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## Investigating the relationship between outsourcing and performance based on Balanced Score Card (Case study: Ilam Post Office)

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### Abstract

Today, outsourcing can play a crucial role in satisfying customers and meeting their requirements; therefore post office has devoted some of its services and supports for improving the performance, reducing the expenses, and modifying the organizational structure. The main purpose of this study is to investigate the relationship between outsourcing and the performance based on Balanced Score Card (Ilam Post Office) in 2013. This study was a descriptive-survey and it utilized a questionnaire for collecting data. SPSS software was used to analyze the data. Useable data were gathered from 18 managers and assistants. T-student and correlation method was used for data analysis. The results showed that there are a strong and positive relationship between outsourcing post office activities and performance management in three aspects of financial, customers and internal processes; however there was a positive and weak relationship between the aspect of learning and outsourcing.

**Keywords:** Outsourcing, Performance management, Post office, Balanced Score Card.

### 1 Introduction

Outsourcing, competitive pressure and renewal of the labor are all the business realities in the twenty-first century (D. W. Drezner (2004), P. Engardio (2006) [5, 6]). Outsourcing is a fact that reduces the costs of business by using less labor and gains higher profit (R. Griffeth and P. Ed. Hom (2004) [7]). We are living in the information society, a society in which people have as fast access to the information as the leaders. We are living in the era of specialized and shared markets; in these markets the customers are accustomed to perfect services and goods. For this, it's required for institutions to be highly flexible and adaptable, and to produce high quality products and be responsive to the needs of customers (M. Ozburn and N. Gabler (1991) [12]). In the past, the key to success was being vast and enormous but nowadays the significance of high quality is increasing. One of the ways to achieve this success is to outsource. In the past, outsourcing was used when organizations were not able to perform perfectly, were weak in competitive markets, their capacity was reduced, were faced with financial problems or their technology

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was old and defeated. Today, successful organizations are utilizing this tool for renewing their organizational structures; managers of these organizations perceived this issue as something crucial that developing key capacities are necessary to meet customer's needs and consequently, they should try to reach these goals. If organizations want to survive, it is necessary for them to utilize the sources effectively and to be harmonious with environment.

To reach all the mentioned aims, coherent planning and specifying strategic goals is required. During the strategic planning process, companies get familiar with key products, customer markets for the products, production-base processes and material suppliers. In line with its strategic plans, Islamic Republic of Iran's Post office has assigned some parts of its services to private sectors and contractors; these activities include transportation, cleaning, collecting the letters and accepting postal letters. This article aims to investigate the performance of this organization based on the balanced scorecard. The post office is a government agency in Iran. The problem is that with outsourcing, how performance will be affected. To investigate this problem, balanced scorecard is used to evaluate the relationship between outsourcing and performance. In fact this study examines the relationship between performance based on balanced scorecard and outsourcing.

## 2 Literature

### 2.1. Outsourcing:

Outsourcing includes assigning internal repetitive activities and also decision-making authority to external contractors which has been define in a contract. This means that not only the activities are assigned, but also its production sections and the authority of decision-makings related to this are given to the contractors. Outsourcing has defined as "gaining services from an external source" by Brown and Wilson (2005) [2]. Also outsourcing has defined as a necessary and effective strategy for the maintenance and development of the organization through finding competent and capable external executives and assigning secondary tasks to them. One of main condition to be successful in outsourcing which is the harmony of outsourcing with other organizational strategies especially is human resource development strategies (L. Cohen and A. Young (2005) [4].

### 2.2. Reasons for Assigning:

According to the available literature in the area of outsourcing, the most important reasons are followed briefly:

#### 1) Organizational Reasons

- Improving and increasing the focus on core competencies: nowadays, organizations look at outsourcing as a commercial strategy.
- Flexibility in long-run: increasing flexibility for facing and better responding to changes in service conditions, demanding products, services and technology are regarded as key concerns of most companies.
- Moving forward quickly and accelerating re-engineering benefits: companies that attempt re-engineering often get to know that outsourcing will help them achieve benefits and goals they are following.
- Increasing sections and functions (transformation and change in the organization): when company decides to change the business, outsourcing enables the company to add new sections and functions to its business with the least effect on internal sources.
- Sale development and manufacturing facilities in the course of time, when it's not possible to provide funds for such developments: sometimes demand for company's products increases but the production capacity of the company does not allow responding to high demand.

- Gaining more business opportunities and breaking into new markets through an access to the network of providers (appropriate range of diverse capabilities).
- Improving operational performance (including higher quality, increasing productivity, shorter advanced time, better use of equipment, increasing outputs and profits)
- Accelerating the development by operating and penetrating into systems, processes and supplier's developed capabilities (looking at outsourcing as a learning and modeling approach)
- Access to new services: having access to expertise, skills and technologies that are not achievable through other ways.
- Creating an appropriate commercial image through cooperation with leading contractors

## 2) Reasons related to financial issue and costs

- Reducing costs by accessing to supplier or by better performance and lower cost structure: outsourcing goods and services allow organizations benefit from the experience of expert providers and economic advantage.
- Creating liquidity: liquidity creation by transferring assets to providers or reducing investment in assets and releasing resources for other purposes
- Change the fixed costs to variable costs (in some activities and tasks)

## 3) Reasons related to human resources

- Utilizing expertise of human resources belonging to contractors
- Focusing individual's power and commitment to core activities (M. Cheshm Berah and M. Mortazavi (2009) [3]).

In the book 'Gods of management' Handy (1997) [8] states that for the technical-professional organizations to be economically viable, it is required that they associate with contract-based organizations.

## 3 Performance management

### 3.1. Definitions and Concepts of Performance Management

In the 1970s, government agencies were not very successful in providing goods and services in terms of both quality and quantity; therefore governmental costs had increased and critics to governments' performance began and management-oriented approaches or result-based management was introduced. The term 'performance management' was first used in 1976 by Beer and Run (A. Shirvani (2011) [14]).

Of the most important factors to the success of organizations are paying attention to customers' opinions, production design and providing services to meet the expectations of customers and constant improvement of organizational processes will lead to customer satisfaction. Performance management is a way to facilitate communication and understanding between employees and supervisors and leads to making a more favorable working environment and better commitment to quality of services. The techniques and tools to this management are used to increase staff productivity and gain competitive advantage of organization. Beneficial processes and principles help supervisors' performance management in identifying poor performance, adopting proper scales, rewarding good performance and motivating them to do it again (R. S. Kaplan and D. P. Norton (1992) [11]).

### 3.2. Principles of Performance Management

General principles of performance management follow constant improvement cycle or PDCA (P: plan, D: do, C: control, A: action). PDCA is a systematic thinking that was introduced by Walter Schmalz about 70 years ago in 1930. In order to gain the most acceptable results, this method suggests that a clear scheme of the intended goals should be specified. Then the desired scheme should be practiced and after its

evaluation, results should be considered in future decisions (A. Shirvani (2011) [14]). Therefore, organization must state a clear definition of its mission and strategic goals and then, in the next step, it must determine performance indicators and scales. The next step is to do the action and then to collect performance data collection and analyze, review and report it. In the last phase, it should be decided about which parts requiring change and modification by the evaluations done. Hence, performance management is of the following basic principles:

- Performance management as a core business process.
- The strength gained from exchange of information and having shared information
- To give attention to values beyond its profitability
- Finding specific solution for each problem (K. Iraghi et al. (2004) [10]).

### **3.3. Advantages of Performance Management**

Performance management is helpful for engaging organization staff and managers in doing the tasks that must necessarily be done. Moreover, it provides a theory for management and staff development that increases the opportunity of success both in short-run and in the long-run (M. Armstrong (2006) [1]).

### **3.4. Establishment of Performance Management**

Establishment of performance management has six basic steps which are as follows.

#### **3.4.1 Determining the Organization's Mission and Strategic Plan**

Strategic planning is a continuous and systematic process that helps members of the organization to set the goals, know how to achieve the goals and the extent to which they will reach these goals.

#### **3.4.2. Establishing an Integrated Performance Measurement System**

Determining appropriate model and indicators are required to evaluate performance; this will help to assess the gained results. In this context, several models have been proposed by experts including the European Basic Models for Quality Management, balanced scorecard, Organization's excellence Model, Strategic Cost Reduction Model, and Malcolm Baldrige model.

#### **3.4.3. Establishing Accountability for Performance**

Accountability should become an integrated part of the performance measurement system. Managers are responsible to create the right conditions and resources required and staffs are responsible for doing assigned responsibilities as perfect as possible.

#### **3.4.4. Establishing Systems to Collect Performance Data**

At this stage, the required, necessary and valuable data are collected and in order to be analyzed.

#### **3.4.5. Establishing a System for Data Analysis**

By data analysis we mean changing the raw data into information and knowledge that can be used to improve the performance of the components.

#### **3.4.6. Establishing a System for Using Performance Information**

The data reveals the organization's strengths and weaknesses; therefore management can improve processes and structures, and use resources to the effectiveness and efficiency of organization (A. Shirvani (2011) [16]).

### 3.5. Performance Evaluation

Performance evaluation in organizational aspect is often synonymous with effectiveness of activities. By effectiveness we mean the degree of achieving goals and plans with activities and functions being efficient. Another definition of performance evaluation is the comparison between the current situation and the ideal situation. In order to get the desirability and quality of its services, each organization needs evaluation system, especially in complex and dynamic environments (A. Shirvani (2011) [14]). The results of the performance evaluation determine the strengths and weaknesses of the organization. Therefore, by making appropriate decisions and finding effective solutions, managers carry out corrective actions. Also, individuals' and units' capabilities in performing specific tasks can be determined by performance evaluation; based on this, a fair system of payments, rewards, appointments and promotions can be practiced. One factor that helps to enhance job satisfaction is that individual work is being noticed in the organization. Staff can be given feedbacks by performance evaluation; this way, they can be shown that their work is being noticed (I. Soltani (2009) [13]). In this investigation BSC model was used to evaluate the performance of Post Office after outsourcing.

### 3.6. Balanced Scorecard

Balanced scorecard (BSC) which was designed by Kaplan and Norton (Management Professor of the U.S.) is a set of scales that gives the managers a short but comprehensive view about business. This model allows managers to look at business from four important aspects. These aspects consist of: financial measures, customer satisfaction, internal processes, and the aspects of improvement, development and learning. Research on many organizations that have implemented this model shows that BSC is used as a measurement system, a strategic management tool and a communication instrument.

1. Financial perspective: On the financial side, organizations are looking to achieve financial goals. Goals such as reducing costs, increasing income and productivity are considered.
2. Customer perspective: this perspective shows organization's ability to provide high quality goods and services and customer satisfaction. Customer perspective provides the opportunity for creating values of intangible assets to offer to the target customers.
3. Internal processes perspective: in this perspective, the processes that are required for the success of organization's strategy are identified. Internal processes focus on research and product development, innovation and quality.
4. Development and learning perspective: The source of power and competitive advantage of organizations are organizational intangible assets. Hence, the consistency of these assets and tangible assets with the organization's strategy is very important (R. S. Kaplan and D. P. Norton (1992) [11]).

The researches show the performance of that organization only in one card while the common resources are being utilized among all of the cards (M. Vaez-Ghasemi et al. (2012) [17]).

Many studies have been conducted on outsourcing; some of them are to be stated here:

- By conducting a poll in organizations in 1989, National Commission for U.S. Employment Policy concluded that most of the organizations are satisfied with their contractors; 72% highly satisfied, 10% slightly satisfied, 13% dissatisfied, and 5% highly dissatisfied (M. Ozburn and N. Gabler (1991) [12]).
- Bin Jiang, a member of management department of business school at Texas University, has conducted a case study about the effects of outsourcing on companies' performance in 51 American firms in 2006; the results indicate that outsourcing improves productivity and profitability of firms (B. Jiang et al. (2008) [9]).

Performance evaluation with BSC technique which is same to advanced strategic management, the DEA (Data Envelopment Analysis) technique also has been associated (F. R. Roodposhti et al. (2010) [14]). The efficiency through DEA is a factor of different share resources in Decision Making Units. Roodposhte et al

(2012) found inefficient components in an efficient Decision Making Units (F. R. Roodposhti et al. (2012) [13]).

Balanced Scorecard model (BSC) was used in this investigation. Research conducted in many of the organizations that have implemented this model shows that BSC is used as a measurement system, as a strategic management tool and as a communication tool. In 2012, this model has been implemented in the Post Office network of Islamic Republic of Iran. This method provides managers a comprehensive framework to change Post Office vision and strategy to a coherent series of performance metrics. According to the fifth development plan and twenty-year outlook, Post Office has embarked on a strategic planning. Quality improvement and customer satisfaction, productivity and profitability, and knowledge-based organizations are among the most important strategic goals of Post Office. Figure 2 shows the research model. This model shows the relationship between outsourcing and performance management.

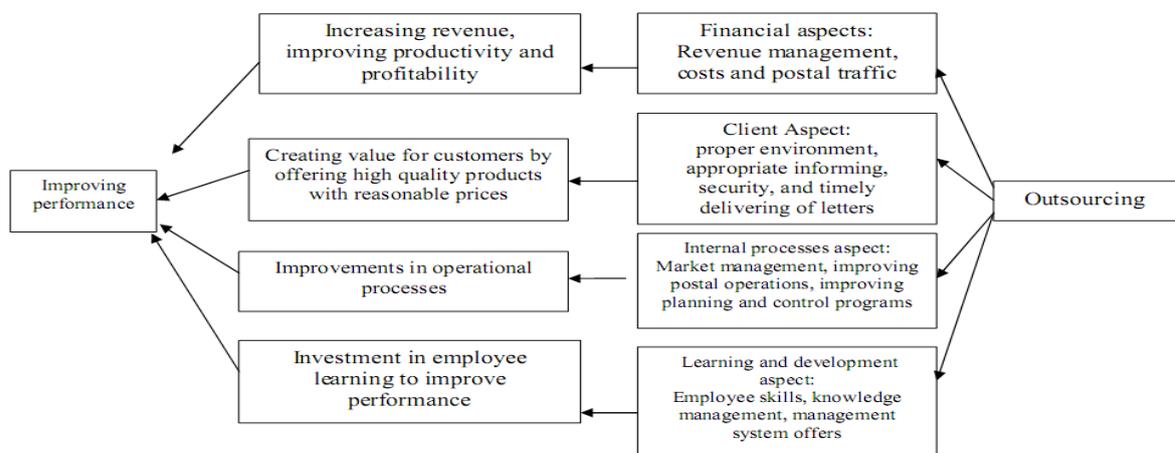


Figure1: The research model

#### 4 Research hypothesis

- There is a significant relationship between outsourcing postal activities and financial aspect.
- There is a significant relationship between outsourcing postal activities and customers aspect.
- There is a significant relationship between outsourcing postal activities and internal aspect.
- There is a significant relationship between outsourcing postal activities and development and learning aspect.

These hypotheses were developed to evaluate the relationship between performance based on balanced scorecard and outsourcing.

#### 5 Research methodology

Descriptive - survey method was used in this research. The theoretical basis was collected from valid documents and books. Data was collected through questionnaire. The questionnaire is composed of two parts: The first section contains personal information and the second part contains the research questions to be answered. In this investigation, the population under study was all managers and supervisors of Ilam Post offices. Here, sample was equal to the whole population as the whole members were questioned. Total number of managers in the post office of Ilam is 18. For this reason the sample consisted of 18 managers and assistants in Ilam Post office. Useable data were gathered from 18 managers and assistants. Using SPSS, the collected data was analyzed both in descriptive and inferential level. Because of the

samples were less than 30 people, t-student was used for data analysis. Also to investigate the relationship between outsourcing and performance the correlation test can be used.

## 6 Findings and results

This section contains the inferential analysis of the questionnaire items. Statistical indices including mean, standard deviation, and standard deviation of sample mean were calculated for each of outsourcing performance factors (financial aspect, customers' aspect, internal aspect, development and learning aspect).

Table1: Mean distribution of sample group to each factor of outsourcing effectiveness

| Conditions                      | n  | min | max  | mean   | SD      |
|---------------------------------|----|-----|------|--------|---------|
| Financial aspect                | 18 | 2   | 4.43 | 3.5238 | 0.58595 |
| Customers aspect                | 18 | 2   | 4.67 | 3.4722 | 0.70537 |
| Internal aspect                 | 18 | 2   | 4.33 | 3.4537 | 0.67351 |
| Development and learning aspect | 18 | 1   | 3.80 | 2.9778 | 0.57758 |
| Outsourcing                     | 18 | 2   | 4.22 | 3.3569 | 0.54486 |

Table 1 shows that from a sample of 18 individuals, the mean of all factors are moderate to high, except for development and learning.

The mean for financial aspect being 3.5238 and standard deviation being 0.58595 were the maximum values. However, development and learning with the mean of 2.9778 and standard deviation with an average of 0.57758/0 were the lowest. The overall mean for outsourcing was 3.3569, and standard deviation was 0.54486, which indicates a moderate to high outsourcing in the sample. To prove or disprove the hypothesis and measurement of mean for all factors, the researcher has represented in table 2 the results of mean significance testing by considering the accepted mean of 3 for each of the factors.

Table2: Results for analyzing the test of mean significance for each of the factors

| Conditions                      | (t)     | Sig.  |
|---------------------------------|---------|-------|
| Financial aspect                | 3.793   | 0.001 |
| Customers aspect                | 2.840   | 0.011 |
| Internal aspect                 | 2.858   | 0.011 |
| Development and learning aspect | - 0.163 | 0.872 |
| Outsourcing                     | 2.799   | 0.013 |

According to table 2, as the t value of all factors except development and learning are great and greater than t value in the 0.05 error level, and also as its significance, except in development and learning aspect is smaller than 5% error, therefore the null hypothesis  $H_0 : \mu = 3$  is rejected and the null hypothesis

$H_0 : \mu > 3$  is confirmed. But development and learning aspect being smaller than  $t$  in 0.05 error level, the significance level is greater than 5% error; therefore,  $H_0 : \mu = 3$  for this factor is not rejected and  $H_0 : \mu > 3$  is not confirmed, because the mean for development and learning aspect was smaller than 3. So, it is concluded that this aspect cannot be that much effective in outsourcing.

### 6.1. Analyses of Hypotheses

This section contains the inferential analysis of the research hypotheses.

**Hypothesis I:** There is a significant relationship between outsourcing postal activities and financial aspect. Pearson correlation analysis was used to test this hypothesis and the results are presented in Table 3.

Table 3: Results of analyzing the correlation between financial aspect and outsourcing

| Factor      | Financial aspect |             |
|-------------|------------------|-------------|
|             | Sig.             | correlation |
| Outsourcing | 0.000            | 0.929       |

As shown in Table 3, the correlation between financial aspect and outsourcing mailing activities is great (0.929) and significant (0.000) in a 5% error level (as the test was two-tailed, it is compared with a 0.025) that indicates there is a direct and positive relationship between financial aspect and outsourcing postal activities. As a result, hypothesis I is confirmed.

**Hypothesis II:** There is a significant relationship between outsourcing postal activities and customers aspect.

Pearson correlation analysis was used to test this hypothesis and the results are presented in Table 4.

Table 4: Results of analyzing the correlation between outsourcing postal activities and customers aspect

| Factor      | Customers aspect |             |
|-------------|------------------|-------------|
|             | Sig.             | correlation |
| Outsourcing | 0.000            | 0.890       |

As shown in Table 4, the correlation between customers aspect and outsourcing mailing activities is great (0.890) and significant (0.000) in a 5% error level (as the test was two-tailed, it is compared with a 0.025) that indicates there is a direct and positive relationship between customers aspect and outsourcing postal activities. As a result, hypothesis II is confirmed.

**Hypothesis III:** There is a significant relationship between outsourcing postal activities and internal aspect.

Pearson correlation analysis was used to test this hypothesis and the results are presented in Table 5.

Table 5: Results of analyzing the correlation between outsourcing postal activities and internal aspect

| Factor      | Internal aspect |             |
|-------------|-----------------|-------------|
|             | Sig.            | correlation |
| Outsourcing | 0.000           | 0.943       |

As shown in Table 5, the correlation between internal aspect and outsourcing mailing activities is great (0.943) and significant (0.000) in a 5% error level (as the test was two-tailed, it is compared with a 0.025) that indicates there is a direct and positive relationship between internal aspect and outsourcing postal activities. As a result, hypothesis III is confirmed.

**Hypothesis IV:** There is a significant relationship between outsourcing postal activities and development and learning aspect.

Pearson correlation analysis was used to test this hypothesis and the results are presented in Table 6.

Table 6: Results of analyzing the correlation between outsourcing postal activities and development and learning aspect

| Factor      | Development and learning aspect |             |
|-------------|---------------------------------|-------------|
|             | Sig.                            | correlation |
| Outsourcing | 0.000                           | 0.943       |

As shown in Table 6, the correlation between development and learning aspect and outsourcing mailing activities is great (0.645) and significant (0.004) in a 5% error level (as the test was two-tailed, it is compared with a 0.025) that indicates there is a direct and positive relationship between development and learning aspect and outsourcing postal activities. As a result, hypothesis IV is confirmed

## 7 Conclutions

- The mean of financial aspect with a value of 3.5238 and standard deviation of 0.58595 was the highest value.
- The mean of development and learning aspect with a value of 2.9778 and standard deviation of 0.57758 was the lowest value.
- The overall mean of outsourcing postal activities was 3.3569 and standard deviation was 0.54486 that shows the mean of outsourcing postal activities for the sample was moderate to high.

The correlation between financial aspect and outsourcing postal activities was great (0.929) and significant (0.000) in a 5% error level (as the test was two-tailed, it is compared with a 0.025) that indicates there is a direct and positive relationship between financial aspect and outsourcing postal activities. As a result, outsourcing is effective in increasing income and reducing costs; hence, Post Office must be careful in identifying, evaluating and selecting suppliers who are able to provide high quality and customer-friendly services. Selecting the best contractor among several contractors that are able to provide high quality postal services will not only attract potential customers, but will also maintain the loyalty of old customers and will consequently increase Post Office's productivity and profitability. The following issues are also necessarily required for achieving strategic goals of financial aspect.

- Integration of postal units

- Control the costs and minimize them through improved methods and removing traditional methods in Post Offices
- Attracting potential markets through modern and scientific marketing principles
- The correlation between customers aspect and outsourcing postal activities was great (0.890) and significant (0.000) in the 5% error level (as the test was two-tailed, it is compared with a 0.025) that indicates there is a direct and positive relationship between customers aspect and outsourcing postal activities. Post Office must make a deep relationship with customers and to do so, it must:
  - Strengthen customer-oriented culture and provide customers' particular wants and needs by conducting a survey, specially electronic survey
  - Train employees and contractors customer-oriented methods to attract and maintain customers.
  - Develop and continuously improve the quality of postal services in four stages: acceptance, preparation, sending and distribution
- The correlation between internal aspect and outsourcing postal activities was great (0.943) and significant (0.000) in the 5% error level (as the test was two-tailed, it is compared with a 0.025) that indicates there is a direct and positive relationship between internal aspect and outsourcing postal activities. To reinforce this aspect, in the contract carefully, without any ambiguity and make enforcement, create an atmosphere of trust and mutual cooperation and good communication with suppliers, support and strengthen the quality and quantity of services the contractor to promote the transfer of knowledge suppliers and contractors. To strengthen this aspect, the following issues are necessary to be taken into account: being careful in making contracts without any ambiguity and making executive guarantee, creating an atmosphere of trust and mutual cooperation and good relation with suppliers, supporting and reinforcing the contractors in order to improve the quality and quantity of services, and transferring knowledge to suppliers and contractors. The following steps are required to achieve the strategic objectives of financial aspect.
  - Utilizing modern technology in providing whole steps and process of mailing aspect perfect aspect possible
  - Accuracy, safety and appropriate packaging of postal boxes
  - Timely delivery of postal letters
- The correlation between development and learning aspect and outsourcing postal activities was great (0.645) and significant (0.004) in the 5% error level (as the test was two-tailed, it is compared with a 0.025) that indicates there is a direct and positive relationship between development and learning aspect and outsourcing postal activities. The role of human capital is manifested in the form of intangible assets and has been given serious attention in recent years. Intangible assets provide different production advantages; therefore Post Office should consider the following factors in order for human development.
  - Strengthening the skills and talents, diffusing experience by training and knowledge-sharing
  - Strengthening information systems including knowledge infrastructures and utilities that are necessary for supporting the strategy.
  - Making aware of and internalizing the mission, vision outlook and shared values
  - Team working and collaborating, and enhancing offer and critique system

## References

- [1] M. Armstrong, Strategic management of human resources, Rasam Publishers, (2006).
- [2] D. Brown, S. Wilson, The black book of outsourcing: How to manage the changes, challenges, and opportunities, Hoboken, New Jersey: John Wiley & Sons, Inc, (2005).

- [3] M. Cheshm Berah, S. M. Mortazavi, Effective outsourcing management, Ketab-e-Mehraban Publishers, (2009).
- [4] L. Cohen, A. Young, Multi-sourcing: Moving Beyond Outsourcing to Achieve Growth and Agility, Boston, MA: Harvard Business School Press, (2005).
- [5] D. W. Drezner, The outsourcing bogeyman, Foreign Affairs, 83 (3) (2004) 22-34.  
<http://dx.doi.org/10.2307/20033973>
- [6] P. Engardio, The future of outsourcing: How it's transforming whole industries and changing the way we work, Business Week, 3969 (2006) 50-58.
- [7] R. Griffeth, P. (Ed). Hom, Innovative theory and empirical research on employee turnover, Greenwich, Connecticut: Information Age Publishers, (2004).
- [8] C. Handy, Gods of management, Fara publishers, (1997).
- [9] B. Jiang, G. Reinhardt, S. T. Young, BOCOG's outsourcing contracts: the vendor's perspective, Omega International Journal of Management Science, 36 (2008) 941.  
<http://dx.doi.org/10.1016/j.omega.2007.05.004>
- [10] K. Iraghi et al., Management based on performance from theory to implementation, Tadbir Journal, 14 (142) (2004).
- [11] R. S. Kaplan, D. P. Norton, The Balanced Scorecard: Measures That Drive Performance, Harvard Business Review, (1992).
- [12] M. Ozburn, N. Gabler, Reinvented government, Fara Publishers, (1991).
- [13] F. R. Roodposhti, F. Hosseinzadeh Lotfi, M. Vaez-Ghasemi, Multi-component Efficiency with share Resources in Insurance Companies, Data Envelopment Analysis and Decision Science, 2012 (2012) 1-9.  
<http://dx.doi.org/10.5899/2012/dea-00001>
- [14] F. R. Roodposhti, F. Hosseinzadeh Lotfi, M. V. Ghasemi, Performance Evaluation through Data Envelopment Analysis Technique and Balanced Scorecards Approach and Its Application in Bank, Applied Mathematical Sciences, 4 (69-72) (2010) 3537-3547.
- [15] I. Soltani, Self-evaluation and improvements tools in human resource management, Arkan-e-artesh publishers, (2009).
- [16] A. Shirvani, Performance management, Puyesh Andishe publishers, (2011).
- [17] M. Vaez-Ghasemi, F. H. Lotfi, L. Taghizadeh, Multi-Component Balanced Scorecard for Perspectives Efficiency Measurement, Applied Mathematical Sciences, 6 (9-12) (2012) 403-410.