The role of e-government in supplying local efficient human resources to deprived areas in terms of managers and staff

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Abstract

The aim of this study was to investigate the role of e-government in supplying local efficient human resources to deprived areas. This study is applied objectively, and the type of research is descriptive and the research method is survey respectively. The research population is managers and government staff of Larestan city and relevant sections in 2014. Using random sampling, stratified sample of 330 subjects were selected as sample. Data were collected by research-made questionnaire. Reliability was obtained through Cronbach's alpha for overall questionnaire 90%. In this study, for factor analysis and structural equation modeling, software of Amos was used. The research results showed that the use of e-government is effective in supplying efficient human resources to deprived areas.

Keywords: e-government, efficient human resources, deprived areas.
Introduction

Today the information technology has penetrated in all parts of the organization and even the most important source of organization means human resources has not been deprived of this effect. IT organizations is caused to organizations to their own resources, especially human resources have a comprehensive view. Using this system, staff authority can be added, and give them complete and required information to enable them to perform the task or work of organization in the best way. On the other hand, the expansion of activities and duties of managers in the field of human resource management and continuous interaction between these activities and the need for coordinated plans in attraction, development, maintenance and effective use of human resources as the most important strategic resource of any organization, creating information systems in accordance to it and updating of information are made this system necessary in large organizations. Many organizations in North America and European countries have benefited from the latest findings in this field and have entered electronic human resources system into the market. The peculiarity of this system is in its flexibility in different organizations (Hosseini, et al., 2007: 3) In research conducted in 2007 by Strohmeier, it was specified the rapid development of the Internet in the past decade has led to the implementation and application of e-HRM also be accelerated. According to his definition, e-HRM is the design, implementation and use of IT and systems for communication and support from at least two people in doing activities of human resources management that in the form of joint is carried out by them. In 2005 survey, which was conducted by Cedar and colleagues of human resource consultants, it was found that the number of organizations that have applied e-HRM as well as the depth of their application in organizations is constantly growing. Information technology has begun the process by which organizations can provide excellent service in the field of human resource management. An interesting point is that most of conducted researches are related to the western countries and its results may be not functional due to social, cultural and economic differences as well as in other countries, including Iran. So a challenge, in addition to the well-known challenges is that the results and obtained models for the country are not native and why problems occur (Tasdighi et al., 2010). E-HRM technology formed with the idea that many normal and daily activities of human resources can be transferred to staff through information technology. Thus, this technology is a web-based tool for mechanization of support tools of human resources process (Bondarouk et al., 2005). With the increasing role of information technology in the field of human resources, new responsibilities are for specialists of the field. Some of these responsibilities include: identifying and implementing organizational change, strategy development and implementation of organization, provide services and necessary support from staff amenities, organizational conflict management, improve the relationship between staff and employers, provide training services, create equal opportunities to progress for all staff and, ultimately, the use of new technology in the organization (Nazari, Poyan, 2009: 35). Electronic human resources management seeking that gives data at any time and any place to its managers and staff. Electronic human resource management system includes software for organizational resource planning and human resources service centers. So the new electronic human resources management allows staff to control their personal information through adapted and decision-making, and allows managers the access to data and information, analysis, decision making and communication with others without consultation with the HR department.

Information technology has enabled organizations to have a comprehensive vision to their resources, particularly human resources, with the use of this system can add on the level of
staff satisfaction and gives them complete and required information. Human resource management is an opportunity to human resource professionals relieve of many routine tasks and is an opportunity for them to focus more on the strategic aspects of their jobs. The feature of e-HRM is flexibility in different organizations. This system helps to convert traditional paper-based activities to respond quickly. It is expected that using information technology, human resources units release of cumbersome administrative activities and focus on the social and intellectual capitals of management. With the increasing use of ICT within organizations and the importance of efficient human resources, this study seeks to address the issue of whether e-government is effective in supplying local efficient human resources to deprived areas?

Theoretical Foundations

e-Government

Application and development of e-government is often in order to make changes in governmental processes such as decentralization, improving efficiency and effectiveness. Basically, there is no single definition about e-government and this is due to the dynamic and changing nature of technology. Today, the use of ICT refers to improve efficiency and effectiveness, transparency of information and comparing information and monetary transactions within the government, between the government and its affiliated organizations, between government and citizens and between the government and private sector e-government (Safari et al., 2003: 54-55). In the following referred to some definition of e-government:

• Gartz considers e-government as continuous improvement of providing services, participation of stakeholders and government with internal and external communications transformation through technology, internet and new intermediaries (Malek Mohammadi and Hadizadeh, 2004: 143-154).

• E-government is the ways for the governments to use new technologies that give to people required facilities for convenient access to government information and services, reform their quality and provide broad opportunities to participate in the democratic processes and institutions.

• E-government is a way for integrating all the potential networks of Internet and computer within the public administration (Montagna, 2005).

• E-government is the use of ICT to transform government agencies and their relationships with citizens, business community and other parts of the government.

• E-government is the way of intelligence and downsizing of government, improving services and offering new tools to citizens for interacting with government.

• E-government is all the ways in which information technology to simplify and improve the interaction between governments and other actors (including institutions, businesses and other government agencies).

E-government provides a great opportunity to improve the quality of services to citizens. Citizens must be able to achieve services and information at any time they want. Unlike the
past that get information and services was obtained in the form of daily and weekly standards. Government staff should be able to do their work as a simple, effective, efficient and competitive with the private sector. If effective strategy be developed in the field of e-government, will lead to significant improvements in the government, including:

- Facilitate the delivery of services to citizens.
- Remove some levels of public administration.
- Facilitate obtaining information and services from the central government by citizens, companies and other levels of government.
- Simplify organizational processes and reduce costs by consolidating systems and eliminating redundant systems.
- Facilitate government operations in order to guarantee response to the needs of citizens. (OMB, 2002).

**E-government services**

Reduce the gap between public administration and citizens, aimed at improving the interaction between state section and society and providing services and information electronically, according to its functions provided in three forms: the possible information and transaction (obtain the services provided on Network). It can also differentiate between application areas of electronic services and summarized them in three fields as follows:

- Daily life: get the needed information by citizens in various fields of political, social, cultural, economic, sports, etc. in electronic form.
- Remote management: electronic support from interaction of citizens or companies with public administration
- Political participation: electronic support from decision-making processes, electronic voting, public opinion survey, and so on.

In order to clarify e-government services, in Table 2.1, the applications field and e-government services are shown on two axes. The horizontal axis shows e-government services and vertical axis shows application areas of services (Aichholzer & Sghmotzer, 1998: 3-4).

<table>
<thead>
<tr>
<th>Daily life</th>
<th>Information about work, education, health, sports, culture, environment, etc.</th>
<th>Advertising boards in the fields of employment, etc., section dedicated to daily questions of citizens</th>
<th>Reservation, register in training courses</th>
</tr>
</thead>
</table>

Table 2.1. Applications field and e-government services (Aichholzer & Sghmotzer, 1998).
Remote management | Instructions for use of public services, direct the management procedures, public registers and databases | Communication via email with civil service staff | Provide forms electronically
---|---|---|---
Political Participation | Laws, political programs, consultation documents, background information about the decision-making processes | Communication via email with political officials, discussions devoted to political issues | Referendum, elections, investigating public opinion and litigation

**Efficient human resources**

The most important variable in increase of productivity is the human factor. In other words, the more effective human resources, performance of organization will be better. In terms of Poul Moli, efficient human resource is a person who:

- Offers suggestions and good ideas.
- Uses the time effectively.
- Plans in advance for the work.
- Creates a positive attitude towards work.
- Member and is also a good leader for the team.
- Has self-motivated by the inner taste.
- Has adequate notice of the location and its jobs.
- Listens to the views better.
- Has good relations with others.
- Searches monetary and non-monetary incentives.
- Keen to work.
- Not an old complainant.
- In times exceeds of standard range.
- Has good work habits.
• Has a good resume.

• Learns materials quickly.

Such staffs are considered the greatest asset of organization they are the result of careful and practical processes of recruiting, selection, education, training, experience, motivation and empowerment.

**History of research**

- Abd Sabour and Ravand (1390) in their study titled the role of electronic human resources management in effectiveness of human resource management that was conducted in the electricity industry of Tehran concluded that evaluating perceptions of individuals from electronic human resources management effects on strategic effectiveness and technical of human resource management. This is particularly very important in the perceived quality of content and structure using electronic human resource management and has a positive significant effect on the effectiveness of technical and strategic of human resource management. Using electronic human resources management reduces the costs of organizations and improves staff serve to clients and ultimately raises human resources as a strategic business partner.

Moghimi and Ardekani (2011) in a research titled measure indicators of good governance and the role of e-government in promoting it that did in Yazd governmental organizations, concluded that the establishment of e-government leads to improve accountability, effectiveness of roles and tasks, capacity building, transparency, consequentialism and promote values as indicators of good governance. Eftekhar and colleagues (2010) in a study titled evaluating the realization of e-government in the villages of Iran concluded that in the current circumstances, communicative network is the most important indicator for the realization of e-government and along with equipment indicator is very important. In terms of village and IT experts, there is very little difference in weight of indicators.

Baumgarten and Chubi (2011) in their study investigated e-government, and on the basis of a comparison that did between the innovators of public and private sector, concluded that the innovators of public sector should have the organizational and technology readiness to be able to open data and systems on foreign innovators, while use collaborative web tools. Agencies by making such a decision draw their rout in the upcoming perspectives of e-government.

Raoul and his colleagues (2007) investigated the different experiences in the field of deployment of e-HRM they selected five large companies that had achieved progress in the deployment of e-HRM. In this study, Raoul has investigated the strategies and policies of human resources, human resource management that is used in the companies and the results of its settlement. In a study that Raoul did on these companies, four types of e-HRM target were investigated that include moving towards globalization, improving the strategic vision of human resources, improving internal customers' vision and improving their services to them and more efficient and reducing administrative costs. In fact, there was little connection
between the content of e-HRM and strategy of human resources in the companies (Nazari, Poyan 2009: 111).

Watson Wyatt consulting institution (2002) showed that the companies' investment in electronic human resources management has been by the aim of enhancing the strategic role of human resources, reducing administrative costs of human resources and improving staff satisfaction of human resources services (Wright and Dir, 2000).

Research Methodology

This study is applied objectively and in terms of research and data collection is survey type. The study population included all governments' managers and staff of Larestan city and relevant sections. The sample size in this study was 130 people that using Morgan table obtained of 2200 people. Sampling method is simple random and is available. A researcher made questionnaire was used to collect data. The questionnaire included 15 questions and 4 main dimensions that include: recruitment and selection, career development, recognition of the potential of human resources and cost effectiveness of recruitment. To increase the validity of the research tool in this study, first the literature of subject was investigated through library studies such as theses and papers and different books and after providing the initial questionnaire, it was consulted with supervisors and counselors and the reforms were done in them. In order to determine the reliability of the tests, Cronbach's alpha is used. Cronbach's alpha coefficient was measured using SPSS software. Reliability coefficient was calculated with Cronbach's alpha that the results are shown in the table below.

Table (4-1) investigating the reliability of questionnaire

<table>
<thead>
<tr>
<th>Variables</th>
<th>Cronbach's alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>recruitment and selection</td>
<td>0.92</td>
</tr>
<tr>
<td>career development</td>
<td>0.861</td>
</tr>
<tr>
<td>recognition of the potential of human resources</td>
<td>0.790</td>
</tr>
<tr>
<td>cost effectiveness of recruitment</td>
<td>0.856</td>
</tr>
<tr>
<td>Total</td>
<td>0.902</td>
</tr>
</tbody>
</table>

Since Cronbach's alpha in all the variables of the questionnaire is more than 0.7 therefore, it can be said that the questionnaire has a good reliability and validity of the questionnaire is 0.902. To analyze the data, factor analysis and structural equation modeling were used using statistical software of Amos.
Analysis of data

Kolmogorov-Smirnov test

Using Kolmogorov-Smirnov test can investigate the distribution of (normal, Poisson, uniform and exponential) data of a quantitative variable.

<table>
<thead>
<tr>
<th>Number of data</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Significant level (sig)</th>
<th>Test result</th>
</tr>
</thead>
<tbody>
<tr>
<td>330</td>
<td>3.64</td>
<td>0.74</td>
<td>0.562</td>
<td>H0 confirmed</td>
</tr>
</tbody>
</table>

Due to the significance level is higher than 0.05, the normality of the questionnaire is accepted and can use parametric tests and the ML method in structural equation modeling.

5-2. Estimate and test of the measurement models (confirmatory factor models)

To determine to what extent the indicators are acceptable for measurement models first must be analyzed all measurement models separately. On the basis of adapting such a method, first 4 patterns of measurement that are related to variables, are tested separately. Overall indicators of fitting model for measurement models (confirmatory factor analysis) are presented in the table below.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>selection and recruitment</th>
<th>Career development</th>
<th>identifying potential of human resources</th>
<th>cost effectiveness of recruitment of human resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMIN</td>
<td>6.27</td>
<td>5.16</td>
<td>3.4</td>
<td>0.43</td>
</tr>
<tr>
<td>P</td>
<td>0.03</td>
<td>0.16</td>
<td>0.65</td>
<td>0.72</td>
</tr>
<tr>
<td>GFI</td>
<td>0.99</td>
<td>0.99</td>
<td>0.91</td>
<td>0.92</td>
</tr>
<tr>
<td>RMR</td>
<td>0.03</td>
<td>0.02</td>
<td>0.045</td>
<td>0.01</td>
</tr>
<tr>
<td>CFI</td>
<td>0.99</td>
<td>0.99</td>
<td>0.98</td>
<td>1.00</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.08</td>
<td>0.04</td>
<td>0.043</td>
<td>0.00</td>
</tr>
</tbody>
</table>

The results of the information provided in the table (5-2) are as follows:

• Since the P-value for the most measurement models is larger than 0.05, it can be concluded that Chi square value is appropriate for measurement models.

• One of the most valid indicators that is used for investigating model fitness is GFI or the goodness indicator of fitness. This indicator can be considered as characteristic similar to R2 in multivariate regression. The more GFI is closer to 1.00; model with data has a better fit.
GFI indicator for measurement models is greater than 0.95 that shows good fit of data from model.

- Residual matrix is one of the important matrices that can be used to evaluate the overall fit (developed model) and the fitting part (defined parameter between two variables). Root Mean Square Residual or RMR for the mentioned models is less than 0.05 and a small value that it is showing slight error of models and their acceptable fit.

- CFI value for all measurement models is greater than 0.95 that it can be concluded that data support the measurement models as well.

- The indicator of root mean square error or RMSEA as well as RMR indicator is based on the analysis of the residual matrix. The value of indicator for the measurement models is less than 0.08 that the indicator indicates the good model fit by the data. Finally considering the above, it can be concluded that the measurement models have a good fit and in other words confirmed overall indicators of this issue that the data is properly supported the models.

5.2.1 Confirmatory factor analysis of measurement model of selection and recruitment
To measure the variable of recruitment and selection, the questions of q1 to q5 have been used in the questionnaire.

confirmatory factor analysis of measurement model of cost effectiveness of recruitment
To measure the cost effectiveness of recruitment variable, questions q13 and q15 are used in the questionnaire.
Figure (5-2) Measurement model of cost effectiveness of recruitment

Confirmatory factor analysis of measurement model of identifying potential of human resources

To measure identifying potential of human resources variable, questions q12 and q10 are used in the questionnaire.

Figure (5-3) Measurement model of identifying potential of human resources
Confirmatory factor analysis of measurement model of career development

To measure career development variable, questions q9 and q6 are used in the questionnaire.

Figure (5-4) Measurement model of career development

Figure (5-5) measurement model
Test of research hypotheses

After investigating and confirming models, to test the significance of hypotheses, two partial indicators of critical value 1 and P are used. The critical value is a value that is obtained of the result of dividing "estimating regression weight" on the "standard error". In accordance to significance level 0.05, the critical value must be greater than 1.96. Less than this value, the parameter in the model is not considered important, as well as smaller values from 0.05 to P value indicate significant difference calculated for regression weights with zero value in confidence level 0.95.

First sub hypothesis: the establishment of e-government can be effective in recruitment and selection of human resources to deprived areas.

Table (5-3) regression relationship between e-government and recruitment and selection of human resources

<table>
<thead>
<tr>
<th>significance level</th>
<th>critical ratio</th>
<th>Standard estimated value</th>
<th>Regression relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>6.42</td>
<td>0.52</td>
<td>e-government</td>
</tr>
</tbody>
</table>

According to the significant level achieved (0.000) and the value of critical ratio (p ≥ 1.96) can be said e-government has a significant effect in recruitment and selection of human resources to deprived areas, and due to the impact factor (0.52), it can be said that independent variable means e-government can determine 0.52 percent of the changes of dependent variable means recruitment and selection of human resources.

Second sub hypothesis: the establishment of e-government can be effective in career development of human resources to deprived areas.

Table (5-4) regression relationship between e-government and career development of human resources

<table>
<thead>
<tr>
<th>significance level</th>
<th>critical ratio</th>
<th>Standard estimated value</th>
<th>Regression relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000</td>
<td>5.53</td>
<td>0.45</td>
<td>e-government</td>
</tr>
</tbody>
</table>

|

According to the significant level achieved (0.000) and the value of critical ratio (p ≥ 1.96) can be said e-government has a significant effect in career development of human resources to deprived areas, and due to the impact factor (0.45), it can be said that independent variable means e-government can determine 0.45 percent of the changes of dependent variable means career development of human resources.
According to the significant level achieved (0.000) and the value of critical ratio \((p \geq 1.96)\) can be said e-government has a significant effect in career development of human resources to deprived areas, and due to the impact factor (0.45), it can be said that independent variable means e-government can determine 0.45 percent of the changes of dependent variable means career development of human resources.

**Third sub hypothesis: the establishment of e-government can be effective in identifying potential of human resources to deprived areas.**

Table (5-5) regression relationship between e-government and identifying potential of human resources.

<table>
<thead>
<tr>
<th>significance level</th>
<th>critical ratio</th>
<th>Standard estimated value</th>
<th>Regression relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000</td>
<td>4.48</td>
<td>0.36</td>
<td>e-government (\rightarrow) identifying potential of human resources</td>
</tr>
</tbody>
</table>

According to the significant level achieved (0.000) and the value of critical ratio \((p \geq 1.96)\) can be said e-government has a significant effect in identifying potential of human resources to deprived areas, and due to the impact factor (0.36), it can be said that independent variable means e-government can determine 0.36 percent of the changes of dependent variable means identifying potential of human resources.

**Fourth sub hypothesis: the establishment of e-government can be effective in cost effectiveness of recruitment of human resources to deprived areas.**

Table (5-6) regression relationship between e-government and cost effectiveness of recruitment of human resources.

<table>
<thead>
<tr>
<th>significance level</th>
<th>critical ratio</th>
<th>Standard estimated value</th>
<th>Regression relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000</td>
<td>7.22</td>
<td>0.62</td>
<td>e-government (\rightarrow) cost effectiveness of recruitment of human resources</td>
</tr>
</tbody>
</table>

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According to the significant level achieved (0.000) and the value of critical ratio (p ≥ 1.96) can be said e-government has a significant effect in cost effectiveness of recruitment of human resources to deprived areas, and due to the impact factor (0.62), it can be said that independent variable means e-government can determine 0.62 percent of the changes of dependent variable means cost effectiveness of recruitment of human resources.

**Main hypothesis: the establishment of e-government can be effective in supplying local efficient human resources to deprived areas.**

Table (5-7) regression relationships of main hypothesis

<table>
<thead>
<tr>
<th>significance level</th>
<th>critical ratio</th>
<th>Standard estimated value</th>
<th>Regression relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000</td>
<td>6.21</td>
<td>0.53</td>
<td>e-government</td>
</tr>
</tbody>
</table>

According to the significant level achieved (0.000) and the value of critical ratio (p ≥ 1.96) can be said e-government has a significant effect in supplying local efficient human resources to deprived areas, and due to the impact factor (0.53), it can be said that independent variable means e-government can determine 0.53 percent of the changes of dependent variable means supplying local efficient human resources.

**Conclusions**

In this research, the effect of e-government in supplying human resources was scrutinized. The results obtained of main hypothesis testing in government of Larestan city and relevant sections, using structural equation modeling showed that the impact factor of e-government is high in supplying human resources and e-electronic with the impact factor… has affected in supplying human resources in the confidence level of 95% and the use of e-government is effective in supplying efficient human resources to deprived areas. The obtained results are consistent with the research results of Eftekhari and colleagues (2010), Moghimi Ardekani (2011) and Boumgarten and Chubi, (2011). Also the results obtained of sub hypotheses test showed that e-government as the independent variable has significant effect on the four aspects of human resources, recruitment and selection, career development, identify potential and cost effectiveness of recruitment of human resources.

With an overview on conducted research in line with e-government, these results were observed that government to carry out its missions and special responsibilities in the fields of economic, social, political must be equipped with dynamic organizations and evaluating
individual perceptions of the electronic human resource management affect the strategic effectiveness and technical of human resources management.

Also in the current circumstances, communicative network is the most important indicator for the realization of e-government and along with it, equipment indicator is very important and attention to the principle of natural selection is one of the basic conditions of recruitment conditions, recruitment, selection and appointment of jobs particularly sensitive jobs of management and supervision from the perspective of Islamic law and by the company's investment in electronic human resources management has been by the aim of enhancing the strategic role of human resources, reducing administrative costs of human resources and improving staff satisfaction of human resources services. According to test of hypotheses can be concluded that the establishment of e-government can be effective in recruitment and selection of human resources, career development of human resources in the process of recruitment, identifying potential of human resources and cost effectiveness of recruitment of human resources to deprived areas which of course cost effectiveness of recruitment has the greatest effect and identifying potential has the least effect.
References


