

# Prioritizing Organizational Agility Strategies Using the Fuzzy Hierarchical Analysis Process

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## Article Info

Page Number:308 - 326

Publication Issue:

Vol 72 No.2 (2023)

## Abstract:

The enterprise accomplishment in implementation of resource planning system relies on choosing a system shows the highest rate of conformity with the organizational demands. Therefore, the enterprise resource planning (ERP) has greatly drawn attention. Since ERP is a costly and developed computer system, in past, the large enterprises only had utilized it. Though, recently, small and medium size enterprises have considered these systems, the present research is a practical attempt to provide an appropriate framework for selection of ERP in immigration companies. To measure the rate of significance of these standards, the descriptive –survey method was used. With regard to the existing literature, the effective criteria on selection of the system were determined and a questionnaire was applied to evaluate and prioritize the measures. The sample size includes 200 organizational professionals were randomly selected. Finally, through fuzzy analytical hierarchy process, a system was chosen that showed the highest degree of agreement with immigration companies needs and strategies.

**Key words:** selection of enterprise resource planning system, organizational agility strategies, fuzzy analytical hierarchy process, immigration companies.

## Article History

Article Received: 15 February 2023

Revised: 20 April 2023

Accepted:10 May 2023

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## 1. Introduction:

Choosing an organization system is a complicated and time –consuming g process (Wei & Wang, 2004). One of challenges an enterprise faces with prior to initiation of implantation and installation project, is selection of a proper system.

The common assumption that implantation of ERP improves the enterprise performance all of a sudden is absolutely incorrect. In fact, any improvement in the organizational performance depends heavily upon to what extent selection of proper ERP occurs correctly and to what degree the selected system accords with business culture, and enterprise strategy and structure (Liaquat et al, 2002).

Today, competition is regarded as one of the most important challenges for different managers. For this reason, managers are following to find strategies for their successful competition. One of the strategies is agility. Organizational agility is regarded as one of the concepts for increasing competitiveness (Kavoux, 2015). Agility word means rapid movement, ability, activity and ability to move as rapidly and is able to think as rapidly and intelligently (Ziyae et al., 2012). Today, agility is one of the most important dimensions in organizational success as if some of researchers considered it as competitive advantages for

winner organizations (Vagiey, 2016). At same time, during current decades, attention to human resources in the field of organizational agility was increased (Dabi & Gansakaran, 2015). This case is that human resource is regarded as most vital source of organization and it is so important to pay attention to it (Hermite et al., 2014). At same time, the factors like knowledge of staff, skill, ability and their insight are included (Bazpoura, 2004). In agility organizations, human resources are main efficiency factors. So that customers pay costs and it depends on persons who satisfy customer' needs with knowledge and technology (Goldeman et al., 1995). Now, it can be considered in small and medium companies as if the activity is based on performance of human resource.

The unique characteristic of ERP as a sophisticated organizational innovation is that how a standard software package can make a competitive advantage for the enterprise, though the competing firms have the opportunity to implement identical packages. Actually, since different firms have different competitive goals, they expect ERP differently as well. As a result, before making decision about a specific ERP system, the senior managers need to evaluate their behalf organization competitive strategy (Chen, 2001).

Studies on application and implementation of ERP in Organizations all around the globe have been restricted. Thus, it is hard to say whether these firms have reached a degree of management they can welcome these systems in their organization.

Since ERP is a costly and advanced computer system, in past the large enterprises only had utilized it. Though, recently, Organizations have considered these systems (Olsen, 2007).

Due to limited use of ERP in Organizations, investigation on application of the chief success and /or failure factors, advantages, constrains etc. of ERP system, the experiences large companies have obtained are a reference. However, as number of Organizations use ERP have been increased, further researches about properties of the ERP system appropriate for Organizations are not only possible but also necessary (O'Grady, 2001, Mabert, 2003, Bernroider, 2001).

Agile organizations are characterized by "agile attributes", also known as "agility capabilities", which provide enterprises the potency to promptly respond to the market changes (Ren, Yusuf, & Burns, 2003; Bottani, 2010; Tallon & Pinsonneault, 2011). Agile attributes are essential capabilities that a company has to develop within its structure in order to effectively cope with the changes or pressures from the business environment that lead companies to embrace the agile paradigm (called agility drivers) (Sharifi & Zhang, 2001). During the past years, researchers have found that the core concept of agile attributes, which had been solely referred to manufacturing, has to be extended to the entire supply chain as it is impossible to achieve agile manufacturing while the rest of the supply chain operate on a normal speed (Christopher, 2000; Van Hoek, Harrison, & Christopher, 2001; Ren, Yusuf, & Burns, 2001; Sherehiy, Karwowski, & Layer, 2007; Nejatian & Zarei, 2013). This calls for engaging all the organizations within the supply chain, either manufacturing or not, to move towards organizational agility. Various agile attributes have been presented in the literature. Kidd (1994) suggested that agility can be achieved through the following capabilities: "integration of organization, highly skilled and knowledgeable people, and

advanced technologies”. In a similar view, Goldman et al. (1995) and Gunasekaran (1998) have introduced four main dimensions of agility as “enriching the customer, co-operation, organizing to master change and uncertainty, and leveraging the impact of people and information”. Ren et al. (2001) and Christopher and Towill (2001) expressed that agile attributes encompass the integration of information systems or technologies, people, business processes, and facilities. Dove (1996) and Swafford et al. (2006) proposed the term “flexibility” as one of the main foundations of agility. Yusuf et al. (1999) stated that the development of a strategic architecture which presents a corporate wide map of core skills enables organization to make rapid changes and afford reconfiguration of the business when an opportunity emerges. Mohanty and Deshmukh (2001) proposed various attributes of agility ranging from rapid response to enquiry and customer service to image and quality. Yusuf et al. (1999) proposed a comprehensive taxonomy of agile attributes based on their review of literature comprising 32 attributes characterizing an agile enterprise, stretching from “concurrent execution of activities”, up to “employees’ satisfaction” all of which classified under 10 decision domains.

Of the time the process of ERP system has been taken into account, many activities have been performed on identification of factors affect the achievement of this selection. The studies have been conducted so far yet prove that this field is much broader than it was before and a bulk of researches is needed (Haligten & Verville, 2003).

Therefore, the current research seeks to answer three questions as:

1. What are the influential criteria deciding about selection of ERP system?
2. What are priorities of the effective criteria on selection of Organizations?
3. How is the selection model of ERP using the fuzzy AHP approach?

**Table 1: models for selection of ERP systems**

Author	Year	Title	Model
Bernroider& Koch	2001	ERP selection process in midsized and large organizations	Delphi method for selection of standards , a combination of fuzzy average and fuzzy integrals rate
Ambel et al	2003	Examination of critical success factors related to implementation process of ERP	Implementation of business strategy, identification of necessary aspects for setting of the system
Wei & Wang	2004	A comprehensive framework for	Fuzzy average and fuzzy

		selecting an ERP system	rating integrals
Wei et al	2005	ERP system An AHP-based approach to selection	AHP
Liao et al	2007	A Model for Selecting an ERP System based on Linguistical Information Processing	Degree of similarity algorithm for extracting objective information of linear programming
Lien & Chan	2007	A selection Model for ERP Systems by Analyzing Fuzzy AHP Approach	Fuzzy AHP
Malie et al	2008	Solution Enterprise Resource Planning Selection Criteria in Medium-sized South African Companies	-
Bueno& Salmeron	2008	Fuzzy modeling Enterprise Resource Planning tool selection	Fuzzy cognitive map (FCM)
Bernroider & et al	2009	assessing enterprise resource planning (ERP) European criteria for systems	-
Karsak & Ozoglu	2009	An integrated decision making approach for ERP system selection	Quality factor, fuzzy linear regression, Zero-one goal programming
Taghavi & Shahriari	2007	Designing an algorithm for deciding on selection of ERP with use of MADM	Multi criteria decision making algorithm
Alvani & Eftekharmanesh	2008	Assessment of Iranian ERP selection using Delphi method in Iran	Delphi method

Antonios et al. (2015) performed research named a case study on business for agility project. The study was on travel planning, on line stores. In this article, a strategy based on solving problem was offered and also some of applied samples were shown by visual Microsoft 2013 to confront the challenge. The software allowed to confront hey partners who cannot face to face and indicated that there are powerful tools to respond challenges and limitations which virtual teams provided it. As result, project development is increased by more needs and this importance shall be obtained by quality of final product. From technical development, the

software provides learning and independence. Of course, it delays attention to integration. And the evaluation allows to identify, progress, control the problems which delay in phase environment. Sherhay and Karouski (2014) in research named discussion relationship between working organization and agility of workforce in small companies stated that agility and strategy management is effective in small production companies. The results can be conforming to optimization of business situation. Hulbi et al. (2017) performed research named does knowledge management deliver knowledge management in small and medium companies? Showed that how simulation model can help small and medium producers to identify problems in current and future places and also help management to make decision as for strategies. Tachi and Bordbar (2015) performed research named agility leadership and agility of human resource, and indicated that since researchers believed human resource shall be regarded as most important capital which play key role, thus, in this research, it was tried to discuss variation role of staff in Yazd university. The statistical society consists of all staff (regardless scientific board) who are selected as randomly sampling method. 115 persons were selected and the questionnaire was distributed among them. In order to analyze data, structural equations model was used. The results showed that there is positive and significant relationship between leadership and agility of human resource, in other side, leadership can increase agility of human resource. Abbaspour et al. (2014) conducted research titled determination of role of agility of human resource in strategic agility development (case study: Ansar Bank). In terms of purpose, the current research makes use of the concept of applied research and in terms of method, the research is a descriptive – survey research. The statistical population of the research includes all employees of Ansar Bank. Due to the limited population is 5240 peoples were evaluated according to calculations using the Cochran formula. And by using the Cochran formula the sample size is 610 people. The sampling method was multistep clustering method. In order to collect data, agility questionnaire of human resource (2008) and Mavenger' strategic agility was used. In order to reliability of questionnaire, confirmatory factorial analysis was used. Factorial analysis indicators showed that the questionnaires have good estimators. The validity of questionnaire was used by alpha Cronbach for agility of human resource 0/875 and strategic agility 0/879). The data was analyzed by structural equations modelling. The findings showed that agility of human resource and its dimensions have direct and significant effect on strategic agility. The results indicated that necessity of good responding to challenges is to provide agility of human resource to develop strategic agility. Ziyaei et al. (2012) performed research named determination of development model of personal capability for human capital by agility of small and medium firms (case study: companies located in Science and Technology park of Tehran University). In this research, one discusses background and explorative interview with experts and hypothesis was offered for managers. In order to analyze data, factorial analysis method and structural equations modelling by using SPSS, LISREL were used. As result, one can say that development of personal capability is resulted to agility of human capital and agility of small and medium companies and also, it was indicated that entrepreneurship, knowledge, human stimulation and agility shall have developed. And they are the most important factors for agility of human capital and flexibility, speed and responding. Aghamohammadi (2011) in research named effective factors in agility of military organizations with insight to future threats, discussed agility indicators, specifications of

agility organizations in the field of human force and information technology to 8 cases in world armies. The conceptual sample was performed in terms of study and its parts were sent by a questionnaire with 71 questions. The type of research was field case for 552 persons who were selected by classification randomly method as 174 persons. Also, 15 military experts have been discussed. The findings show that by future threats, 7 subsets of agility including military technology, knowledge production, organizational flexibility, type of organization, systems and methods, strategic insight and preparation of human force and 9 factors for agility including perfect and on time reaction, mental and bodily preparation, continuation of logistics, comprehensiveness, professional preparation, supply and protect, on time responding, speed are as effective factors on agility of military forces.

## **2. Method and materials:**

### **2.1. the ERP selection process:**

When presenting a framework for development of ERP systems, two important issues have to be taken into consideration.

Firstly, thanks to the organizational effect, ERP technology and behavior depend greatly on a broad vision of the acceptance and implementation of these systems. Additionally, content of organizational technology and business must be investigated in line with the procedure make assessment of key success factor possible.

Also, being mismatch, time –consuming with the business conditions and re-engineering period of business processes have to be considered. Considering this fact, ERP is a process needs precise selection for implementation of a process and the best available experiences have to be used thus, application of a systematic approach can play a significant role in other achievements of the project ( Salo, 1995).

Currently, thousands enterprises in the world are acting as ERP supplier and each one introduces products that possess several potential for satisfying the organizations' demands. As a result, the organization needs to perform in a way that not only it overcomes the possible risk, but also achieves to the desired advantages. Generally speaking, to prepare a good ground for accomplishment in administration and access to the maximum capital return, Liang and Lien (2007) proposed the following stages for ERP selection process:

Stage 1: creation of a project group, identification of the business characteristics and specification of the project demands

Stage 2: searching appropriate options and extracting criteria for ERP selection

Stage 3: creation of an AHP structure for ERP selection

Stage 4: evaluation of ERP systems by use of fuzzy AHP approach

Stage 5: discussing about the obtained results and making decision about the best option

The first and most important stage in the process of ERP selection is creation of a project group. Without a professional and knowledgeable project group, identification and the

enterprise needs as well as recognizing available criteria and options for the organization will be impossible.

The second stage of ERP selection aims to look for finding software packages. In order to the project members are able to identify the existing options and remove options are inappropriate for the organization needs, they require some general criteria. Of these, whether the organization provides its system by an external or a domestic supplier, what suppliers serve the enterprise based on the organization size, and what suppliers are experienced in field similar to the organization expertise. Below, some general criteria are presented according to them and through removal method of improper options; the project team will be able to find the possible options.

1. Selection based on the organization size: the system suppliers designing the software with regard to certain size of enterprises, small, medium, and large.
2. Selection based on the applied technology and local limitations
3. Selection based on comparison of general functions:

To make the number of sellers short, it is possible to prepare a list of common functions such as financial and accounting, production, maintenance and logistics, human resources, sales and after-sales services, e-commerce, project management, retail selling etc. and compare them with the existing products (Haji Agha Bozorgi & Darabi, 2008).

After identification of possible options and the desired criteria of the organization, the group needs to form the selected AHP using the available sub-criteria and options. This structure, then helps experts' decision on priority, and significance of each criterion and consequently choosing the final option.

Ultimately in stage 4 and 5 with cooperation of organizational experts, the criteria and systems will be compared together and through the fuzzy AHP approach, each option priority will be evaluated and the system with the most consistency with the organization's needs, will be selected as the final option.

## **2-2 criteria for ERP selection:**

An ERP system is the information core of an enterprise and can include all business spaces of the organization and affects the performance of value chain, human resource, sales, distribution etc. (Alanbay, 2005).

But this instrument could play its role only when the organization possesses a comprehensive and clear series of the desired criteria as well as a apparent understanding of suggested products. Therefore, of the most important actions in the process of ERP selection is definition of a series of criteria can cover all aspects of the selection process. These criteria are instruments for determination of favorite performance of a system and different systems will be assessed in terms of these criteria consequently (Alvandi & Eftekhar manesh, 2008).

To achieve the most important criteria, several previous studies were reviewed and the used criteria were extracted. However, due to environmental conditions, technological infrastructures, type of business and type of industry for any organization, separate criteria can be considered.

To do a more precise examination, the cost criteria was divided into three sub-criteria of ERP supplier factors, ERP software factors, and ERP project factors. Finally, 16 measures were specified for selection of the system. These criteria include:

1. Validity, 2. Financial conditions, 3. Training services, 4. Counseling services, 5. Implantation and after sales services, 6. Research and development, 7. Appropriate function, 8. Promotion ad development, 9. User's comfort, 10. Quality and reliability, 11. Local and environmental needs, 12. Proper goals and vision, 13. Total cost, 14. Implantation time, 15. Advantages, and 16. Risks

### **2-3 the research variables:**

ERP: the ERP systems are enterprise-wide systems that support multitasking processes through using a common database (Mabert et al, 2003). In fact, ERP is an information system that integrates two or more finance ( one of these areas has to be generation operation field)via applying a common database will be incorporated and the equation process with potential of supporting generalization in all unified components of organization (Stratman & Roth , 2002).

immigration companies: the EU describes immigration companies as enterprises with staff numbered lower than 250 peoples, annual turnover less than 250million Euro with a balance sheet value less than 43 million Euro. In Iran also , ministries , institutions and related organization to Organizations have different definitions. For instance, acceding to definition of the Ministry of Industries and Mines, immigration companies are service and manufacturing enterprises with less than 50 employees. Moreover, the Iran's statistical yearbook has classified enterprises into 4 groups: 1. Firms with 1-9 employees, 2. Firms with 10-49 employees, 3. Firms with 50-99 employees and 4. Firms with 99 employees over.

### **2-4 population and sample size:**

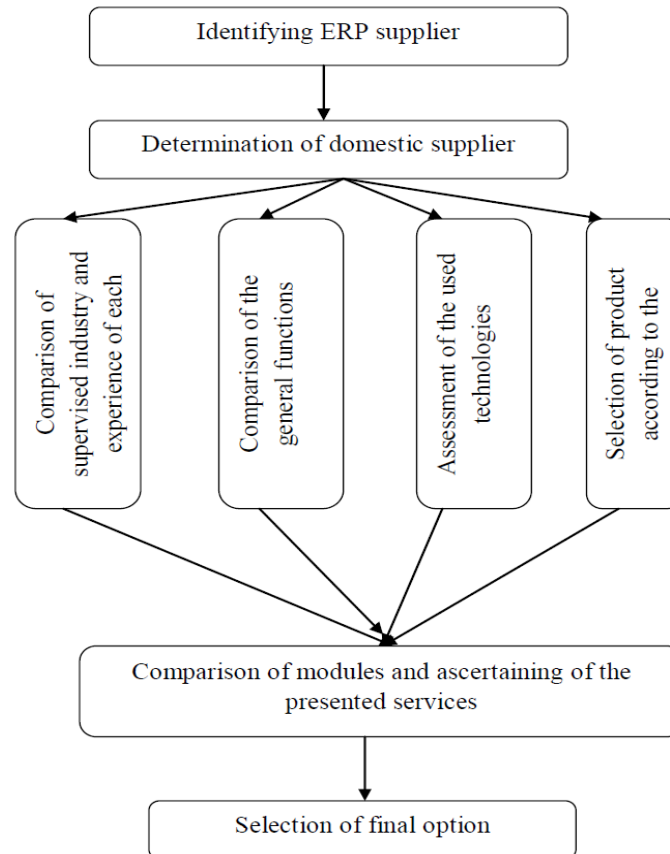
The statistical population of the present research consists of all immigration companies in Tehran province. As mentioned above, immigration companies in the current study are those with less than 250 employees. In order to determine the sample size, a pilot study was carried out in 95% level of confidence. The sample size contained total number of 200 enterprises.

### **2-5 the data and method:**

The present paper is a type of descriptive-survey study and practical in its purpose. The authors in the current research aim to provide a framework to be used by ERP applicants and producers. Furthermore, measurement of rate of criteria significance was on the basis of some professionals' remarks.



In the process of ERP selection , to assess the probable options, as it can be seen in Fig. 1, criteria such as organization size, technologies, general functions, and industries are included by producers were compared.



**Fig. 1: the process of choosing selected suppliers**

The next step is calculations with AHP approach. The AHP approach is derived from the Graph theory was devised by Tomas L.Saaty ( 1980).

This method first was extensively used in industry and today lots of other fields adopt this approach. This method in determination of research priorities is a hierarchy method whose basis is on decision tree hierarchy ( Azar , 1998). Steps in this process include:

1. Definition of decision making criteria and creation of decision hierarchy: the decision hierarch tree will be collected and drawn in terms of the following criteria.
2. Comparison of the experts' ideas: to do this, Relation 1 will be applied.

$$\tilde{Z}_{ij} = \left( \sqrt[k]{l_1 \times l_2 \times \dots \times l_k}, \sqrt[k]{m_1 \times m_2 \times \dots \times m_k}, \sqrt[k]{r_1 \times r_2 \times \dots \times r_k} \right) \quad (1)$$

3. Defuzzification: since evaluation of adaptation fuzzy responses of experts is much more difficult that assessment of adaptation of deterministic response matrix. Moreover, there are

some uncertainty and confusion about the presented methods for this examination and their preciseness (Leung & Cao, 2000). When the paired comparison matrix is converted from fuzzy scale into deterministic scale, it is called defuzzification (Salo, 1995, Lien & Chan, 2007). In the current research the Liou and Wang (1992) method was used is shown in Relation 2.

(2)

$$g_{\alpha,\beta}(\tilde{A}) = g_{\alpha,\beta}([\tilde{\alpha}_{ij}]) = \begin{matrix} C_1 \\ C_2 \\ \vdots \\ C_n \end{matrix} \begin{bmatrix} 1 & g_{\alpha,\beta}(\tilde{\alpha}_{12}) & \dots & g_{\alpha,\beta}(\tilde{\alpha}_{1n}) \\ 1/g_{\alpha,\beta}(\tilde{\alpha}_{12}) & 1 & \dots & g_{\alpha,\beta}(\tilde{\alpha}_{2n}) \\ \vdots & \vdots & \ddots & \vdots \\ 1/g_{\alpha,\beta}(\tilde{\alpha}_{1n}) & 1/g_{\alpha,\beta}(\tilde{\alpha}_{2n}) & \dots & 1 \end{bmatrix}$$

4. Calculation of rate of responses adaptation: for this part, Relation 3 is used.

$$CR = CI/RI \quad (3)$$

5. Computation of the final weights of each criterion: Relation 4 is applied to compute the weight of criteria.

$$(g_{\alpha,\beta}(\tilde{A}) - \lambda_{max}) \cdot W = 0, \sum W = 1 \quad (4)$$

Where,

is deterministic decision-making matrix,  $g_{\alpha,\beta}(\tilde{A})$

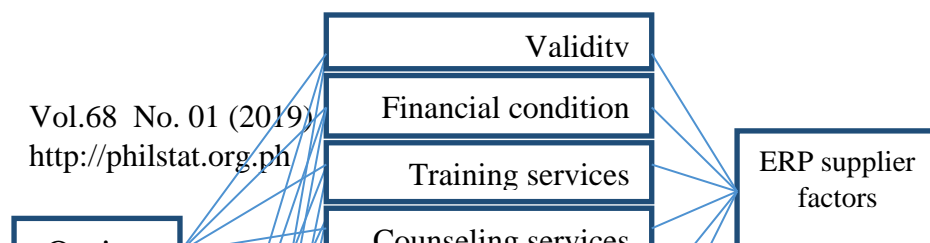
is the largest eigenvalue of the deterministic decision-making matrix,  $\lambda_{max}$

I is the identity matrix, and

W : is the column matrix of weights

Fig.2 shows the hierarchical decision tree according to the criteria and sub-criteria. The objective, “selection of the best ERP” is placed in the first level of ANP and categories (project, software, and supplier factors) are located in level two.

The third level contains sub-factors that include six sub-factors for the supplier group, six sub-factors for the software group and four sub-factors for the project group. Also, three identified ERP options are in level four for this problem.



**Fig. 2: hierarchical decision tree for selection of the best ERP option out of the available options**

As it was mentioned earlier, a questionnaire was used to collect the experts' idea on the paired comparison matrix. Through the questionnaire, the respondents were able to via paired comparison of criteria and sub-criteria in their group, determine their significance. Moreover, for determination of priority of each system compared with the criteria, some other questions were answered by the experts who were completely familiar with the ERP systems and producers. After collection of the experts' responses in form of verbal items, the responses had to be converted into fuzzy scales. The used scale in this research is 9 number fuzzy scale in Table 2 that Lien has proposed in terms of Saaty scale ( Lien, 2009).

**Table 2: conversion of verbal variables into triangular fuzzy numbers**

Linguistic variable	Fuzzy number	Fuzzy scale
Equal	1	(1,1,1)

A little important	3	(2,3,4)
More important	5	(4,5,6)
Very important	7	(6,7,8)
Absolutely important	9	(8,9,9)
Values between two levels	2,4,2,6,2,8	(x-1,x,x+1)
Linguistic variable	Fuzzy number	Fuzzy scale

### 3. Findings:

Using the hierarchical structure, Fig. 1 and following the fuzzy AHP steps were above mentioned, first the experts' comments were gathered and through defuzzification, they were converted into absolute figures. Then, the rate of inconsistency, Table 3, was calculated and after ascertaining of consistency, weight of each criteria in level 1 and 2 as well as weight of each product according to the criteria were computed similar to Table 4.

**Table 3: rate of consistency for consensus of paired comparisons**

CR in level 1	CR in level 2		CR in level 3	
0.0121	ERP supplier factors	0.009	Validity	0.0308
			Financial conditions	0.0032
			Training services	0.0308
			Counseling services	0.0420
			Implementation and after sales services	0.0446
			Research and development	0.0427
	ERP software factors	0.0766	Proper function	0.0035
			promotion and development	0.0416
			User's comfort	0.0446
			Quality and reliability	0.0049
			Local-environmental needs	0.0048
			Appropriate goal and vision	0.0199

	ERP project factors	0.0153	Total cost	0.0408
			Implantation time	0.0167
			Advantages	0.0408
			Risks	0.0167

To compute the final weight of each sub-criteria that indicates significance of every criteria on the basis of the experts' opinions, it is necessary to multiply weights of the criteria in level 2 by the criteria of level 1 where the sub-criteria is placed. Table 4 the weight of level 1 criteria, the weight of level 2 and 3 sub-criteria and the final weight of each desired option.

**Table 4: weight of ERP criteria and systems in terms of fuzzy AHP**

Criterion	weight	Sub-criterion	Local weigh	Final weight	Local weight of each ERP options		
					A	B	C
ERP supplier factors	0.3636	Validity	0.1715	0.0624	0.4459	0.1165	0.3887
		Financial conditions	0.1714	0.0623	0.3415	0.4073	0.2513
		Training services	0.1485	0.0540	0.3729	0.4512	0.1760
		Counseling services	0.5086	0.1849	0.2977	0.0952	0.6070
		Implementation and after sales services	0.5050	0.0312	0.5296	0.2730	0.1975
		Research and development	0.1641	0.0100	0.2996	0.0960	0.6044
ERP software factors	0.0618	Proper function	0.2841	0.0176	0.2972	0.3997	0.3031
		Promotion and development	0.0495	0.0217	0.3103	0.2546	0.4351
		User's comfort	0.1204	0.0947	0.3888	0.1975	0.4137
		Quality and reliability	0.5262	0.0636	0.3822	0.1486	0.4692
		Proper local needs	0.3534	0.2507	0.4385	0.1618	0.3998
		Proper goal and vision	0.6353	0.0683	0.2945	0.2041	0.5014
ERP project factors	0.018	Total cost	0.1731	0.0756	0.3804	0.3204	0.2992
		Implantation time	0.1916	0.0683	0.2945	0.2041	0.5014
		Advantages	0.1731	0.0756	0.3804	0.3204	0.2992

		Risks	0.1916	0.0683	0.2945	0.2041	0.5014
Final weight					0.3768	0.2070	0.4162

The final score of each system shows priority and significance of each one. After computation of each criterion and the ERP systems final weights compared to calculated criteria, via sorting the existing ERP systems from the highest weight to the lowest weight, the available ERP weights could be rated.

#### 4. Discussion and conclusion:

When enterprises divide to implement the ERP system, it would never be a simple work. The wide variety of software available in ERP, identifying the best system that meets the demands of the organization is difficult and may need spend much time on the evaluation process and selection of ERP system . Organizations which carelessly go through the ERP selection, when they are going to implement the system will face with some serious problems. However, if these organizations assess the process logically, the potential problems can be avoided from.

Since many identical organizations have this opportunity to use similar ERP systems with similar the capabilities , an enterprise will be successful that its selected system shows the highest rate of consistency with the organization's strategic position and can satisfy the needs and wanting as appropriate as possible. On the other hand, due to significance of the ERP system, potential failures and risks should not be neglected. Moreover, costs of adopting an ERP system including product price, hardware and software expenses, professional services and internal staff costs as well as costs related to implementation and maintenance are so high that this software regardless it is used in what organization, has become a costly organizational system. Accordingly, any enterprise tends to spend such huge cost has a good return of capital instead and reach its predetermined goals.

In spite of the importance of application and implementation of ERP in Organizations all around the world, few investigations have been conducted. Thus, necessity of designing a framework within which Organizations can select the optimal ERP software package for their organization from among numerous suppliers with various capabilities is tangible.

In the current study, the effective criteria on selection of the system were extracted. According to the Organizations demands and the experts' ideas, these criteria were classified, weighted and prioritized and finally a framework was provided for ERP selection with the fuzzy AHP approach. Through this, Organizations could increase their chance for a successful implantation of an ERP system.

The results of the current research can be a good strategy for improvement of the ERP producers' position. These organizations through using the provided framework and with regard to the applicants' demands add some other advantages to their system. Considering the least criteria are proposed by this study besides the computed weight of each criterion , producers planning to present series to similar enterprises can put more emphasis and

concentration on preferred criteria like product prices, raising confidence levels, high adaptability etc ., and improve their products modules and properties according to these criteria.

The counseling companies also can benefit from this model to help their customers in selection of the proper system. Through this model these companies can identify not only the Organizations needs, but also evaluate the priorities of the proposed systems.

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