scientific and educational materials and applying attractive design to achieve the goal of the institution of public libraries, which include:

- Providing an enabling environment for easy access by members of the community to written and written sources
- Helping to raise public awareness in the scientific, cultural, social and economic fields
- Creating the necessary facilities for the optimal use of information technology
- Expansion of scientific, research and cultural relations between the public libraries inside and outside the country

- Providing groundwork for public participation in the establishment of public libraries in the country
- Assist in the development of social justice through the dissemination of knowledge, regardless of age, gender, belief, cultural and racial differences.

- Provide the opportunity for personal growth and ultimately the scientific empowerment of the community
- The expansion of the culture of reading in Islamic Iran

- Increased use of new information technologies and methods in public libraries
- Creating a favorable context for the knowledge cycle in society

- Strengthening the spirit of research in the community and helping to discover and foster creativity and talents
- Provide a trusted base using committed librarians and specialist staff

Are superior to other provinces and can be used as templates.

References:

Asadi, Saeed (2004). *Designing and Managing Web Libraries and Information Centers*, Tehran. Samt.

Daghagheleh, Naghmeh and Bigdeli, Zahed and Azimi, Mohammad Hossein (2004). Qualitative assessment of the portals of Iran Oil Company subsidiaries using Kivam web site, *Journal of Information Processing and Management*, Volume 29, Issue 4.

Soheili, Faramarz (2006). Analysis of the links of nanotechnology websites using cluster classification methods, Web impact factor and two-dimensional map drawing. Graduate Degree in Librarianship and Information Science. Shahid Chamran University of Ahvaz.

Ebadi, Rahim (2004). *E-learning and education*. Tehran, Publication of Cultural and Research Institute of Aftab Mehr.

Tabarsa, Gholamali and Nazarpouri, Amirhoshang, "Effective Factors on the Adoption of the Electronic Learning System Based on the Technology Acceptance Model", Fourth National Conference and First International Conference on Electronic Learning, University of Science and Technology, December 18 and 19, 2008.

Chang, S. and Tung, F., "An empirical investigation of students' behavioral intentions to use the online learning course website", *British journal of education technology*, Vol. 39, Issue 1, 2008.

Davis, F.D., Bagozzi, R.P, and Warshaw, P.R , "User acceptance of computer technology: a comparison of two theoretical models", *Management science*, Vol. 35, pages 982-1002, 1989.

DeLone W., E. McLean, The DeLone McLean model of information system success: a ten-year update, *Journal of Management Information Systems* 19 (4) (2003) 3–9

DeLone, W. H., and McLean, E. R., The DeLone and McLean model of information system success: a ten-year update. *J. Manage. Inf. Syst.* 19(4):9–30, 2003.

Muyllé, S., Moenaert, R., and Despontin, M., The conceptualization and empirical validation of web site user satisfaction. *Inf. Manage.* 41(5):543–560, 2004.

Parasuraman, A., Zeithaml, V. A., and Berry, L. L., A conceptual model of service quality and its implications for future research. *J. Mark.* 49(4):41–50, 1985.

Rai, A., Lang, S. S., and Welker, R. B., Assessing the validity of IS success models: an empirical test and theoretical analysis. *Inf. Syst. Res.* 13(1):50–69, 2002.

Selim, H., "Critical success factors for e-learning acceptance: Confirmatory factor models", *Computers and Education*, Vol. 49, 2007.

Shih-Wen Chien, Tsaor, Shu-Ming (2007) Investigating the success of ERP systems: Case studies in Three Taiwanese high-tech industries, *Computers in Industry* 58 (2007) 783–793.

Wang, Y. S., Assessment of learner satisfaction with asynchronous electronic learning systems. *Inf. Manage.* 41(1):75–86, 2003.

Zhou, Joe.(2003). A History of Web Portals and Their Development in library. *Library and Technology*, 22 (3): 119-128.