



# The effect of management factors and job satisfaction on human resources efficiency: A case study of paramedical employees of public hospitals in Ardabil

Nahideh Ghahremani Germi<sup>1</sup>, Maryam Ghahremani Germi<sup>2\*</sup>, Elshan Delghavi<sup>3</sup>

<sup>1</sup> MA of Executive Management, Science and Research Branch, Islamic Azad University, East Azarbaijan, Iran

<sup>2</sup> MA of Executive Management, Science and Research Branch, Islamic Azad University, Ardabil, Iran

<sup>3</sup>MA of Executive Management, Germe Branch, Islamic Azad University, Ardabil, Iran

## ABSTRACT

### Keywords:

Management, Job Satisfaction, Efficiency, Human Resources

### Correspondence:

ghahramani\_m1364@yahoo.com

The present study aimed to investigate the effect of management factors and job satisfaction on human resources efficiency. This study was carried out through a survey method using questionnaires as the main instrument. The questionnaires of the study included both job satisfaction and efficiency questionnaire. The population of the study consisted of 2000 paramedical staff of hospitals affiliated to medical sciences of Ardabil. Cochran's formula was used to determine the sample size. According to this formula, the number of sample was equal to 322. Pearson's correlation coefficient was used to test the hypotheses. The results showed that management factors had a significant positive correlation with human resources efficiency.

©AIMI Journals

## Introduction

In the era of scientific management, particular attention was paid to methods and tools and man was marginalized. With the development of human relations movement, job satisfaction, job enrichment, democratic leadership, and empowerment of people were proposed. Nowadays, due to the presence of humans in organizations, a great deal of attention has been

focused on human resources theories. Following this, we witness the importance of employees' morality, creation of energy, sense of responsibility, belief in goals, and structural participation of people. Since organizations constitute the undeniable aspect of modern world, their management and leading is based on the physical and mental efforts of human resources. Human resources is one of the most valuable resources for the attainment of the objectives of each system and organization and it is considered as one of the most important asset of any organization. If this asset possesses outstanding quality, the organization is more likely to succeed, survive, and promote (Tazhibi, 2010). Scientists in the field of Management believe that if the actual needs of workers and scientists are not well understood and properly valued and if managers do not intent to satisfy them, organizational efficiency will reduce. According to the economic calculations, the human resources efficiency is not always predictable; so, other factors arising from the superior human needs in the social dimensions, respect, and self-discovery are also involved.

According to Adams (1963) an individual continues his membership and functioning in an organization if he/she has a perception of balance and equality between the input and results of the organization compared with others. Inequality and discrimination will change the perception and behaviors of an individual and they will be continued to achieve a balance. The outcomes of positive outlook on man in organizations let people to participate in decision-making process, encourage communication for improvement, pay attention to employees' comments and suggestions, give opportunities to individuals for taking greater responsibilities, focus on manager's commitment to its employees' self-actualization, and career development. In this case, a great attention is given to Maslow's hierarchy of needs, namely physiological needs, safety, belonging, respect, self-actualization, and self-transcendence (Maslow, 1970).

Positive outlook lead successful leaders to focus their powers on empowering managers for achieving special purposes (Andrews, Herschel, & Baird, 1996). Besides, this kind of outlook leads to the preference for social management and democratic style in the organization instead of using dictatorship and authority style (Hershey & Kizzer, 1992). One of the common problems in the process of management is that many managers are effective in showing weaknesses of staff, but they are not equally effective in finding the results of these weaknesses. In other words, many managers are strong in identifying the problems, but they encounter difficulty in determining or analyzing the cause of it (Hersey & Goldsmith, 1980).

Managers in order to be effective in evaluating and solving the issues of efficiency need to determine causes. Studies suggest that action is the function of motivation and ability (Atkinson, 1985). Put simply, staff must be interested in their work and in possessing the necessary skills to function and gain satisfaction. Job satisfaction leads to efficiency, commitment, and physical and mental health of a person. Having enjoyed high morale, an individual tends to be satisfied with his life and seeks new job skills, and consequently, his performance improves. Also, lack of job satisfaction affects employees' morale. Decreasing or increasing job satisfaction is an important issue to be examined. Internal and external pressures for improving the efficiency have created the ground for more research on issues related to human resources. Scientific research has a very important role in the detection and diagnosis of the problem. It can also assess lots of factors which are possible to affect job satisfaction etched in the minds of the decision makers and establish the real causes. The present study attempted to investigate the effect of management factors on human resources efficiency with mediating role of job satisfaction.

### **Job Satisfaction**

Job satisfaction is one of the issues which has been studied in various organizations from the 1920s onwards. According to many experts, it is one of the most challenging organizational concepts and basis of many management policies for increasing efficiency and productivity of organization. Job satisfaction is a state of feelings and positive attitudes people have toward their job. In simple terms, it is a person's attitude towards job and its various aspects. According to Lock (1969), job satisfaction refers to a state of emotional contentment resulting from accomplishing the goals that an individual acquires through making contribution inside an organization. Job satisfaction and the factors contributing to satisfaction and career interest are important issues in any organization.

Nowadays, job satisfaction has been the focus of organizational behavior researchers and it is considered to be one of the major concepts in organizational research. Job satisfaction as an occupational knowledge is still an important issue to be discussed and it is regarded and examined by many scholars and researchers. Besides, various theories have been proposed in this context, each attempts to explain various individual's work and expresses factors contributed to individual's work.

Having only one factor is not sufficient for job satisfaction but certain combinations of various factors cause an employee to show satisfaction with his job. This highlights that the

more the satisfied employees, the higher the organizational performance would be. In relation to job satisfaction, Herzberg's school of thoughts gives much credit to work as a means to motivate people (Herzberg, Mausner, & Snyderman, 1959). If one accepts the importance of intrinsic motivation, then he should carefully consider job design and management policies of organization in order to meet the needs of staff to the extent possible. Even if we do not accept the relationship between work and motivation, such methods can improve the quality of work life. Also, Hoppock (1935) stated that job satisfaction is a complex and multidimensional concept and it has relationship with psychological, physical, and social factors. An individual who is satisfied with his job, he will get adequate emotional adjustment and desired pleasure from his job.

Job satisfaction might be regarded as a component of happiness or general welfare of a person and it influences the performance of employees as it enhances job involvement. Besides, the higher performance makes people feel more satisfied and committed to the organization.

William, Buelens, and Jonghe (2007) examined the impact of organizational structure on job satisfaction of nurses in Belgium. The results revealed that centralization had negative impact and specialization and formality tended to have positive impact on job satisfaction. Pettit (1997) in his research indicated that there was no significant relationship between job satisfaction and organizational communications, but the relationship between job satisfaction and salary was significant. Porter, Steers, Mowday, and Boulian (1974) reported that organizational commitment had direct relationship with job satisfaction and inverse relationship with turnover and absenteeism. Job satisfaction is, also, influenced by work position and activities. Previous research results showed that managers and skilled workers in comparison with clerks and sellers were more satisfied with their work (Gaziougly & Tensel, 2006). Dawis and Loftquist (1984) expressed that job satisfaction results from the coordination between individual values and incentive models in a business environment. With this coordination and considering the meaningful aspects of job, there would be increased motivation to perform tasks. Salary is another factor that could affect job satisfaction, while the reverse was true in Groot's (1999) finding. Harmermesh (2002) proved that salary changes influence job satisfaction and organizational characteristics might affect job satisfaction. According to Sousa-Poza (2003) having tedious job has significant negative effects on job satisfaction. Job interest, good relationship with the manager, and work independence are among the factors that increase job satisfaction.

There are also considerable evidences about the importance of job satisfaction of public sector managers. Satisfied employees due to the reduction in absenteeism and work continuity bring greater efficiency to the public sector and provide important benefits for society. Robbins (1997) believed that job satisfaction *had* its impact on *the working life of the* employees. Job satisfaction leads to efficiency, commitment, and physical and mental health of a person. Therefore, it is argued that managers must supervise mental health of employees continually (Norman, 2006). Due to this, an individual, as a result of high morale, tends to be satisfied with his life and seeks new job skills and, consequently, his performance improves. Also, lack of job satisfaction affects staffs' morale and reduces their morale which is very unpleasant in working environment.

### Theoretical Framework

In recent years, there has been growing interest in job satisfaction and previous studies clearly indicate that various factors affect job satisfaction. Several models and structures of these factors and indicators have been studied. With regard to the foundations of the basic theory of research, we used the variables which have the greatest impact in these studies and then we entered these variables into the model in order to assess them. Figure 1 shows the theoretical framework of the study.

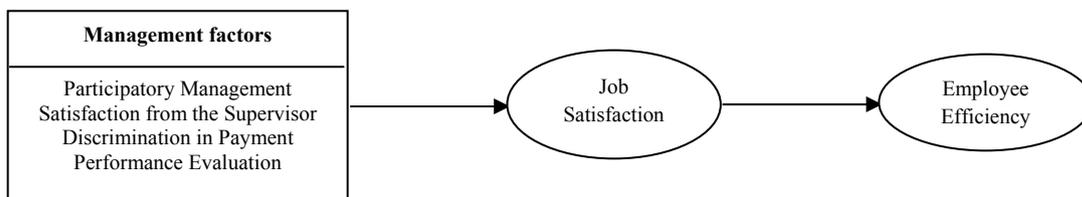


Figure 1. Theoretical framework of the study

### Research Hypotheses

The following hypotheses guided the study:

- H<sub>1</sub>: There is a significant relationship between the participatory management and employees' efficiency.
- H<sub>2</sub>: There is a significant relationship between the satisfaction from the direct supervisor and employees' efficiency.
- H<sub>3</sub>: There is a significant relationship between the perceived discrimination in payment and employees' efficiency.
- H<sub>4</sub>: There is a significant relationship between the satisfaction from a performance evaluation system and employees' efficiency.

## Methodology

This study was carried out through a survey method using questionnaires as the main instrument. The population of the study consisted of 2000 paramedical employees of public hospitals in Ardabil. The questionnaires which included both job satisfaction and efficiency questionnaires were distributed among the samples and then they were tested. The questionnaire related to job satisfaction contained 25 questions which were adopted from Minnesota Satisfaction Questionnaire (MSQ) and Spector's job satisfaction questionnaire using a five-point Likert scale, rating from highly satisfied to highly dissatisfied. Respondents were asked to report their understanding of different categories. Then, the responses were given numerical scores rating from 1 to 5 to analyze the data.

In previous studies, reliability coefficient of questionnaire related to job satisfaction was 0.88 and in the present study it was estimated 0.98. The questionnaire related to human resources efficiency contained 15 descriptive sentences which were adopted from Hersey and Goldsmith's standard questionnaire (Hersey & Goldsmith, 1980). The respondents were presented with 15 items and were requested to demonstrate their understanding of each sentence from very high to very low and expressed their views about efficiency. The measurement level was from 1 to 5 and the reliability coefficient of the questionnaire was 0.84.

Results of the present study were presented in the form of descriptive, inferential, and subsidiary findings. In descriptive findings, frequency distribution table, graph, mean, and standard deviation were used for variables under investigation. In inferential findings section Kolmogorov-Smirnov test was applied and also for analyzing the variables and questions, one-sample t-test was used. Pearson correlation test and multiple regression tests were used for investigating the research hypotheses and for determining variables, respectively.

## Results

Table 1 shows the mean and standard deviation of the demographic data of the participants.

Table 1  
*The Mean and Standard Deviation of the Demographic Data of the Participants*

	Number	Mean	SD
Sex	314	1.66	0.74
Age	314	2.88	0.59
Education	314	1.68	0.51
Experience	314	2.30	1.01

The mean and standard deviation of the variables is represented in Table 2.

Table 2  
*The Mean and Standard Deviation of the Variables*

	Number	Mean	SD
Satisfaction from Supervisor	314	3.26	0.53
Discrimination in Payment	314	4.48	0.67
Participatory Management	314	1.97	0.99
Performance Appraisal	314	2.77	0.85
Efficiency	314	2.79	0.57

### **Inferential Statistics**

In this section, for determining the normality of data Kolmogorov-Smirnov test (KS test) was used. Then, for testing each hypothesis and for investigating the relationship between the dependant and independent variables, correlation test and regression analysis were used, respectively. Moreover, for ranking the variables, Friedman test came into use.

### **Determining the Normality of Data using KS Test**

One of the main assumptions of the most statistical tests is the normality of the distribution of observations. The normality of test is done using KS test which is a nonparametric test for investigating distribution of observations. The approximate amount for tests of significance appears at the end of the output of KS test. By comparison of it with  $\alpha$ , the test can be performed at significance level, and then the normal distribution of observations can be determined. If alpha equals 0.05 ( $\alpha= 0.05$ ) and  $p$ -value  $> 0.05$ , we can suppose that the distribution of observations is normal. To test the normality of the data, statistical assumptions were set as follows:

- $H_0$ : The distribution of data for each variable is normal.
- $H_1$ : The distribution of data for each variable is not normal.

Table 3 presents the results of KS test. From Table 3, it can be inferred that all variables were normally distributed. Since the distribution of all scores related to variables was normal, we used parametric statistical methods.

Table 3  
Results of Kolmogorov–Smirnov Test

		Satisfaction from Supervisor	Discrimination in Payment	Participatory Management	Performance Appraisal	Efficiency
Number		314	314	314	314	314
Mean		3.36	4.48	1.97	2.77	2.79
SD		0.53	0.67	0.99	0.85	0.57
Maximum Differences	Absolute	0.14	0.23	0.25	0.12	0.07
	Positive	0.12	0.22	0.25	0.10	0.06
	Negative	-0.14	-0.23	-0.16	-0.12	-0.07
Kolmogorov–Smirnov		2.42	2.35	2.50	2.28	2.70
P-Value		0.340	0.500	0.500	0.730	0.704

### One-Sample T-Test

Since the statistical data reflected normal distribution, parametric tests were used to analyze the data. In the current study, to examine each of the variables and items of research one-sample t-test was applied. In this study, if  $p$ -value was greater than 0.05, the variable under investigation would have no significant difference with the value of t-test and the component was moderate among the statistical population. If  $p$ -value was less than 0.05, the variable under investigation would have significant difference with the value of t-test. Following this, if the mean of the factor under investigation was more than 3, it could be concluded that it was most powerful between statistical populations. And, if the mean of the factor under investigation was less than 3, it could be indicated that that factor was poor among statistical population. Table 4 shows the result of one-sample t-test for the satisfaction from the supervisor.

Table 4  
The Result of One-Sample T-Test for the Satisfaction from the Supervisor (Test Value=3)

Variable	P-Value Sig. (2-Tailed)	Mean	SD	T-Test
Question 1	0.000	3.10	1.16	7.70
Question 2	0.000	3.94	1.10	8.48
Question 3	0.121	2.80	1.27	-1.56
Question 4	0.000	4.20	0.94	12.72
Satisfaction from the Supervisor	0.000	3.26	0.53	4.87

As Table 4 exhibits, 3 questions including question 1, 2, and 4 related to satisfaction from the supervisor were most powerful among the statistical population because the mean was greater than 3 and  $p$ -value was less than 0.05. Besides, in question 3 because the mean was less than 3 and since  $p$ -value was greater than 0.05, it was determined at an average rate. Finally, in satisfaction from the supervisor the mean was greater than 3 and  $p$ -value was less

than 0.05. So, it could be argued that it was most powerful among the statistical population. The result of one-sample t-test for the discrimination in payment is shown in Table 5.

Table 5

*The Result of One-Sample T-Test for the Discrimination in Payment (Test Value=3)*

Variable	P-Value Sig. (2-Tailed)	Mean	SD	T-Test
Question 1	0.000	4.54	0.77	19.97
Question 2	0.000	4.39	0.82	16.79
Question 3	0.000	4.47	0.77	19.05
Question 4	0.000	4.55	0.75	20.47
Discrimination in Payment	0.000	4.48	0.67	21.96

From Table 5, it can be inferred that all questions related to the discrimination in payment were most powerful between statistical population where the mean was greater than 3 and  $p$ -value was less than 0.05. Table 6 presents the result of one-sample t-test for the participatory management.

Table 6

*The Result of One-Sample T-Test for the Participatory Management (Test Value=3)*

Variable	P-Value Sig. (2-Tailed)	Mean	SD	T-Test
Question 1	0.000	1.96	1.06	-9.78
Question 2	0.000	1.99	1.06	-9.45
Participatory Management	0.000	1.97	0.99	-10.31

As Table 6 clearly indicate, all questions related to participatory management were poor among statistical population since the mean was less than 3 and  $p$ -value was less than 0.05. Hence, participatory management represented poor performance among population. Table 7 shows the result of the one-sample t-test for the performance evaluation.

Table 7

*The Result of One-Sample T-Test for the Performance Evaluation (Test Value=3)*

Variable	P-Value Sig. (2-Tailed)	Mean	SD	T-Test
Question 1	0.000	2.00	0.95	-10.48
Question 2	0.330	3.12	1.22	0.98
Question 3	0.056	3.21	1.08	1.93
Performance Appraisals	0.010	2.77	0.85	-2.61

As Table 7 exhibits, among the questions related to performance evaluation, first question due to the mean value of less than 3 and also  $p$ -value of less than 0.05 had poor performance between statistical populations. Also, the second and third questions were determined at an average rate since their  $p$ -value was greater than 0.05. Therefore, participatory management

with mean of less than 3 and  $p$ -value of less than 0.05 represented poor performance among population. The result of the one-sample t-test for the efficiency is shown in table 8.

Table 8  
*The Result of the One-Sample T-Test for the Efficiency (Test Value=3)*

Variable	P-Value Sig. (2-Tailed)	Mean	SD	T-Test
Question 1	0.030	2.78	1.00	-2.19
Question 2	0.001	2.58	1.21	-3.45
Question 3	0.000	3.67	0.87	7.64
Question 4	0.000	3.54	0.80	6.67
Question 5	0.027	2.78	0.98	-2.24
Question 6	0.307	3.09	0.87	1.03
Question 7	0.000	2.53	0.83	-5.63
Question 8	0.000	2.53	0.84	-5.55
Question 9	0.000	2.47	0.85	-6.17
Question 10	0.000	2.03	1.09	-8.85
Question 11	0.000	3.45	0.80	5.56
Question 12	0.007	2.76	0.87	-2.73
Question 13	0.063	2.84	0.84	-1.88
Question 14	0.000	2.06	1.03	-9.31
Question 15	0.005	2.75	0.86	-2.87
Efficiency	0.000	2.79	0.57	3.62

As Table 8 shows, among the questions related to the efficiency, the mean and  $p$ -value of first, second, fifth, seventh, eighth, ninth, tenth, twelfth, fourteenth and fifteenth questions were less than 3 and less than 0.05, respectively and they had poor performance among statistical population. The third, fourth, and eleventh questions with mean of greater than 3 and  $p$ -value of greater than 0.05 were powerful among statistical population. Also, the  $p$ -value of sixth and thirteenth questions were greater than 0.05 and were determined at an average level. The mean and  $p$ -value of the efficiency were less than 3 and 5, respectively and were poorly performed among population.

### Testing the Research Hypotheses

Due to the normality of the data, Pearson correlation coefficient was used.

### Hypotheses

**H<sub>1</sub>: There is a significant relationship between participatory management and employees' efficiency.**

To test the above hypothesis, Pearson correlation coefficient was used. The results of these tests are presented in Table 9.

The sub-hypotheses were as follows:

- There is no significant relationship between the participatory management and employees' efficiency.
- There is a significant relationship between the participatory management and employees' efficiency.

$$\left\{ \begin{array}{l} H_0: p=0 \\ H_1= p\neq 0 \end{array} \right.$$

Table 9

*The Correlation Coefficient between Participatory Management and Employees' Efficiency*

		Employee's Efficiency
Participatory Management	Intensity	0.55
	Significance Level	0.003
	Number	314

According to Table 9, the significance level or the error rate of this test was near to zero and was less than alpha ( $\alpha=0.05$ ). Thus,  $H_0$  was rejected and  $H_1$  which indicated that there was a significant relationship between the participatory management and employees' efficiency was approved. The Pearson correlation coefficient suggested that there was a significant relationship between the participatory management and employees' efficiency with the intensity correlation of 55 per cent ( $r=55\%$ ). Therefore, the first research hypothesis was confirmed. Given this results, it seems that participatory management as an independent variable led to the changes in the employees' efficiency and speeding up in a positive way was represented by it.

**H<sub>2</sub>: There is a significant relationship between the satisfaction from the direct supervisor and employees' efficiency.**

To test the above hypothesis, we employed Pearson correlation coefficient. The results of are given in Table 10.

The sub-hypotheses were as follows:

- There is no significant relationship between the satisfaction from the direct supervisor and employees' efficiency.
- There is a significant relationship between the satisfaction from the direct supervisor and employees' efficiency.

$$\left\{ \begin{array}{l} H_0: p=0 \\ H_1= p\neq 0 \end{array} \right.$$

Table 10

*Correlation Coefficient between the Satisfaction from the Direct Supervisor and Employees' Efficiency*

		Employee's Efficiency
Satisfaction from the Direct Supervisor	Intensity	0.42
	Significance Level	0.000
	Number	314

According to Table 10, it can be stated that the significance level or the error rate of this test was near to zero ( $\text{sig}=0.000$ ) and it was less than alpha ( $\alpha=0.05$ ). So,  $H_0$  was rejected and  $H_1$  indicating a significant relationship between the direct supervisor and employees' efficiency was confirmed. The Pearson correlation coefficient suggested that there was a significant relationship between the direct supervisor and employees' efficiency with the intensity correlation of 42 per cent ( $r=42\%$ ). Hence, the second research hypothesis was confirmed.

**H<sub>3</sub>: There is a significant relationship between the perceived discrimination in payment and employees' efficiency.**

To test this hypothesis, Pearson correlation coefficient was used and the results are presented in Table 11.

The sub-hypotheses were as follows:

- There is no significant relationship between the perceived discrimination in payment and employees' efficiency.
- There is a significant relationship between the perceived discrimination in payment and employees' efficiency.

$$\left\{ \begin{array}{l} H_0: p=0 \\ H_1: p \neq 0 \end{array} \right.$$

Table 11

*Correlation Coefficient between the Perceived Discrimination in Payment and Employees' Efficiency*

		Employee's Efficiency
Perceived Discrimination in Payment	Intensity	-0.38
	Significance Level	0.000
	Number	314

According to Table 11, it can be argued that the significance level or the error rate of this test was near to zero ( $\text{sig}=0.000$ ) and it was less than alpha ( $\alpha=0.05$ ). Therefore,  $H_0$  was rejected and  $H_1$  which revealed that there was a relationship between the perceived

discrimination in payment and employees’ efficiency was confirmed. The Pearson correlation coefficient demonstrated that there was a significant negative relationship between the perceived discrimination in payment and employees’ efficiency with the intensity of minus 38 per cent ( $r=-38\%$ ). So, the third hypothesis was confirmed.

**H<sub>4</sub>: There is a significant relationship between the satisfaction from a performance evaluation system and employees’ efficiency.**

To test the above hypothesis, we employed Pearson correlation coefficient and the results of these tests are given in Table 12.

The sub-hypotheses were as follows:

- There is no significant relationship between the satisfaction from a performance evaluation system and employees’ efficiency.
- There is a significant relationship between the satisfaction from a performance evaluation system and employees’ efficiency.

$$\left\{ \begin{array}{l} H_0: p=0 \\ H_1: p \neq 0 \end{array} \right.$$

Table 12  
*Correlation Coefficient between the Satisfaction from a Performance Evaluation System and Employees’ Efficiency*

		Employee’s Efficiency
Satisfaction of a Performance Evaluation System	Intensity	0.62
	Significance Level	0.000
	Number	314

According to Table 12, the significance level or the error rate of this test was near to zero ( $\text{sig}=0.000$ ) and it was less than alpha ( $\alpha=0.05$ ). Therefore,  $H_0$  rejected and  $H_1$  which suggested that there was a significant relationship between the satisfaction from evaluation system and employees’ efficiency was confirmed. Also, the Pearson correlation coefficient suggested that there was a significant relationship between the satisfaction from evaluation system and employees’ efficiency with the intensity of 62 per cent ( $r=62\%$ ). So, the forth hypothesis was confirmed. Following this, satisfaction from the performance evaluation system as the independent variable led to a change in employees’ efficiency and speeding up in a positive way was represented by it.

Table 13  
*Estimated Results of Hypotheses*

Dimensions of Model	P-Value	Correlation Coefficient (R)	Hypothesis Test Result
There is a significant relationship between the participatory management and employees' efficiency.	0.000	0.55	Confirmed
There is a significant relationship between the satisfaction from the direct supervisor and employees' efficiency.	0.000	0.42	Confirmed
There is a significant relationship between the perceived discrimination in payment and employees' efficiency.	0.000	-0.38	Confirmed
There is a significant relationship between the satisfaction from a performance evaluation system and employees' efficiency.	0.000	0.62	Confirmed

### Multiple Regression Analysis

In order to run multiple regression analysis, first, the relevant assumptions (linearity of the relationship between the predict variables) were assessed and to process assumptions, regression analysis was performed. Thus, to determine the effect of each variable of job satisfaction on employees' efficiency, the components of job satisfaction as the predictor variable and employees' efficiency as the criterion variable were entered into the regression equation, and the results are shown in Table 14. The results of regression analysis of employee's efficiency factors revealed that among the independent variables entered in the final regression model, four variables were entered into the regression equation and explained almost 53 per cent of changes in the dependent variable.

Table 14  
*Multiple Regression Analysis of Employees' Efficiency*

Model	Statistical Indicators	Correlation Coefficient (R)	Coefficient of Determination R <sup>2</sup>	Adjusted Coefficient of Determination	Standard Error of Prediction
1		0.73	0.53	0.51	6.03

According to the statistics in Table 14, it can be argued that multiple correlation coefficient was equal to 73 per cent and the square of the coefficient of determination was equal to 0.53. Therefore, performance evaluation variables, participatory management, discrimination in payment, and satisfaction from the direct supervisor determined 53 per cent of variance of employees' efficiency in transaction, and the rest of the variances could be explained by external factors that were not known in the research yet. Table 15 presents the multivariate regression analysis of variance related to employees' efficiency.

Table 15  
*Multivariate Regression Analysis of Variance Related to Employees' efficiency*

Statistical Indicators of Model	Sum of Squares	Degree of Freedom	Mean Square	F	Significance Level
Regression	3968.03	4	992.01	27.22	0.000
Remaining	3461.96	309	36.44		
Total	7430.04	313			

Considering Table 15, there was a linear relationship between the variables discussed. The significance level was much lower than the error level. Thus, the linear relationship between the variables was confirmed. Also, the analysis of variance showed that the determinant variables significantly predicted and explained the changes of employees' efficiency. Table 16 shows the statistics relating to the remaining independent variables in the model.

Table 16  
*Statistics Relating to the Remaining Independent Variables in the Model*

The Model of Independent Variable (Employees' Efficiency)	Non-Standardized Coefficients		Standardized Coefficients	T-Value	P-Value
	B Coefficient	Coefficient Standard Error	Beta		
Fixed Value	29.235	5.892	---	4.962	0.000
Performance Evaluation	1.229	0.306	0.364	4.019	0.000
Participatory Management	1.035	0.377	0.237	2.744	0.007
Discrimination in Payment	-0.714	0.241	-0.223	2.957	0.004
Satisfaction from the Supervisor	0.852	0.322	0.210	2.647	0.010

By comparing the Beta in Table 16, it can be expressed that the relative proportion of performance evaluation on employees' efficiency was 0.36 which had the greatest impact on performance evaluation. Following this, participatory management with a coefficient of 0.23, discrimination in payment with a coefficient of 0.22, and satisfaction from the direct supervisor with a coefficient of 0.21 were significantly influenced the participatory management. Linear equation can be written as follows:

Efficiency=29.3 (0.36 Performance Evaluation + 0.23 Collaborative Management -0.22 Discrimination in Payment + 0.21 Satisfaction from Direct Supervisor)

### Friedman Test

Friedman test is a nonparametric test, similar to variance analysis with repeated measures (within-group) which is used to compare the mean scores between groups. The results of the Friedman test for prioritization of the research variables are shown in Table 17.

Table 17  
*Results of Friedman Test for Prioritization of the Research Variables*

Dimensions	Explanation
Number	314
Chi-Square	575.005
Degree of Freedom	7
Asymp. Sig.	0.000

The result of this test with 9.31 of chi-square and at 99 per cent of confidence level was significant at 1 per cent error level (Asymp. Sig.=0.02). Table 18 represents the results of the research variables ranking.

Table 18  
*Results of the Research Variables Ranking*

Dimensions	Level	Mean Rank
Perceived Discrimination in Payment	1	7.84
Satisfaction from the Supervisor	2	6.48
Performance Evaluation System	3	3.72
Participatory Management	4	1.26

The results of mean rank showed that the perceived discrimination in payment with a coefficient of 7.84 was at first level of priority. Considering this, it had the greatest impact on employees' efficiency. Satisfaction from the supervisor with a coefficient of 6.48 was at second level of priority. Also, participatory management with a coefficient of 1.26 determined the last priority and had less effect on employees' efficiency.

### **Discussion and Conclusion**

Investigating the effect of management factors and job satisfaction on human resources efficiency was the aim of the current study and the findings revealed that management factors had a significant positive correlation with human resources efficiency. Participatory management increases employee efficiency in the workplace. In previous studies, it is stated that there was a significant relationship between all organizational factors including participatory management, appropriate selection of personnel, payment system, leadership styles, organizational structure, and training programs and human resources efficiency.

Following this, participatory management had the greatest impact on efficiency. The studies from 1950 onwards showed that participatory management had profound effect in Japan and provided a range of benefits such as reducing resistance to change, preventing group conflicts, job satisfaction, and efficiency. A proper implementation of this method is offering system that management organization should pay maximum and proper attention to it.

Satisfaction from the supervisor also had a positive and significant relationship with job satisfaction. This highlights that employees who were more satisfied with their supervisor were less stressed and had no conflicts. Besides, they had peace of mind and spirit and felt a

greater job satisfaction. Sense of responsibility in this group was higher than other groups. Also, by satisfying their inner needs, their job satisfaction was further strengthened and this kind of satisfaction had a positive effect on the employees' efficiency.

Previous studies demonstrated that from the perspective of nurses and administrators the ways of fee payment had no significant impact on nurses' performance and most of them were dissatisfied because of discrimination in payment. To establish an effective link between payment and performance, performance should be measured in a reliable manner. If we failed to link pay with performance results, it would lead to a decrease in motivation, performance, and efficiency. Daily wage payment, lack of transparency and standard setting of employees' required and excessive work hours, the absence of measures of merit and monetary value of the employees' daily activities would cause the employees' dissatisfaction which was the waste of financial and human resources of organization.

The organization can design and implement a system based on the ability of employees in order to analyze different jobs of organization and choose employees due to their ability. Also, employees can gain satisfaction from their jobs by meeting the wants and needs they expect from their work. Therefore, managers who recognize this should take action. In this case, the system can have stimulating effect and improve the employees' efficiency and productivity. Besides, performance evaluations need to be effective; otherwise they are a waste of time and money. What makes systems practical is their potential to improve employee performance as it enhances job involvement.

### **Suggestions for Further Research**

Authorities by adopting a participatory management style and by administering regular surveys and asking employees' ideas about job, the way of providing welfare services, appointment of directors, and about setting goals can provide employees' satisfaction and their efficiency. Because participating in decision-making process gives them the opportunity to feel that they are part of the organization and they are respected; so, if their needs in communication and self-esteem are met, they will feel satisfied.

Equity in payments is one of the important solutions for the establishment of justice in organization. In addition, creating healthy condition and environment, free from discrimination, causes the employees to take pride in their work and they will be willing to work. Consequently, they will have intimate and profound relationship. These are among the factors which provide positive work environment and it can also increase job satisfaction.

According to the sense of discrimination and inequality in different affairs of organization, some factors such as eliminating the discrimination between the formal and informal employees, between the managerial and other professional levels, and also eliminating discrimination between male and female employees, conducting periodic evaluation based on justice, and promotion and appointment with regard to the merits can be of great help in providing the employees' satisfaction and enhancing their efficiency.

Regarding the effect of satisfaction from the supervisor on job satisfaction and efficiency, authorities should train supervisors to have good communication with employees. And, authorities need to periodically get employees' feedback about the behavior of supervisors. Broadly applying the research design in the hospitals affiliated to the University of the Medical Sciences, applying research in public, private, and social security hospitals, and comparing them in terms of employee satisfaction and efficiency, investigating the effect of job satisfaction among hospital employees on patient satisfaction, and checking the ways for improving the employee satisfaction by the use of principle of change management and its impact on efficiency are recommendations for further research.

## References

- Adams, J. S. (1963). Towards an understanding of inequality. *Journal of Abnormal & Normal Social Psychology*, 67(5), 422–436.
- Andrews, P. H., Herschel R. T., & Baird, J. E. (1996). *Organizational communication: Empowerment in a technological society*. Boston: Houghton Mifflin Company.
- Atkinson, J. W. (1985). *An Introduction to Motivation*; New York: Van Nostrand.
- Dawis, R. V., & Lofquist, L. H. (1984). *A psychological theory of work adjustment*. Minneapolis: University of Minnesota Press.
- Gaziougly, S., & Tansel, A. (2006). Job satisfaction in Britain: Individual and job related factors. *Applied Economics*, 38, 1163–1171.
- Groot W. & Maassen van den Brink, H. (1999). Job satisfaction and preference drift. *Economics Letters*, 63(3), 363–367.
- Harmermesh, D. S. (2001). The changing distribution of job satisfaction. *The Journal of Human Resources*, 36(1), 1–30.
- Hersey, P., & Goldsmith, M. (1980). A Situational Approach to Performance Planning. *Training & Development*, 34(11), 38–40.
- Hershey, G. L., & Kizzer, D. L. (1992). *Planning and implementing end-user information Systems*. Cincinnati: South-Western Publishing Co.
- Herzberg, F., Mausner, B., & Snyderman, B. B. (1959). *The Motivation to Work* (2<sup>nd</sup> ed.). New York: John Wiley & Sons.
- Hoppock, R. (1935). *Job satisfaction*. New York: Harper and Brothers.
- Jones Johnson, G., & Johnson, W.R. (2004). Perceived over qualification and dimensions of job Satisfaction: A longitudinal analysis. *Journal of Psychology*, 34(5), 537–556.
- Lock, E. A. (1960). What is job satisfaction? *Organizational Behavior & Human Performance*, 4(1), 309–336.
- Maslow, A. H. (1970). *Motivation and Personality* (2<sup>nd</sup> ed.). New York: Harper and Row.
- Norman, I. (2006). *An investigation of job satisfaction, organizational commitment and role conflict and ambiguity in sample of Chinese undergraduate nursing students*. *Nurs Education Today*, 26(4), 304–314.

- Pettit, J. D. J. Goris, J. R., Vaught, B. C. (1997). An examination of organizational communication as a moderator of the relationship between job performance and job Satisfaction. *Journal of Business Communication*, 34(1), 81–98.
- Porter, L. W., Steers, R. M., Mowday, R. T., Boulian, P. V. (1974). Organizational commitment, job satisfaction and turnover among psychiatric technicians. *Journal of Applied Psychology*, 59(5), 603–609.
- Robbins, S., (1997). *Essential of organization behavior* (5<sup>th</sup> ed.). New Jersey: Prentice Hall International.
- Sousa-Poza, A. A. (2003). Gender Differences in Job Satisfaction in Great Britain, 1991-2000: Permanent or Transitory? *Applied Economics Letters*, 10(11), 691–94.
- Tazhibi, M. (2010). Study of job satisfaction of medical records staffs in Kermanshah medical educational centers. *Health Information Management*, 7, 649–657.
- Willem, A., Buelens, M., & Jonghe, I. D. (2007). Impact of organizational structure on nurses' job satisfaction: A questionnaire survey. *International Journal of Nursing Studies*, 44, 1011–1020.