Implementing Enterprise Resource Planning (ERP) In Fars Province Social Security Organization

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Abstract: The present study aims to investigate the possibility of applying ERP system in the social security organization. To solve the research problem or answer its questions. The following steps like literary survey, designing variables and factors according to system characteristics, field study, validating the preliminary data, and finally preparing a questionnaire and distributing it among company managers in this area have been done. Friedman test was also used. The results show that the comprehensive system of in social security organization all four components are affected.

1.Introduction

Information technology development and its entrance into different parts of organizations has caused significant changes in organization's structure, and along with organizations and institutes growing larger, it seems necessary for organizations to provide integrated information systems which are able to have in control all parts and tasks existing in organization using computerized systems, especially in industrial organizations. The main philosophy of enterprise resource planning is tendency to procedures and its development involves parts of enterprise. Therefore, enterprise resource planning (ERP) implementation should be considered as a project with enterprise proportion. This viewpoint requires changes in cultural, human, technical, structural and process dimensions all over the organization. Despite such requirements, most of managers who have the responsibility of ERP implementation project, take into consideration only technical and financial aspects of project and ignore the other aspects and it brings about ERP implementation failure. Therefore, the readiness factors related to ERP implementation should be evaluated before the project of implementation is carried out, so that managers are able to make better decisions about this task.

This system involves all parts of enterprise such as financial, accounting, human resource, maintenance and repair and also service management and transportation. In fact, ERP is an IT based systematic solution that helps managers to have control over enterprise resources using an integrated system and helps them to do it faster, more accurate and with better quality. In such a situation they will be able to manage planning process and enterprise operation properly. Success key factors are factors that is necessary for organization's success and its mission achievement. We can say in general that ERP systems extended software packages that have been created to support integrated development of information in different parts of organization such as production, finance and human resource parts. Enterprises which try implementation of ERP systems bring into existence a value chain in their organization. These systems seek for integration and causing stimulus in organizational processes and also information flow in organization (Al-Mashari, 2011). These systems are computer based systems that have been designed to process organization Transactions and aim to simplify planning and production and to respond clients on time in an integrated environment (OLeary, 2002).

ERP systems meet the need to integrated computer programs in different businesses. A central database covers total process of system integration in these systems (yanolger et al., 2003) these systems make managers able to control information flow through the organization and make timely access possible.
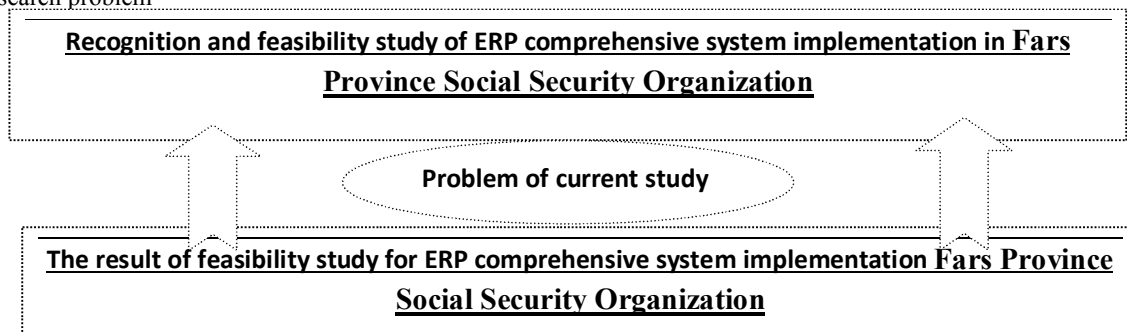
ERP systems omit the Inter sectoral processes and therefore cause an overall integration in organization. This system came into existence in a circumstance that process

improvement was important as a strategic issue. ERP systems have been recognized as necessary systems for administrating business and creating competitive advantage in previous years (mabert et al, 2000).

Iranian organizations and enterprises have shown high interest about ERP implementation in recent years. But obviously most of them are waiting to observe results of ERP implementation in organizations which have tried the risk of using ERP systems. With running ERP, structures and processes of organizations are exposed to unavoidable changes, therefore, only organizations will succeed that show flexibility Against organization structure changes and adopting business processes with ERP systems. Few researches have been carried out in this context. For example Abedini, (2008) studied affecting on integrated ERP systems implementation in car manufacturer companies. In his research he identified factors related to level of readiness of car manufacturing industry And these factors have been Distinct from success key factors. Findings showed that according to special situation compared to other factors (Abedini, 2008). In one other research, Hanifezade, (2009) studied affecting factors on integrated ERP systems implementation. He evaluated internal and external situations of organizations related to successful implementation of integrated ERP systems in Iranian organization and found that active enterprises in Iran are not ready for to carry out implementation of integrated ERP system and this (not being ready) is about inside and outside organization factors (hanifezade, 2009). Ihavi, (2008) studied the same issue in a study with the topic of ERP implementation in oil industry in china. Research finding showed that ERP resulted in reduction in costs of integrated production,

reduction in required time for products to arrive to market, improvement in customers satisfaction, achieving competitive advantage and increase in implementation of ERP in Chinese enterprises. Ik Medson (2005) carried out a research that aimed identifying important factors in implementing ERP in computer industry. In his study he took into consideration 8 important factors in implementation of ERP, from which 6 factor appeared to be significant at level 0.01, after statistical analysis. The 6 factors consist of: principles of project management, feasibility study and evaluation of ERP project in enterprise, support of manager from upper levels, business procedure Reengineering, Consultation services and cost/budget. Alizade, (2006), examined factors resulting in integrated ERP system implementation failure in his study. It showed that because of big costs of and high rate of failure in integrated ERP project, it is important to pay enough attention to key success factors. Eventually the main point of this study is to turn the perspective from technology point of view to business point of view about ERP projects. This conclusion reflects the fact that human, management and business procedures factors are of more important than technology factors (alizade, 2006). because no comprehensive research has been carried out in this field on social security organization, it seemed necessary and useful to carry out research in this filed in order to recognize new technologies and to find out which technologies should we use and how should they be applied so that the career quality would be enhanced. Accounting System would improve and essential changes in IT would take place at the same time. the main problem in current research is lack of knowledge in this field research problem also can be implied using the difference between current and idealistic situations.

research problem

> **Recognition and feasibility study of ERP comprehensive system implementation in Fars Province Social Security Organization**

Problem of current study

> **The result of feasibility study for ERP comprehensive system implementation Fars Province Social Security Organization**

According to aforementioned concise documents, the feasibility study on ERP comprehensive system implementation in this field on social security organization with the aim of achieving its advantages can well explain the problem of the current study. This research carries out the feasi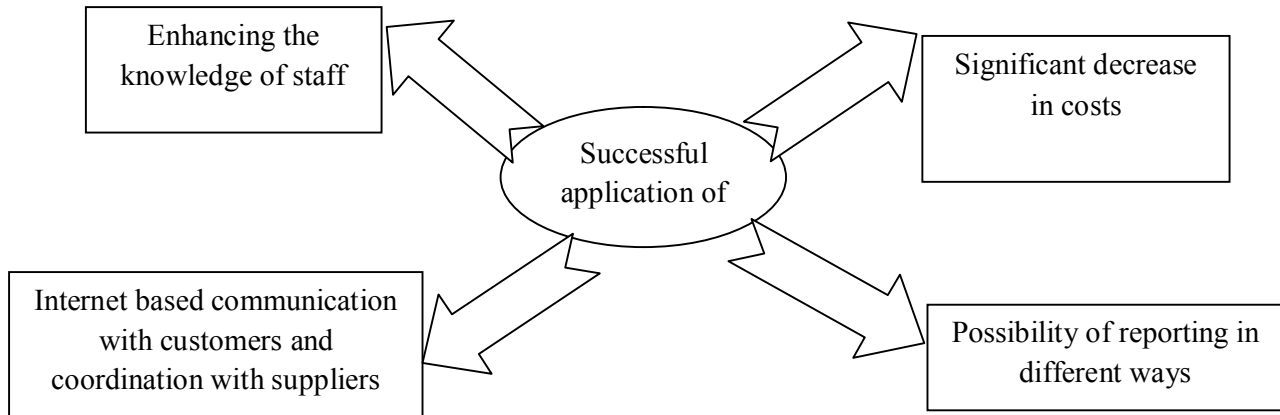bility study of ERP comprehensive system implementation in social security organization ` point of view and with paying attention to the requirement of mutual accordance between technology and enterprise, tries to represent management mechanism required for conducting the enterprise to move from current to realistic situation as well as representing the pattern

of an enterprise which has the qualifications required for comprehensive ERP implementation.

2.Conceptive model and research hypothesis

A conceptive model is a start point and a basis for studies and researches, as it specifies research variables and the relationship between them (Edward, 2005). According to literature review and as it is the first time that such a survey is being done on the statistic population of the study, the following conceptive model has been used.

According to represented model, research hypothesizes are as following: There are 2 main and 2 subsidiary hypothesizes in this study:

Main hypotheses:

1- Successful application of ERP causes a significant decrease in costs.

2- Successful application of ERP makes different ways of reporting possible. Subsidiary hypotheses:

1-Successful application of ERP results in enhancement of the knowledge level of staff.

2-successful application of ERP makes internet based communication with customers possible.

3.Materials and methods

This survey is an applied one in terms of purpose, but from collecting method viewpoint, and data analysis method is descriptive- survey and correlation type, because it aims recognition and studying the effect of feasibility study for ERP comprehensive system implementation in rich regions and carries out the aforementioned procedure using Poland studying people an fars province social security organization experts point of view.

3.1.Statistic population

Statistic population of the research consists of all of national company of southern social security organization familiar with ERP systems. The number of this experts has been 88 people in 2014.

3.2.Statistic sample and its content

According to characteristics and special form of distribution of experts in organizations of the statistics population, the stratum sampling method was applied In the current study. Then the random sampling method was used to choose people within groups.

Morgan table was used to identify (size) the content of samples. Researchers use different methods to identify the size of samples. Morgan's method is one of these methods. In cases that population's variance or percentages are not known, this table can be used to identify the size of the samples. This table represents the maximum number of samples. On the mentioned method's basis, the size of samples in the current research is 80 people.

3.3.Methods and tools in data collecting process

Searching for information is one of the most important and most sensitive purposes followed in scientific surveys. Scientific methods are based on seeking for information, and information requirement is necessary while using these methods both in identifying problem and searching for solution levels (Bayati, 2000).

Method used in data collection depends on research purposes and sample traits. In current study the required information is collected using questionnaire (as the main method) and also methods such as poll, studying document and library studying were applied at the same time(as complementary methods).

The following tools have been used in data collecting process.

Library and internet based sources such as books, papers and case studies have been used in collecting data related to theoretical base.

In order to carry out feasibility study for ERP comprehensive system implementation in social security organization, a questionnaire was prepared by researcher. Two groups of questions were used in the questionnaire. The first group is related to production cognition and it helps to collect information about sex, education level, age, job history, enterprise level, expertise of the people who fill the questionnaire out. The second part contains main questions. After collecting required data and mentioned tools and specially questionnaire all of them were encoded and feeding into SPSS software. Then they were categorized and descriptive and inferential statistics operations were carried out.

3.4.Validity and reliability of the tools

The researcher used the judgment credit method to evaluate the validity of the questionnaire. For this purpose, the initiate questionnaire was distributed among 10 people who were experts in this field such as research's supervisor and advisor and based on their comments, required adjustment took place. So the ultimate questionnaire has been supported by all of the experts.

All the components and indexes were derived from related literature and theories. Therefore the questionnaire is of enough validity and is also consistent with theories based on which the test has been arranged.

In order to assess the reliability of the questionnaire, 28 questionnaires were distributed among samples and its Corum bach alpha was calculated. The Corum bach alpha test is applied to evaluate the internal coordination of the measurement tools such as questionnaire or the test that measures different traits. On this basis, the measured Corum bach alpha is equal to 0.94 and as it is higher than 0.7, the reliability of the questionnaire is supported.

3.5.Data analysis method

Following methods were used for description and analysis of data and testing research hypotheses:

- Analyzing the results of descriptive statistics of demographic variables and questions of each questionnaire.
- Analyzing the results of the research questions` test using binominal (Bernuli) test.
- Prioritizing factors on the basis of chi-squared and Friedman test.
- Measuring the correlation between factors and its extremity using Chopr of correlation coefficient.

SPSS software was used for statistical analyzing the data and also testing the questions.

3.6.Findings

For the purpose of analyzing data, this research uses two methods, descriptive and Illative statistics. Descriptive method uses frequency and percentage based information tables, average and deviations. Illative method uses binominal (Bernuli) test and Friedman variance decomposition, chi-squared and for measuring the correlation between variables it uses choprof correlation coefficient. Meanwhile SPSS software has been applied to carry out the calculation.

3.7.Samples` demography

In this part, statistical characteristics were studied from demographic point of view. Results showed that there were 56 men (65%) and 24 women (35%) in the sample. 2.8% had assistant degree, 55.84% had bachelors, 46.28% had masters and 1.82% had phd.25.8% had job history shorter than 10 years, 38.4% between 1 and 15 years and 35.5% had longer job history than 15 years.

3.8.Descriptive statistics of questionnaire questions

Represents descriptive statistics of research questionnaire (central and scatter index)

Central and scatter indexes of questionnaire questions

Environmental questionnaire	Central and indexes average	Deviation	Scattering (dispersion)
application of ERP results in decrease in required time o activities and therefore significant decrease in costs application of ERP results in systematic control and therefore causes significant decrease in costs	4	0.21	0.67
application of ERP in systems causing transparency in the purchase of raw materials and parts	3.01	0.10	0.93
inventory and avoid wasting time and storage costs .... And thereby to cut costs	4	0.15	0.47
application of ERP results in significant decrease in human resource and therefore causes significant decrease in costs	3	0.21	0.67
application of ERP makes it possible to do the management reporting in various ways	2.7	0.26	0.82
application of ERP makes it possible to do the management reporting in various ways so that correct and fast decisions can be made	4.1	0.1	0.32
application of ERP results in information transparency because information can be accessed from a single source	3.7	0.26	0.82
application of ERP results in providing managers with accurate and timely information so that they can make timely decision.	3.18	0.11	0.88
application of ERP causes development in information and therefore results in knowledge level enhancement in organization's staff	4.45	0.08	0.66
application of ERP simplifies information sharing and so results in knowledge level enhancement in organization's staff	3.86	0.09	0.87
application of ERP challenges people's way of thinking (Consultation in electronic environment) and so results in knowledge level enhancement in organization's staff	4.56	0.06	0.61
application of ERP results in knowledge synergy and so causes knowledge level enhancement in organization's staff	3.77	0.11	0.90
application of ERP helps to be in contact with customers and to achieve competitive advantage.	3.28	0.09	0.92
application of ERP helps to coordinate with suppliers and to achieve competitive advantage.	3.9	0.1	0.32
application of ERP helps to have faster and more effective relationship with customers and makes helps to maintain them as loyal customers	3.72	0.12	0.96
application of ERP helps to be in contact with customers and coordinate with suppliers so the communication expenses decreases.	5.2	0.08	0.64

Hypothesises testing

Examining Hypothesises by using binominal (Bernuli) test:

Hypothecsises	Binominal test Significance level	Assumed ratio of the test	Observed ratio	Statistics population	categorizing	Group
successful application of ERP results in significant decrease in costs	0.09	0.50	0.62 0.31	55 25	<=3 >3	Group1 Group2
successful application of ERP makes it possible to do the reporting in various ways	0.021	0.50	0.79 0.21	48 32	<=3 >3	Group1 Group2
successful application of ERP results in knowledge level enhancement in organization's staff	0.31	0.50	0.71 0.29	55 25	<=3 >3	Group1 Group2
successful application of ERP helps to be in contact with customers and coordinate with suppliers	0.401	0.50	0.79 0.21	48 32	<=3 >3	Group1 Group2

As shown in table, significant level 0.05 is observed for all of 4 Hypothesis's and also assumed ratio of the test (50%) is smaller than equal observation ratio. Therefore the Hypothesis's are supported with confidence level 95%. This means that successful application of ERP results in significant decrease in costs and staff's knowledge level enhancement. Also it makes it possible to do the reporting in various ways and helps to be in contact with customers and coordinate with suppliers.

Examining Hypothesis's using chi-squared and choprof correlation coefficient:
-   chi-squared statistical analysis results were obtained as they come in following by using the results of
    Friedman variance decomposition test and spss software.

3.9.Factors rating and prioritizing
Friedman test was applied to carry out the rating process on factors. The output table shows that these factors are different it also shows that among these factors, the significant decrease in cost has the highest and possibility of internet based communication with customers and coordination with suppliers is of lowest rank.

<center>factor's ranking test</center>

ranking	factors	Factors` rankings average
1	significant decrease in costs	3.658
2	Possibility of doing the reporting in various ways	3.452
3	knowledge level enhancement in organization's staff	3.232
4	Being in contact with customers and coordination with suppliers	3.864

Findings show that the .successful application of ERP results in significant decrease cost, possibility of preparing reports in various ways and enhancement of the level of staff's knowledge. It also make it possible to have internet based communication with customers and coordination with suppliers.

4.Conclusion

This research carries out feasibility study on ERP comprehensive system implementation in social security organization. Based on demographic characteristics of statistic sample, 65% of the sample are men and 35% are women, in the same way education level most of people had bachelor degree (54% of the total sample) and people with PHD had the smallest percentage about 2% of total sample. From the age point of view, the biggest frequency belonged to people between 31 to 50 years old and people from 10 to 15 had the smallest frequency. From largest frequency belonging to people who had between 11-15 years of job history and the smallest frequency belonged to people having job history between 1 to 10 years. The first hypothesis of the research was the effect of successful applying of ERP which was supported based on data analysis and statistic tests.

Medson (2005) carried out research with the topic of "recognizing important problems in ERP implementation in computer industry". In his research he has involved cost as one of the factors which appeared to be significant in 0.01 level. In another research done by Yahyapoor (2004) the hypothesis "ERP causes decrease in costs " was supported about two companies the Zobeahan company and irankhodro company.

In current study this hypothesis was supported by results of binominal (Bernulie) test at significance level 0.019 and in factor ranking was ranked as the first factor.

The second main hypothesis of the study is that: successful application of ERP makes it possible to arrange reports in different formats. According to data analysis and binominal (Bernuli) test it can be concluded that: as the as the significance level was lower than 0.05, so the hypothesis was supported with confidence level of 95%. This means that successful application of ERP makes it possible to prepare reports in different formats. On the other hand, the hypothesis was supported by chi-squared test at significant level of 0.01.

The first subsidiary hypothesis is that: successful application of ERP results in knowledge level enhancement in organization's staff. As the significance level is lower than 0.05, therefore the hypothesis was supplied with probability of 95%. This means that successful application of ERP results in knowledge level enhancement in organization's staff. On the other hand, chi-squared test is significant for this hypothesis at level 0.01.

The second subsidiary hypothesis is that: successful application of ERP helps to be in contact with customers and coordinate with suppliers. As the significance level is lower than 0.05, and also the assumed ratio of the test is smaller than the observed ratio, therefore the hypothesis was supplied with probability of 95%. This means that successful application of ERP helps to be in contact with customers and coordinate with suppliers.

The results of ranking and prioritizing processes showed that significant decrease in costs with average ranking score 3.658, Possibility of doing the reporting in various ways with average ranking score 3.452, knowledge level enhancement in organization's staff with average ranking score 3.232and possibility of communicating with customers and coordination with suppliers with average ranking score 3.864, took the first to fourth place in Friedman's ranking model.

This research emphasizes on significant decrease in costs, Possibility of doing the reporting in various ways knowledge level enhancement in organization's staff and possibility of communicating with customers and coordination with suppliers in social security organization

5.Suggestions

- Because there is a significant relationship between successful application of ERP and significant decrease in costs, it is suggested that managers implement ERP system in order to reduce the required time for operations, have systematic control rather than traditional control, transparency in Stock and raw material and therefore timely purchase and prevention from extra storage costs and also significantly reduce staff human resource so that they can reduce overall costs in their organization.

- Since successful application of ERP makes it possible to do the reporting in various ways, it is suggested that managers implement ERP system in order to provide different management reports useful for making correct and fast decisions, and try to obtain transparent information using this system. Also because of the access to the information from a single source and possibility of representing timely and correct information, support managers in making timely decision using managers` decision making system.

- As successful application of ERP results in knowledge level enhancement in organization's staff, it is suggested that by implementation of ERP system, managers help information development, information sharing, challenging notions and knowledge and information synergy and cause an enhancement in knowledge of staff as a result.

- Since successful application of ERP helps to be in contact with customers and coordinate with suppliers,, it is suggested that managers implement ERP system and as a result provide the possibility of internet based relationship with customers, faster relationship coordination with suppliers, faster and

more effective relationship with customers and therefore making customers loyal, decrease organization's costs and so try to provide their organization with competitive advantage.

Also following purposes can be achieved using customer relationship by implementation of ERP system:

1. Quick response to customers` needs.
2. Providing proper circumstance for customers` next coming.
3. Reducing advertising costs.
4. Making more marketing opportunities.
Deeper recognition customers(`s needs).

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