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THE EFFECT OF OUTSOURCING SERVICES STRATEGY ON ORGANIZATION PRODUCTIVITY: A CASE STUDY OF ZAHEDAN MUNICIPALITY

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ABSTRACT

The purpose of this research is to verify the effect of outsourcing services strategy on organization productivity in ZAHEDAN municipality. Outsourcing means using outside sources to achieve organizational goals which, if runs properly, can express favorable and positive effect on productivity rate on the basis of existing requirements. Statistical domain of this research is 100 experts and employed authorities in ZAHEDAN municipality, who were selected as the statistical sample. In this concept, five factors such as costs reduce; speeding up the processes, optimized allocation of resources, improving the quality of services and increasing the beneficiary's satisfaction were chosen as productivity components. So, LISEREL software was used to explore the structures, the method of structural equation model. It was shown that outsourcing has positive and significant effect on all components of productivity. Also, it was indicated using the outsourcing strategy has led to increase the productivity in the ZAHEDAN municipality.

Keywords: *Outsourcing, Productivity, Municipality, Linear Structural Relations (LISEREL)*

INTRODUCTION

Under developing countries are facing the demand growth for public services and infrastructures. Local and central governments are under the pressure from various sources to provide wider range and better quality of social services and physical infrastructure in cities. At the same time, the governments also are forced to address these needs despite of the insufficient income (limited resources) and their high level of debts. Heavy loading on ministry houses often will lead to ineffective services and infrastructures and many of big governments investing companies which are highly active in city services are in lose instead of earning income. These problems is forcing the governments to re-evaluate the potential facilities of private sector to act a more active role in financial secure and to provide the public services (such as transportation) and physical infrastructures (just like: roads, water, sewage networks, utilities and waste removal). Most of the evidence indicates that in a good condition, non-government organizations (NGOs) and private investors can (and previously could) play an important role in expansion and improvement of services and urban infrastructures (Randinili and Kasarda, 2000). Due to concentration of services and maximum capacity of economic and social interactions, municipalities in today's cities which are the expression points of new form of life can take advantage of capabilities and lot of benefits in the field of serving to the citizens by establishing and developing the outsourcing mechanism (NejadJavadipour, 2009). The productivity issue of government organizations and its improvement is counted always as a main challenge for researchers of government management and executive managers and they were trying to find the solutions to improve the indicators of productivity in an organization (Hasani and Zahedi, 2012). For any reason, outsourcing must finally increase the competition power or productivity. Outsourcing creates advantage for those organizations which need stability in the market and survival (Pour, 2011).

Problem Expression

With penetrative look to the surrounding world, this fact will be revealed that today's world is very different from the past. In such an atmosphere, this fundamental question arises: what is the secret of survival and success in today's competitive world? (Hajipour and Momeni, 2009). Turbulent and dynamic

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environment of today's business world, more than ever, has tighten the chances for the organizations which are active in different fields of commercial and services. In such a situation, to get rid of conditions and move to a new direction promising new horizons of profits and survival to organizations are wish and system thinking in many of them. In this way, upon the conditions and specific requirements ruling upon the institution or organization to reach to desired and suitable productivity, they use specific programs and strategies. And outsourcing is one of these strategies. outsourcing obtains the sources which an organization suffers of their lack (Madhoushi and KouhkanMoakhar, 2012), increases in urban population and surpasses its share from the rural population generally in big cities and particular in ZAHEDAN due to unbridle space and lack of a program and partly it is rooted in migration of villagers, development of the public services, city management, faced a problem (Varesi *et al.*, 2008). Considering to the 700-thousand population of ZAHEDAN which all of them need to use public services of the municipality, some factors such as low annual budget and lack of management, planning and correct supervision in some of the cases have led to decrease of accountability of municipality to the needed services of citizens. for example, in the correction and improvement of road asphalt pavements in city roads, municipality is able to meet the 10% of the needs and according to dry and hot climate of the region, one of the main needs of city residents is to create the green spaces, and on the basis of standards of supreme council of planning and architecture, this capitation is 8 square meter in hectare for every person. However, in ZAHEDAN, the capitation is 4 square meter in hectare (that means 50 percent of the public need) at present. Also, just 60 percent of cleaning operations of the city is mechanized in the garbage collection section (The above information has been obtained during conversations and interviews with one of the deputy mayor of Zahedan).

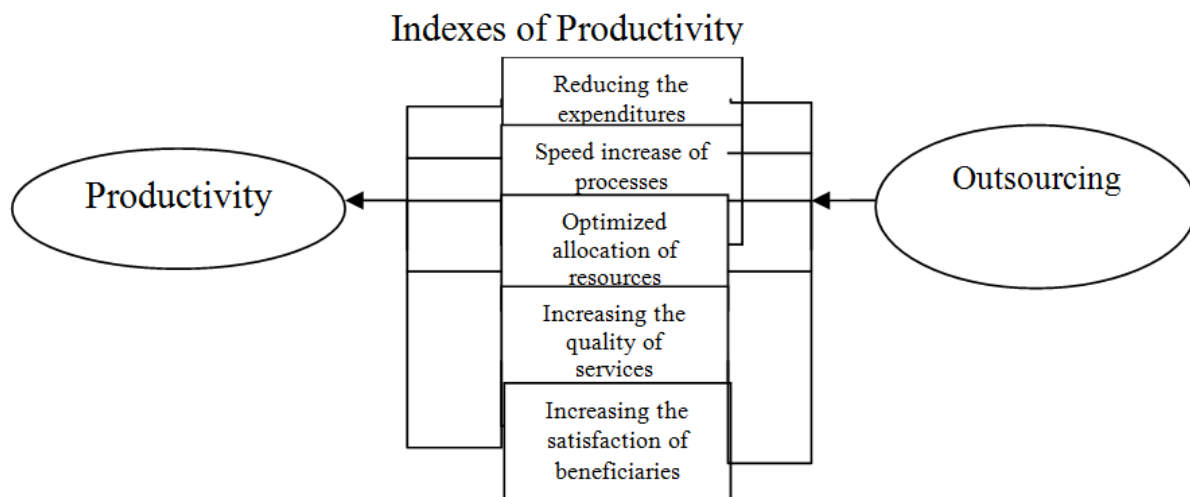


Figure 1: Conceptual model of research

Municipality, as a major center of management and delivery of municipal services can use the abilities and lot of advantages in the field of serving to the citizens by establishing and developing the mechanism of outsourcing (NejadJavadipour, 2009). Due to increasing speed and capacity of infrastructures and utilities and insufficient sources to meet the needs, we decided to verify the effect of service outsourcing on organization productivity of ZAHEDAN municipality.

Theoretical Framework of Research

According to the selected quintet criteria for productivity, research hypothesis are as follow:

- 1-There is a significant relationship between outsourcing strategy of services in municipality of ZAHEDAN with productivity of the said organization.
- 2-There is a significant relationship between outsourcing strategy of services in municipality of ZAHEDAN with decreasing the expenditure in the said organization.

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3-There is a significant relationship between outsourcing strategy of services in municipality of ZAHEDAN with speed increase of processes, in the said organization.

4-There is a significant relationship between outsourcing strategy of services in municipality of ZAHEDAN, with optimized allocation of resources, in the said organization.

5-between outsourcing strategy of services in municipality of ZAHEDAN with increase in quality of services, in the said organization, there is a significant relationship.

6-There is a significant relationship between outsourcing strategy of services in municipality of ZAHEDAN, with increase in satisfaction of beneficiaries, in the said organization.

These hypotheses form the conceptual framework of the research and are shown in the diagram (figure 1):

Review on Theoretical Literature of Research

Outsourcing

The word of outsourcing is rooted in Anglo-Saxon language and is the contraction of words: OUTSIDE, RESOURCE, USING (Weimer & Suring, 2009). This word at the end of 1980 decade about contract of sub systems management information was created and used, but in later years, different departments such as administrative services, human source activities, telecommunication, customer service, logistic and even security became outsourcing (Pour, 2011).

Productivity

Beginning to use the word of productivity in economic culture goes back to two centuries ago. In many parts of the world, especially in industrial countries, productivity was assumed as a way of thought and culture that is, improvement and advance of what exist. Productivity was introduced for the first time by QUESENAY in 1776 and, Mr. LITTER expressed the productivity as power and ability of producing in 1883. In 1900, ERLY defined the productivity as the relationship of used tool output to produce this output. Productivity is a concept to show the output ratio to input of an individual, unit and organization. To define the productivity, we have to become familiar with two concepts efficiency and effectiveness. Efficiency is the ratio of taken to given which is equal to optimized use of resources. Effectiveness means realization of organization goal. Productivity is the combination of efficiency and effectiveness. In simple words, productivity is correct performance of correct works (Kargar and Farajpour, 2009).

The Relationship between Outsourcing and Productivity

Organizations need to outsource some of their processes for accessing to productivity. Productivity includes two main parts, efficiency and effectiveness. Efficiency section is related to determination of needs and demands of customers and effectiveness section is consisted of using resources. Examining each of these two elements determines the rate of organization productivity. On the other point of view, effectiveness focuses on outside of the organization and efficiency on inside of the organization. To verify the efficiency, the organization pays attention to inside operations and how to use the sources, to realize that every service needs how many units of currency and on the basis of the standards, to what extent the expenditure will be justifiable. For verifying the effectiveness, organization looks outside to realize what effects the services had on society and customers. Outsourcing of organizations sometimes will be formed with an aim to get more efficiency and sometimes to get the effectiveness. Of course, outsourcing of some activities is because, their management, spend lot of time to their own works. In this case, Outsourcing will allow the managers to pay attention to more important works without intellectual concerns for the sake of organization's goal, and this matter will effect directly on productivity increase (Mokhtari, 2013).

Background

Mahmoudi *et al.*, (2010), verified the effect of using the outsourcing strategy on productivity of banking industry and in their research model, realized that there is no significant relationship between outsourcing and productivity (Mahmoudi *et al.*, 2010).

MORADI in his thesis entitled "Verifying the Effect of Value Chain Outsourcing on Productivity in IRAN KHODRO KHORASAN Company" estimated the effect of outsourcing on productivity and states aspect of learning and growth accepted the most influence of outsourcing implementation (Moradi, 2010). Results obtained from research of Hoseini and Rahimi (2011) showed that outsourcing causes the speed in doing the work, better control of activities, increase in service quality, using the technical skill,

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releasing the capital, decreasing the human force and saving time of administrators at university (Hoseini and Rahimi, 2011).

Mahmoudi (2012), in his thesis, evaluates the effects of outsourcing of services on productivity in South Pars region and examines the productivity using the following six dimensions: strategic management, human resources, expenditure, speed in providing the services, quality of providing the services and satisfaction of customers and then he concludes that productivity after outsourcing of services in dimensions of strategic management and human resources has desirable condition and in other dimensions is not satisfactory (Mahmoudi, 2012).

In a study by Dean (2003) in the University of ILLINOIS in America, he explains the effects of using the outsourcing strategy on productivity and performance of organizations. Results indicated that outsourcing permits companies to increase their skills, enhance their quality of services, reduce the number of their employees, simplify their processes, lower overall costs and reduce administrative overhead costs and save time. Outsourcing is beneficial in the sense of performance (Elmuti, 2003).

Lau & Zhang (2006) verified outsourcing in china and its specific effects on productivity standards and presented the defects and mistakes of outsourcing in china, and then stated these effects, briefly. Their research shows that environmental factors such as development of information technology and ability of suppliers can influence on outsourcing decisions of organizations in china (Lau and Zhang, 2006).

In their own article which is a long-term study about German banking, Fritsch & Wullenweber (2006) obtained the interesting and significant results about the effects of using the outsourcing strategy on productivity. They realized that financial performance of outsourcing regarding profitability and cost efficiency, dramatically in comparison with counterparts who were have been increased without outsourcing in the same period of time.

Phillip (2013) studied the effective factors of outsourcing in union of credit cooperatives in KENYA. He selected the factors of strategic planning, services quality and production expenditure for his own research and obtained the following results:

The strategic planning has a great impact on outsourcing, the act of outsourcing. However, common expectation don not improve the services quality in the under research cooperatives and it was the cause for increasing the expenditure of production (Mollo, 2013).

MATERIALS AND METHODS

Methodology

Statistical Sample

Statistical population is consisted of 134 authorities and experts of ZAHEDAN municipality. Of 134, 100 samples were selected randomly.

Validity

Validity in this research is of two kinds: content validity and structure validity. Content validity ensures for possessing the desired tools sufficiently for the suitable questions to measure the under study concept (Yaghoubi *et al.*, 2011). To determine the content validity, the questionnaire was handed over to 7 related experts and specialists and after verifying and applying the necessary adjustments was proven.

To evaluate the structural validity and the factor structure of research variables, the factor analysis of exploratory type was used. Loading factor, more than 0.5 (algebraic symbol is not the criterion) was considered as high loads factor and acceptable and adequate for sampling. According to the obtained factor loadings (Table 1), it is observed that sampling has the necessary adequacy, and as a result, has acceptable structural validity.

Reliability

Reliability is one of the technical characteristics of measuring instruments. It means that measuring devices in the same condition, up to what extent, will give the same results (Yaghoubi *et al.*, 1391). One of the several methods to determine the reliability is measuring the internal consistency which will be measured with CRONBACH ALPHA COEFFICIENT (Madhoushi and Kouhkan Moakhar, 2012). It is noteworthy that alpha coefficient less than 60 percent is usually weak, 70 percent range is acceptable and

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more than 80 percent range is considered to be good. The more a coefficient is closer to 1, the test has more reliability (Yaghoubi *et al.*, 2012). According to the data presented in Table 1, the amount of CRONBACH alpha indicates the desirability of data collection tool (questionnaire) for this research.

Table 1: Results of exploratory factor analysis and CRONBACH's alpha coefficient

Component	Loading factor	CRONBACH's alpha
Reducing the costs	0.83	0.934
Speed up processes	0.87	0.912
Optimized resource allocation	0.86	0.809
Improving services	0.90	0.986
Increasing the satisfaction of beneficiaries	0.89	0.918
Outsourcing questionnaire	-	0.924

Statistical Methods

The statistical method used in this study is structural equations modeling and in the frame of LISREL software. How and intensity of same time relationship in available variables will be analyzed. mode of structural equations, SEM, is a very strong multi-variables analyze from the family of multi-variables regression and to say more exact is general linear model (GEM), which will allow to the researcher to examine a collection of regression equations simultaneously. We can analyze the model of structural equations by two techniques:

* Structural analyze of covariance or linear structural relations (LISREL)

* Partial least squares (PLS)

LISREL technique is the combination of two analysis: confirmatory factor analysis (CFA) (measurement model) and path analysis-generalized regression analysis (structural model). Measurement model means studying the relationship between observed variables (questionnaire items) and hidden variables by identifying the hidden variables structures (extracted factors). In other words, this model indicates that the hidden variables are related to the visible observed variables will be measured by them and to what extent each indicator will guarantee the concept of hidden variable dimension. Structural model is the casual relationship among hidden variables. In other words, the purpose of this model is discovering the direct effects and indirect effects of exogenous hidden variables on endogenous hidden variables. General form of structural model and measurement model in LISREL technique is in the relation 1:

$$\eta = B\eta + \Gamma\xi + \zeta$$

$$E(\zeta) = 0, \text{COV}(\zeta) = \Psi$$

$$Y = A_y \eta + \varepsilon$$

$$X = A_x \xi + \delta$$

$$E(\varepsilon) = 0, \text{COV}(\varepsilon) = \theta_\varepsilon$$

$$E(\delta) = 0, \text{COV}(\delta) = \theta_\delta \quad (1)$$

Modeling of this technique will be done during five stages including codification of model, identification of model, fitness evaluation model, and modification of model. The aim to estimate the model is converge of sample covariance matrix(S) with society covariance matrix ($\Sigma(\theta)$), minimizing the waste matrix that means, the difference between (S) and ($\Sigma(\theta)$). Given that error terms and hidden variables are distributed as normal questionnaire, finding the previous estimation of maximum likelihood of free parameters in the model is equal to minimize the equation of relationship 2.

$$F_{ML}[S, \Sigma(\theta)] = \log |\Sigma(\theta)| + \text{tr}(S\Sigma^{-1}(\theta)) - \log |S| - (p + q) \quad 2$$

(tr) is the total elements of the main diagram matrix. $W = \Sigma^{-1}$, p and q are observed variables number of endogenous and exogenous hidden variable, respectively. In other words, the total number of observed variables is p + q.

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Evaluating the fitness by comparing the estimated covariance for the society (on the basis of model) and sample covariance matrix (on the basis of observed data) will be obtained ($S - \Sigma(\theta)$).

The most important indicators of fitness of structural linear relationship which will explain the variance are: goodness of fit index (GFI), adjusted goodness of fit index (AGFI), which is adjusted freedom degrees, root mean square error of approximation (RMSEA) and indicator of fitness (NFI), (which is called also as BENTLER-BONET).

There is no significant test question for indicators of GFI and AGFI and NFI, which is variable between zero (poor fit) and one (perfect fit). As much as these indexes are close to one, points to better model fitness from data.

Regarding the RMSEA index, index small amounts shows good fitness of the model, in such a way, this index is equal or is less than 0/05 for good models. (From 0/05 to 1, also will be assumed approximately good. modifying the model, also tries to improve and makes the model the better. It is essential to note that, there is no test to tell us which key variables we forgot. Care must be taken that it be done according to the theory (Mahmoudi *et al.*, 2010).

Estimation of the Model

To estimate the measurement model, we will focus on the confirmatory factor analysis which is part of measurement model.

Factor analysis is a theory which will be counted as observed correlations. On the view of algebra, confirmatory factor analysis is very complicated and, the LISREL software was used for every calculated question. In confirmatory factor analysis, a model will be built in which it will be assumed that experimental data will be estimated and described on the basis of few parameters. This model is based on previous information about structure of data.

A structure in the frame of a theory, hypothesis and or knowledge, was obtained from previous studies (as exploratory factor analyze). In fact, confirmatory factor analysis determines that whether data are coordinated with specific factor structure (mentioned in the theory) or not.

By solving the simultaneous structural equations, path coefficients and model fitness indicators were obtained. The results of the measurement model in confirming the exploratory factor analyze were mentioned in the below:

RMSEA output is equal to 0.088, which is smaller than 0.1, so we can say model has good fit with the real world. GFI is equal to 0.68 and NFI is equal to 0.9 and because these criteria should be bigger, equal to 0.9.

Therefore, regarding the NFI, the fitness is acceptable and regarding the GFI is approximately close to acceptable amount and totally, fitness indicators indicates that fitness is suitable for the model. In fact, made theory in part of exploratory factor analyze is confirmed.

Inferential Statistics of Research Theories

To analyze the theories, the LISREL software version 8, 80 was used. Relationship between outsourcing which is independent variable with dependent variables was examined and the obtained results are as follow:

RESULTS AND DISCUSSION

Findings

Below table shows the components and related indicators along with factor analyze and the amount of t after structural equations modeling. Assurance level is considered as % 95. The amount of t for example of more than 30 numbers in standard table is 1.96. In some cases when the t is more than 1.96, we can use from that index to measure the related components.

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Table 2: t-test amounts and correlation coefficient

Hypothesis	Components	Numbers	Correlation coefficient each component	Estimated of coefficient	Significant level. (The amount)	Result test t
First	Costs reduce	100	0.83	0.11	7.47	Confirm
Second	Speed increase of processes	100	0.87	0.11	7.82	Confirm
Third	Optimized resource allocation	100	0.86	0.14	6.15	Confirm
Fourth	Improving the quality of services	100	0.90	0.12	7.84	Confirm
Fifth	Satisfaction increase of beneficiaries	100	0.89	0.13	6.69	Confirm

Analysis of Sub-Hypothesis Results and Conclusion

According to results shown in Table 2 and regarding that all estimated coefficient are positive and also high level of signification ($1.96 \leq$) in 5 assumptions in case of statistics, all the above theories are accepted and confirmed and it is concluded that there is a positive and significant relationship between services outsourcing and all parts of productivity.

And also, high correlation coefficient [correlation coefficient is a mathematical coefficient which shows the intensity of relationship and also the type of relationship (direct or reverse)], shows very high and direct correlation between outsourcing with each part of productivity, it means, when one increases the other one increases too, and vice versa, so we can express their relation as an equation.

What we get out of these results is, because of confirming the test results with statistic t, outsourcing strategy, will lead to productivity of ZAHEDAN municipality organization.

In this article, we explained and observed the role of services outsourcing on productivity of ZAHEDAN municipality organization.

Outsourcing was interested as one of the organizations development tools and productivity promotion by managers and authorities of organizations in recent years. To do this research, employed experts in ZAHEDAN municipality were selected as statistical society.

And 5 factors verified as productivity factors. Obtained results show the positive effect of outsourcing on all parts of productivity.

Limitations related to place and time in management course cause the differences in findings of similar researches. Research results of Moradi (2010), Hoseini and Rahimi (2011), Dean (2003), and Fritsch & Wullenweber (2006), are in line with this research and survey of Mahmoudi (2010), rejects this result.

Suggestions

Executive Suggestions

Nothing that all the considered assumptions in this study were accepted, for better outsourcing process and performance in municipality organization, the following suggestions are offered:

*outsourcing and cost reduction:

Since the cost reduction is an incentive for doing the outsourcing, to do the work better, purchase policy, barter, contribution, transfer (complete outsourcing or contracting) and its execution of the trust, in exact and according to the cost management, should be specified. Separating the parts of organization into two groups cost center and profit center and assignment of those activities which are in the cost center to outside of the organization.

*outsourcing and speed increase of the processes:

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Creating the active city electronic services for doing some things, which is transferable to these offices, in a way there is no longer need to go to municipality offices and doing parallel works. For example, to get a permit for construction, automobile and building charges.....

*optimized resources allocation and outsourcing:

Since, distribution of public services in ZAHEDAN city is unbalanced approximately and this unbalancing can be observed in quintet areas and different people in various areas of ZAHEDAN city have different social needs, it is proposed to select the outsourcing services and its implementation methods, these tastes and need to be considered.

Equipping the head-quarters and provincial units of home ministry with attention to its legal responsibility on guidance and supervision on municipalities to guide and supervise the municipality in the field of outsourcing.

Development of the outsourcing newsrooms in each of the five regions to inform the mayor about the implementation process of outsourced activities.

Appreciating and encouraging the successful contractors by management and presenting the certificate for good performance and creating the moral and material motivation to strengthen the sense of responsibility, more accountability and eternal improvement of their performance.

Research Suggestions for Future Surveys

- 1- Evaluation and prioritization the outsourceable activities in ZAHEDAN municipality.
- 2- Determining the decision-making criteria and providing the suitable decision-making model for outsourcing in ZAHEDAN municipality.
- 3- Review of 20 year vision document of the country and its compliance with absorption stretch of outsourcing in municipality.
- 4- Pathology of outsourcing services and checking the cost of lost opportunities at the time of outsourcing in regions of municipality activities.

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REFERENCES

- Elmuti D (2003).** The perceived impact of outsourcing on organization performance. *American Journal of Business* **18**(2) 33-42.
- Hajipour B and Momeni M (2009).** Recognition of source-based approach to the study of resources and sustainable competitive advantage: saran company. *Leadership Thought* **1** 77–102.
- Hoseini Golafshani SA and Rahimi A (2011).** The effectiveness rate of outsourcing projects, Islamic Azad university as a cultural institution (case study: Islamic Azad University, Tehran south unit). *Cultural Management Journal* **11** 33-43.
- Hasani Kakhaki A and Zahedi SH (2012).** A model to clarify the role of partnerships in improving the productivity government staff section. *Government Management Magazine* **3** 69-90.
- Kargar Gh and Farajpour B (2009).** How to increase productivity in an organization. *The Police Human Development Magazine* **23** 45 – 78.
- Lau KH and Zhang J (2006).** Drivers and obstacles of outsourcing practices in china. *Journal of Physical Distribution & Logistics Management* **36**(10) 776–792.
- Madhoushi M and KouhkanMoakhar A (2012).** Explaining the strategy role of outsourcing on the productivity of the organization. *Executive Management Journal* **7** 99-124.
- Mahmoudi Meimand M, Rahmani Z and Basiratnia M (2010).** Examined the effect of outsourcing strategy on the productivity of the banking industry (case study of Eghtesad Novin bank branches in Mazandaran province). *Journal of Industrial Management*, College of Humanities, Islamic Azad University, Sanandaj Branch **13** 71-88.
- Mahmoudi Gh (2012).** Evaluation of the efficiency of outsourcing services on organization`s productivity (case study: south pars special economic energy zone "pars 1"), *thesis of master degree*, faculty of management and accounting, university of Sistan and Baluchestan, Iran.

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Mokhtari M (2013). Outsourcing. *Journal of Social Sciences* **65** 74-82.

Mollo Oduk Ph (2013). Factors influencing outsourcing at kenya union of savings and credit cooperatives. *International Journal of Business and Commerce* **3**(1) 83-99.

Moradi M (2010). Verifying the effect of outsourcing value chain on productivity (case study: Iran Khodro of Khorasan), *thesis of master degree*, faculty of management and accounting, university of Sistan and Baluchestan, Iran.

Pour Moalem N (2011). Outsourcing. In: *Engineering of Outsourcing in Transportation*, edited by PouriRahimi AK (Publisher of the Ministry of Transportation, Department of Education, Science and Technology) Tehran, Iran 8-9.

Randinili D and Kasarda J (2000). Privatization of services and city infrastructures in under development countries (assessment of practices), translated By Mohammad Pahread). *The Management of Urban* **3** 50- 69.

Varesi H, ZangiAbadi A and Yaghfour H (2008). A comparative study of municipal public services from the perspective of social justice, Zahedan case. *Geography and Development* **11** 139-156.

Yaghoubi N, Azar A and Hamrahi M (2012). Research methodology. In: *Research Methods in Management*, edited by Mazaheri M (Publisher of the Marandiz, Mashhad, Iran) 162,165,170.