

# The Investigation of Effectiveness of Human Resource Adjustment Plan on Human Resource Productivity in Construction Projects (Case Study: Abbas Abad Tehran Renovation Company (Tabiat Bridge))

Soheil Esgandarzadeh

Master of Science in Project and Construction Management, Department of Construction, Faculty of Architecture and Urban Planning, Shahid Beheshti University, Tehran, Iran

## Abstract

Human resource is the most important and valuable factor to provide services within the organizations. Hence, emphasizing human resource planning (HRP) process is required within every organization and one policy of organization in this field and its process is implementation of human resource adjustment plan. Hence, this study has been conducted with the aim of determining relationship between implementing human resource adjustment plan and human resource productivity in construction projects of Abbas Abad Tehran Renovation Company (Tabiat Bridge). In terms of purpose and objective, this study is an applied research and in other terms, it is a descriptive research and in terms of method, it is a cross-sectional survey study. Statistical population in this study consists of all employees of Abbas Abad Tehran Renovation Company (Tabiat Bridge) to 150 people and sample size is determined using random sampling method. Sample size in this study is obtained to 90 people using Cochran formula. Data collection instrument in this study is researcher-made questionnaire, validity of which is confirmed by experts and professors. To confirm reliability of questionnaire, the Cronbach's alpha is obtained to 0.89, which shows high reliability of desired questionnaire. Moreover, the questionnaire is tested by confirmatory factor analysis (CFA) using Lisrel software. In this study, obtained data are analyzed using Lisrel and SPSS software. Different components of human resource productivity in hypotheses are presented by Hersey and Goldsmith Model. Therefore, the results obtained from this study showed that human resource adjustment plan can affect human resource productivity and some of its dimensions in construction projects of Abbas Abad Tehran Renovation Company (Tabiat Bridge).

**Keywords:** human resource productivity, human resource adjustment plan, construction projects

## INTRODUCTION

One of the main goals of managers of every organization is optimal use of various resources and equipment such as manpower, capital, materials and information. It could be mentioned that in this mission,

optimal use of human resource (human resource productivity) is an underlying issue. However, this issue that how human resource can be productive or how productivity of human resource can be enhanced is a question, answer of which should be searched in different institutes and organizations due to their mission and needs of different employees.

Many scholars in field of management believe that human resources could be the main factor and foundation of productivity. At the today's competitive and changed world of the organizations, human resources can be the most important resources of an organization and as capitals of the organizations. Now, attitude to human resources is

Access this article online



www.ijss-sn.com

**Month of Submission :** 07-2017  
**Month of Peer Review :** 08-2017  
**Month of Acceptance :** 10-2017  
**Month of Publishing :** 11-2017

**Corresponding Author:** Soheil Esgandarzadeh, Master of Science in Project and Construction Management, Department of Construction, Faculty of Architecture and Urban Planning, Shahid Beheshti University, Tehran, Iran. E-mail: soheil.esgandarzadeh@gmail.com

same as investment and it is clear that this kind of attitude needs special mechanisms (Vahabi, 2011).

As all construction companies take benefit of two main resources including financial resource and human resources to achieve their goals, there is no doubt that human resource could be the most important and valuable factor helping organizations achieve their goals and desires using financial equipment and means (Mirkamali, 2009).

Human resource productivity is one of the most important factors playing role in advancement of every organization. Human resource of organizations could be the most important components and capitals of every organization. In terms of purposefulness of human resource development, human resource is the only eternal and endless resource, which is not only easily accessible, but also a phenomenon that can enhance capabilities regularly if it is managed properly. Hence, human resource development is an instrument to improve productivity of individuals in workplace. Human resource of a country, whether as decision maker or legislator in macro level or as managers and employees in micro level, could be the most important success factor of that country. Skilled and efficient human resource could be the most valuable wealth and capital of every organization and country (Shojaei et al, 2016).

At the current age, a few societies manage different affairs without human resource planning. Realization of goals of an organization needs comprehensive and perfect plan, in which all needs and supply resources are predicted as much as possible. Clearly, human resource planning (HRP) in each dimension plays key role in establishment of this structure and adequate use of human resources is especially considered, as any kind of economic advancement is depended on careful human resource planning at the organizational level (Hosseinian et al, 2011).

Among factors and resources needed for survival of an organization, human resource is the most important factor, since it is impossible to use other organizational factors and resources in absence of human resource. Hence, management must take knowledgeable measures and efforts in the affairs related to this main factor, especially adequate selection of skilled employees and creating favorable organizational space for working and paving the way for personal growth and effort of individuals (Zare, 2011).

Because of economic crises and necessity of organization for privatization, many organizations across the world have taken measure for outsourcing some tasks. Through outsourcing the activities, organizations won't need

employees doing those tasks anymore and hence, the organizations have to adjust the manpower (Farhanaki et al, 2013).

Human resource is the most important and valuable factor to provide services within organizations. Hence, considering human resource planning (HRP) process in every organization is required and one policy of organizations in this process is implementing human resource adjustment plan (Afjeh and Khanzadeh Asl, 2013).

While talking about human resource adjustment, it should be noted that this issue could be the most important elements and also the foundation and basis of every organization. However, in HRP process under special conditions, the organization takes measure for human resource adjustment and this can cause achievement of new skills, compensation of lost capabilities and creating adequate working capabilities due to new needs created for the organization (Mirkamali, 2009).

Accordingly the main target in every organization by implementing human resource adjustment plan is achievement of a kind of favorable status and improvement of productivity and enhancement of performance of employees and organizational costs and on the other hand, the main objective of adjustment is not declining human resources, but also is optimal use of existing forces (Farhanaki et al, 2013).

Hence, according to importance of human resource productivity, especially in construction projects and the effect of adjustment plan on this issue, this study has investigated the effect of human resource adjustment plan in construction projects on human resource productivity in Tehran Abbas Abad Renovation Company (Tabiat Bridge), so that the results obtained from the study could be a step towards increasing knowledge in field of productivity and helping better progress of construction companies.

## REVIEW OF LITERATURE

Zare (2011) in a study under the title of "prioritization of factors affecting enhancement of human resource productivity" is conducted in Regional Electricity Company of Yazd. In this study, it was found that organizational activities are under effect of some factors. Recognition and analysis of these factors can help improvement of activities and realization of organizational goals effectively. Various factors can affect enhancement of productivity and prioritizing these factors within every organization can be a fundamental step to enhance productivity. The study was aimed in analyzing this issue in Regional Electricity

Company of Yazd. According to the investigations and existing theories, 4 hypotheses were presented in the study: 1) social factors are prior to economic factors in terms of providing productivity; 2) social factors are prior to cultural factors in terms of providing productivity; 3) cultural factors are prior to physical factors in terms of providing productivity; 4) cultural factors are prior to economic factors in terms of providing productivity. The results also showed that 1) social factors are prior to economic and cultural factors in terms of creating productivity 2) cultural factors are prior to physical and economic factors in terms of creating productivity.

According to Sedghiani (2009) a series of organizational factors including training employees, compensation of services, organizational structure, organizational culture and participation of employees are effective in improvement of human resource productivity. In another work on identification and prioritization of factors affecting human resource productivity, managerial factors are identified as the most important factors and then, individual, cultural, social-mental and environmental factors were respectively in next positions (Tavari et al, 2008).

Salehi et al (2012) in a study under the title of “factors affecting enhancement of human resource productivity in Ahvaz Municipality”, factors affecting human resource productivity in Ahvaz Municipality are identified. The study was applied research in terms of purpose and in terms of data collection method; it was an exploratory study and has analyzed main components. Statistical population in the study consisted of employees of Ahvaz Municipality. Using stratified random sampling, 100 individuals were selected as sample and were analyzed after fulfilling the researcher-made questionnaires. Among the factors affecting productivity, 4 factors including in-organization management, supportive management, and education and employee ability were identified. Work experience, considering explanatory educations, awareness of employees of job knowledge and skill, job security, knowledge and acting based on rules, focus of management on weaknesses and deviation of employees, existence of a logical rewarding and punishment system, support o manager for employees, familiarity with job, appreciation and supporting individual performance, interest in workplace, emotional environment, providing feedback of performance, holding common sessions and participation of employees are identified as the main factors of increasing productivity.

Hosseini et al (2011) in a study examined the effect of human resource adjustment plan on employee performance in view of managers. In this field, the study has implemented the adjustment plan and modification

of structure due to sensitivity of NAJA Operational units such as police stations. In terms of purpose, this study was an applied research and in terms of method, it was descriptive study and was conducted in first half of 2007 in police stations of NAJA in Tehran. Data collection was done using researcher-made questionnaire containing 22 items with confirmed reliability and validity through census and data analysis is done using SPSS software and chi-squared test and t-test and the results are as follows: implementation of human resource adjustment plan can enhance individual capabilities and efficiency of employees and can also increase the supervision and leadership ability of managers.

Farhanaki et al (2013) conducted a study under the title of “analysis of human resource adjustment plan and its effect on employee performance (from viewpoint of managers of Iran National gas Co)”. This study was conducted using descriptive statistics and required data is provided using a questionnaire containing 25 items with confirmed accuracy. It could be found from the data analysis that a) human resource adjustment plan can't enhance individual capabilities of employees b) human resource adjustment plan has not enhanced job characteristics of employees c) human adjustment plan has enhanced supervision and leadership power of managers and d) human resource adjustment plan has not led to adequate organization and e) human resource adjustment plan has not led to improvement of working methods.

Afjeh and Khanzadeh Asl (2013) performed a study under the title of “analysis of human resource adjustment plan in Ministry of Economic Affairs and Finance and its effect on human resource productivity”, the author has analyzed human resource adjustment plan in the said organization. The method applied in this research has been descriptive survey method and the main objective has been analysis of the effect of human resource adjustment plan on employee productivity indicators. Statistical population in this study consisted of all official and contractual employees of Ministry of Economic Affairs and Finance and 300 people are selected as sample size. The results obtained from the study showed that implementation of human resource adjustment plan in Ministry of Economic Affairs and Finance can affect human resource productivity and the two variables are significantly correlated.

Zaudney (1999) has conducted a study on analyzing the relationship between human resource productivity and wage. Statistical population in the study consisted of 62 large companies of Industrial Sector of US during 1974-1994. The results obtained from the study showed that considering factors affecting enhancement of human resource motivation in financial dimensions (wage and

salary, rewarding, welfare and workplace safety) and nonfinancial dimensions (job and employee adjustment, job security, education and organizational culture) can be significantly effective in improvement of productivity. In this regard, organizational culture and encouraging employees could be considered as inseparable element of productivity improvement system. Any kind of negligence of these factors can leave heavy price on the organization and can lead to decreased productivity within an organization (Zaudney, 1999).

## METHODOLOGY

The present study is an applied research in terms of purpose and in other terms, it is a descriptive research and in terms of method, it is a survey research. Statistical population in this study consists of all employees of Tehran Abbas Abad Renovation Company (Tabiat Bridge) to 150 people and random sampling method is used in this study. Sample size in this study is obtained to 90 people using Cochran Formula. Data collection instrument in this study is researcher-made questionnaire, validity of which is confirmed by experts and professors. To confirm reliability of the questionnaire, Cronbach's alpha is obtained to 0.89 and this shows high reliability of the desired questionnaire. Moreover, the questionnaire was tested using Lisrel software and using confirmatory factor analysis (CFA). In this study, the data analysis is done using Lisrel and SPSS software.

### Conceptual Model of Research

The conceptual model of the research is provided according the components of human productivity presented by Hersey and Goldsmith, as well as the components of human resource adjustment such as dismissal, early retirement and redemption presented as follow Figure 1.

Early studies have suggested that productivity is a function of motivation and ability. In other word, employees should be somewhat interested in the work and skills they need to do it.

Hersey and Goldsmith have expanded these factors:

Ability: It is the knowledge and skills of individuals who contribute to successful work accomplishments.

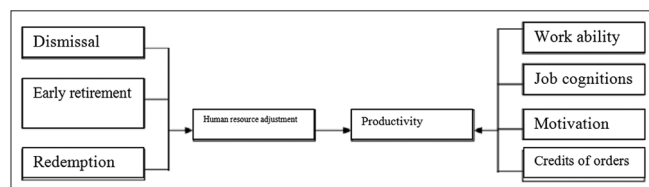


Figure 1: The proposed model of research (adapted from the Hersey and Goldsmith human resources productivity model, 1981)

Clarity: It refers to understanding and accepting how people work and how to do it.

Motivation: it refers to the motivation or incentive of individuals to work in an organizational goal.

Credibility: (credit of task and employees' rights). The suitability and legality of managerial decisions about human resources is defined and clarity and confidence in decisions made to individuals.

## RESULTS

### Descriptive Analysis of Research Data

The first test in research data is the calculation of the frequency and participant's percent in the test in terms of age, years of service, and education. These statistics are shown in the next sections.

#### Descriptive analysis of the respondents' age

The descriptive analysis of the respondents' age is shown in Table 1.

According to Table 1, respondents were 13% (14 people) less than 30 years old, 53% (42 people) aged 31 to 40 years old, 29% (25 people) 41 to 50 years old and 5% (9 people) were over 50 years old.

#### Descriptive analysis of the respondents' work experience

The descriptive analysis of respondents' work experience is shown in Table 2.

According to Table 2, respondents were 7% (10 people) with a work experience less than 10 years old, 11.5% (13 people) from 11 to 20 years old, 70% (54 people) from 21 to 25 years, 11.5% (13 people) are from 26 to 30 years old.

#### Descriptive analysis of respondents' education

The descriptive analysis of the respondents' education is shown in Table 3.

According to Table 3, 10% (12 people) of respondents had an associate degree, 57% (45 people) had a bachelors degree, 26% (23 people) had a MA degree, and 7% (10 people) had a Ph.D degree.

### Testing the research hypotheses

#### Main hypothesis

There is significant correlation between implementation of human resource adjustment plan in construction projects and human resource productivity in Abbas Abad Tehran Renovation Company.

H0: there is not a significant correlation between implementation of human resource adjustment plan in

construction projects and human resource productivity in Abbas Abad Tehran Renovation Company.  $P = 0$

H1: there is significant correlation between implementation of human resource adjustment plan in construction projects and human resource productivity in Abbas Abad Tehran Renovation Company.  $P \neq 0$

In Table 4, the significance level, the error value, the correlation coefficient, and the result obtained in term of the level of significance have been reported.

According to Table 4, since the significant coefficient is less than the error value of 0.05, H0 cannot be accepted with 95% confidence and the H1 is accepted. So, there is a significant relationship between the two variables. Therefore, the main hypothesis of the research is accepted.

#### *First secondary hypothesis*

There is significant correlation between implementation of human resource adjustment plan in construction projects and employee's work ability in Abbas Abad Tehran Renovation Company.

H0: There is not significant correlation between implementation of human resource adjustment plan in construction projects and employee's work ability in Abbas Abad Tehran Renovation Company.  $P=0$

H1: There is significant correlation between implementation of human resource adjustment plan in construction projects and employee's work ability in Abbas Abad Tehran Renovation Company.  $P \neq 0$

In Table 5, the significance level, the error value, the correlation coefficient, and the result obtained in term of the level of significance have been reported.

According to Table 5, since the significant coefficient is less than the error value of 0.05, H0 cannot be accepted with 95% confidence and the H1 is accepted. So, there is a significant relationship between the two variables. Therefore, the first secondary hypothesis is accepted.

So that there is significant correlation between implementation of human resource adjustment plan in construction projects and employee's work ability in Abbas Abad Tehran Renovation Company.

#### *Second secondary hypothesis*

There is significant correlation between implementation of human resource adjustment plan in construction projects and employee's job cognitions in Abbas Abad Tehran Renovation Company.

**Table 1: Descriptive analysis of respondents by age**

Age (year)	Frequency	Percent
Less than 30 years	14	13
30 to 40 years	42	53
41 to 50 years	25	29
From 51 years to up	9	5
Total	90	100

**Table 2: Descriptive analysis of respondents based on work experience**

Age (year)	Frequency	Percent
under 10 years old	10	7
11 to 20 years old	13	11.5
21 to 25 years old	54	70
26 to 30 years old	13	11.5
Total	90	100

**Table 3: Descriptive analysis of respondents in term of education**

Percent	Frequency	Age (year)
10	12	Associate Degree
57	45	Bachelor
26	23	MA
7	10	Ph.D.
100	90	Total

**Table 4: Pearson correlation coefficient for the main hypothesis**

Significance level	Error value	Result	Correlation coefficient
0.001	0.05	There is correlation	0.74

**Table 5: Pearson correlation coefficient for first secondary hypothesis**

Significance level	Error value	Result	Correlation coefficient
0.000	0.05	There is correlation	0.68

H0: There is not significant correlation between implementation of human resource adjustment plan in construction projects and employee's job cognitions in Abbas Abad Tehran Renovation Company.  $P=0$

H1: There is significant correlation between implementation of human resource adjustment plan in construction projects and employee's job cognitions in Abbas Abad Tehran Renovation Company.  $P \neq 0$

In Table 6, the significance level, the error value, the correlation coefficient, and the result obtained in term of the level of significance have been reported.

According to Table 6, since the significant coefficient is less than the error value of 0.05, H0 cannot be accepted with 95% confidence and the H1 is accepted. So, there is a significant relationship between the two variables. Therefore, the second secondary hypothesis is accepted. So that there is significant correlation between implementation of human resource adjustment plans in construction projects and employee's job cognitions in Abbas Abad Tehran Renovation Company.

### *Third secondary hypothesis*

There is significant correlation between implementation of human resource adjustment plan in construction projects and employee's motivation in Abbas Abad Tehran Renovation Company.

H0: There is not significant correlation between implementation of human resource adjustment plan in construction projects and employee's motivation in Abbas Abad Tehran Renovation Company.  $P=0$

H1: There is significant correlation between implementation of human resource adjustment plan in construction projects and employee's motivation in Abbas Abad Tehran Renovation Company.  $P\neq 0$

In Table 7, the significance level, the error value, the correlation coefficient, and the result obtained in term of the level of significance have been reported.

According to Table 7, since the significant coefficient is less than the error value of 0.05, H0 cannot be accepted with 95% confidence and the H1 is accepted. So, there is a significant relationship between the two variables. Therefore, the first secondary hypothesis is accepted.

So that there is significant correlation between implementation of human resource adjustment plans in construction projects and employee's motivation in Abbas Abad Tehran Renovation Company.

### *Fourth secondary hypothesis:*

There is significant correlation between implementation of human resource adjustment plan in construction projects and manager's credits of orders in Abbas Abad Tehran Renovation Company.

H0: There is not significant correlation between implementation of human resource adjustment plan in construction projects and manager's credits of orders in Abbas Abad Tehran Renovation Company.  $P=0$

H1: There is significant correlation between implementation of human resource adjustment plan in construction

projects and manager's credits of orders in Abbas Abad Tehran Renovation Company.  $P\neq 0$

In Table 8, the significance level, the error value, the correlation coefficient, and the result obtained in term of the level of significance have been reported.

According to Table 8, since the significant coefficient is less than the error value of 0.05, H0 cannot be accepted with 95% confidence and the H1 is accepted. So, there is a significant relationship between the two variables. Therefore, the first secondary hypothesis is accepted.

So that there is significant correlation between implementation of human resource adjustment plans in construction projects and manager's credits of orders in Abbas Abad Tehran Renovation Company.

## **The Results of the Testing Research Hypotheses**

In Table 9, a summary of five hypothesis tests is shown.

### *Friedman test for human resource productivity dimensions*

Using Friedman rank test, it could be found that what dimensions have the most effect on human resource productivity in the studied company. Obtained results are presented in Table 10 and 11. In first output, mean rank of dimensions and the significance rank are presented.

As it is observed, according to obtained results, employee incentives have possessed rank 1 and credit of manager orders have possessed the last rank in field of affecting human resource productivity.

**Table 6: Pearson correlation coefficient for second secondary hypothesis**

Significance level	Error value	Result	Correlation coefficient
0.000	0.05	There is correlation	0.43

**Table 7: Pearson correlation coefficient for third secondary hypothesis**

Significance level	Error value	Result	Correlation coefficient
0.000	0.05	There is correlation	0.52

**Table 8: Pearson correlation coefficient for fourth secondary hypothesis**

Significance level	Error value	Result	Correlation coefficient
0.001	0.05	There is correlation	0.71

**Table 9: results of testing hypotheses**

Hypotheses	Significance level	Result	Correlation coefficient
Main hypothesis	0.001	There is correlation	0.74
First secondary hypothesis	0.000	There is correlation	0.68
Second secondary hypothesis	0.000	There is correlation	0.43
Third secondary hypothesis	0.000	There is correlation	0.52
Fourth secondary hypothesis	0.001	There is correlation	0.71

**Table 10: Friedman test to compare dimensions of human resource productivity**

Dimensions	Mean rank	Rank
Work ability	3.54	2
Job cognitions	3.39	3
Employee's motivation	4.23	1
Manager's credits of orders	3.29	4

**Table 11: Friedman test to compare dimensions of human resource adjustment**

Dimensions	Mean rank	Rank
Dismissal	5.17	1
Early retirement	4.11	3
Redemption	4.52	2

#### *Friedman test for human resource adjustment dimensions*

Using Friedman rank test, it could be found that what dimensions have the most effect on human resource adjustment in the studied company. Obtained results are presented in Table 11. In first output, mean rank of dimensions and the significance rank are presented.

Clearly, according to obtained results, dismissal has possessed rank 1 and early retirement has possessed last rank of significance in terms of affecting human resource adjustment.

## **DISCUSSION AND CONCLUSION**

### **Results obtained from testing main hypothesis**

**Main hypothesis:** there is significant correlation between implementation of human resource adjustment plan in construction projects and human resource productivity in Abbas Abad Tehran Renovation Company (Tabiat Bridge).

According to the mentioned, H1 claims that implementation of human resource adjustment plan can affect productivity of employees in Abbas Abad Tehran Renovation Company (Tabiat Bridge). According to the results obtained from Pearson correlation test, the correlation between two variables of human resource adjustment and human resource productivity is equal to 0.74 and sig level lower

than 0.001 (lower than 0.005) shows confirmation of H1. It means that there is direct, positive significant correlation between the two variables. It means that increase in human resource adjustment can enhance productivity of employees in Abbas Abad Tehran Renovation Company (Tabiat Bridge). This result is in consistence with findings of Afjeh and Khanzadeh (2013), Farahnaki et al (2013), Hosseinian et al (2011) and Venderberg (1992).

According to the result obtained from testing main hypothesis, it could be found that manpower adjustment and narrowing down taking in construction and project companies such as Abbas Abad Tehran Renovation Company (Tabiat Bridge) with 3 dimensions of dismissal, early retirement and redemption can enhance human resource productivity.

### **Results Obtained from Testing First Secondary Hypothesis**

Hypothesis 1: there is significant correlation between implementation of human resource adjustment in construction projects and working ability in employees of Abbas Abad Tehran Renovation Company (Tabiat Bridge).

According to the mentioned, H1 claims that implementation of human resource adjustment can affect working ability in employees of Abbas Abad Tehran Renovation Company (Tabiat Bridge). According to the result obtained from Pearson correlation test, the correlation between two variables of human resource adjustment and working ability is equal to 0.68 and sig level of 0.000 (lower than 0.005) is a reason on confirmation of H1. It means that there is direct, positive and significant correlation between the two variables. It also means that increase in human resource adjustment can enhance working ability of employees in Abbas Abad Tehran Renovation Company (Tabiat Bridge). This result is in consistence with findings of Afjeh and Khanzadeh (2013), Farahnaki et al (2013), Hosseinian et al (2011) and Venderberg (1992).

Hersey and Goldsmith have mentioned that working ability is one of the dimensions affecting human resource productivity. Therefore, human resource adjustment can change human resource productivity level through affecting this factor. The result obtained from second-degree confirmatory factor analysis also showed significant

correlation between working ability of employees and human resource productivity, so that increase in working ability of employees can enhance productivity level.

**Results obtained from testing second secondary hypothesis**

**Second secondary hypothesis:** There is significant correlation between implementation of human resource adjustment plan in construction projects and employee's job cognitions in Abbas Abad Tehran Renovation Company.

According to the mentioned, H1 claims that implementation of human resource adjustment plan can affect job cognitions of employees in Abbas Abad Tehran Renovation Company. According to the results obtained from Pearson correlation test, the correlation between two variables of human resource adjustment and job cognitions is equal to 0.43 and sig level 0.000 (lower than 0.005) shows confirmation of H1. It means that there is direct, positive significant correlation between the two variables. It means that increase in human resource adjustment can enhance job cognitions of employees in Abbas Abad Tehran Renovation Company (Tabiat Bridge). This result is in consistence with findings of Afjeh and Khanzadeh (2013), Farahnaki et al (2013), Hosseinian et al (2011) and Venderberg (1992).

Hersey and Goldsmith have mentioned that job cognitions is one of the dimensions affecting human resource productivity. Therefore, human resource adjustment can change human resource productivity level through affecting this factor. The result obtained from second-degree confirmatory factor analysis also showed significant correlation between job cognitions of employees and human resource productivity, so that increase in job cognitions of employees can enhance productivity level.

**Results obtained from testing third secondary hypothesis:**

**Third secondary hypothesis:** There is significant correlation between implementation of human resource adjustment plan in construction projects and employee's motivation in Abbas Abad Tehran Renovation Company.

According to the mentioned, H1 claims that implementation of human resource adjustment plan can affect motivation of employees in Abbas Abad Tehran Renovation Company.

According to the results obtained from Pearson correlation test, the correlation between two variables of human resource adjustment and motivation of employee is equal to 0.52 and sig level 0.000 (lower than 0.005) shows confirmation of H1. It means that there is direct, positive significant correlation between the two variables.

It means that increase in human resource adjustment can enhance motivation of employees in Abbas Abad Tehran Renovation Company. This result is in consistence with findings of Afjeh and Khanzadeh (2013), Farahnaki et al (2013), Hosseinian et al (2011) and Venderberg (1992).

Hersey and Goldsmith have mentioned that motivation of employee is one of the dimensions affecting human resource productivity. Therefore, human resource adjustment can change human resource productivity level through affecting this factor. The result obtained also showed significant correlation between motivation of employees and human resource productivity, so that increase in motivation of employees can enhance productivity level.

**Results obtained from testing fourth secondary hypothesis**

**Fourth secondary hypothesis:** There is significant correlation between implementation of human resource adjustment plan in construction projects and manager's credits of orders in Abbas Abad Tehran Renovation Company.

According to the mentioned, H1 claims that implementation of human resource adjustment plan can affect manager's credits of orders in Abbas Abad Tehran Renovation Company. According to the results obtained from Pearson correlation test, the correlation between two variables of human resource adjustment and manager's credits of orders is equal to 0.71 and sig level 0.000 (lower than 0.005) shows confirmation of H1. It means that there is direct, positive significant correlation between the two variables. It means that increase in human resource adjustment can enhance manager's credits of orders in Abbas Abad Tehran Renovation Company. This result is in consistence with findings of Afjeh and Khanzadeh (2013) and Farahnaki et al (2013).

Hersey and Goldsmith have mentioned that manager's credits of orders are one of the dimensions affecting human resource productivity. Therefore, human resource adjustment can change human resource productivity level through affecting this factor. The result obtained from second-degree confirmatory factor analysis also showed significant correlation between manager's credits of orders and human resource productivity, so that increase in manager's credits of orders of employees can enhance productivity level.

## CONCLUSION

Various factors affect the human resources productivity. The researcher in this study has selected among these



effective factors on productivity based on the Hersey and Goldsmith model (work ability, job recognition, motivation, and managers' credit of orders). The human resource adjustment plan is implemented in Abbas Abad Tehran Renovation Company by three methods of dismissal, early retirement and redemption. After investigating and confirming the main hypothesis, the researcher seeks to find the answer to this question. According to the results of the research and confirmation of the implementation of the human resource adjustment plan and employee productivity have a direct relationship with each other, so which one of the indicators affecting employee productivity has been more influential than the human resource adjustment variable. By performing the certain tests it concluded that implementation of the human resources adjustment plan has the most effect on the employee's motivation factor and it increases it and factors of work ability, job recognition, and manager's credit of orders are in the next rank. The last rank also belongs to the manager's credit of orders. That is, employees are trying to do their job properly with a better understanding of the occupied business and thus the possibility of compulsory human resources adjustment plan, reduced. With this explanation, the factors affecting the productivity of employees from the human resource adjustment variable are ranked as follows:

Employee's motivation, employees' work ability, job recognition and manager's credit of orders

Also, the results of the research reveals that dismissal of service as one of the methods of implementation of human resource adjustment plan which has the most effect on increasing the productivity of employees. The reason for this is that the method of dismissal compared to other methods of implementation of the project, has the greatest sense of job insecurity in the employees and for this reason, employees are trying to increase their productivity so that they do not force compulsory retirement.

The method of redemption is the second most effective method for employee productivity among the methods for implementing the human resource adjustment plan. The early retirement method is ranked third. Considering how each of these methods is implemented, it seems that methods that more than other methods create a sense of job security in the employee, their productivity are more effective. As stated above, the method of dismissal and subsequent redemption further imply such a feeling. In the case of early retirement due to volunteering, it also creates a lower level of sensitivity in the staff.

#### **Practical suggestions and recommendations**

- According to the findings, employee motivation has the greatest impact among the factors affecting the organizational productivity. Considering this factor, the management of the Abbas Abad Tehran Renovation Company (Tabiat Bridge) can play a significant role in the organizational productivity of the organization.
- Since according to the findings of this research, dismissal was recognized as the most effective method of implementing a human resource adjustment plan on employee productivity, however, since this method is the most rigorous way to implement this project, it is suggested that other methods, which are in the next ranks, used to human resource adjustment.
- If the necessity of the dismissal, in order to achieve the objectives of the human resources adjustment plan, the company may consider measures to some extent be made to implement the method. For example, surplus human resource in one part of an organization can be equipped with appropriate training, ready to serve in other parts of the organization that are facing a shortage of force.
- According to the role of moderating variables in the relationships between factors affecting human resource productivity and its relationship with staffing modalities that have been studied in this study can be considered in future research.
- This study can be done in other statistical societies and, given the demographic, social, cultural and demographic characteristics of that section of society, achieved different results.

#### **Research Restrictions**

In carrying out this research, the researcher faced with some restrictions, some of which were inevitable due to the nature of this kind of scientific research in the human domain.

- According to the fact that this research has been conducted in a small section of a large statistical society, it is not readily possible to generalize its results to similar sectors and devices and should be cautious.
- Mainly, due to numerous researches in organizations and distribution of questionnaires with many questions, the questionnaire has not been carefully thought out and affected by the results.
- Lack of time and lack of cooperation some managers and staff faces the problem of assigning part of their work time to complete the research questionnaire.
- Unavailability of enough information on the subject of research and the lack of full cooperation of the selected unit with the purpose of providing information;
- The students' lack of trust and belief in the scientific results of the research and the result of the research will not help to improve the situation;
- Some respondents are indifferent in completing the questionnaire, including the desire to select a mid-state and non-return some of the questionnaires are other constraints mentioned in this research.

## REFERENCES

1. Afjeh and, Seyed Ali Akbar and Khanzadeh Asl, Leila (2013), Investigating Human Resource Adjustment Plan at the Ministry of Economic Affairs and Finance and its Impact on Human Resource Productivity, "The Mission of Government Management (Public Administration), Volume 2, Issue 1, Pages 51-29.
2. Hosseinian, Shahamat; Majidi; Abdollah; Ameri; Mohammad Ali (2011); Impact of Human Resource Adjustment Plan on Employees 'Performance from the Managers' Perspectives. Quarterly Journal of Police Management Research, Vol. 2, No. 3, pp. 293-311.
3. Zare. Maryam (2011), Prioritizing factors affecting the increase of manpower productivity in Yazd Regional Electric Company, Thesis (MA) - Islamic Azad University of Kerman Branch.
4. Farhanaki, Ehsan, Ghezel IYagh, Mohammad; Karnma, Assadullah (2013), Investigating Human Resource Planning and its Impact on Employees' Performance (According to the managers of the National Iranian Gas Company, Master's Thesis, Islamic Azad University, Kerman Branch.
5. Vahabi A, 2011, Investigating the Factors Affecting Job Motivation among Employees of the Gas Company of Kermanshah Province, by Grade and Occupation Levels in 2011, Master's Thesis, Faculty of Psychology and Educational Sciences, Allameh Tababaabi University
6. Shojaei, Seyed Saeed, Jamali, Gholam Reza, Manteghi, Nikzad. (2016). Identifying Factors Affecting Human Resource Efficiency. Human Resource Management Research, 8 (2), 161-181
7. Tavari, Mojtaba, Mohammad Ali Sokhikian and Seyyd Ali Mirnejad. (2008). Identification and Prioritization of Factors Affecting Human Productivity Using MADM Techniques (Case Study: One of the Jane Clothing Manufacturing Companies in Yazd Province). Journal of Industrial Management, Volume 1, Issue 1, pp. 71-88.
8. Sedghiani, Jamshid Salehi, Yousef Mohammadi Moghadam and Ashab Habibzadeh (2009). Investigating the Organizational Factors Affecting the Productivity of Human Resources of Police Commanders in Lorestan Province. Journal of Social Psychology, Vol. 1, No. 1, pp. 93-110.
9. Salehi Seyed Rasoul, Hosseinpour Mohammad, Barekat Gholam Hossein (2012). Factors Affecting Productivity Productivity in Ahvaz Municipality. Urban Management Studies: Winter 2012, Volume 4, Number 12; pp. 87-95.
10. Zavodny, Madeline. 1999. "Unions and the Wage-Productivity Gap." Federal Reserve Bank of Atlanta Economic Review, Second Quarter, pp. 44-53

**How to cite this article:** Esgandarzadeh S. The Investigation of Effectiveness of Human Resource Adjustment Plan on Human Resource Productivity in Construction Projects (Case Study: Abbas Abad Tehran Renovation Company (Tabiat Bridge)). Int J Sci Stud 2017;5(8):402-411.

**Source of Support:** Nil, **Conflict of Interest:** None declared.