The Role of Compensation System of Efficient Services, And Effects of Paying Levels in Increasing the Efficiency and Organizational Productivity of Governmental Hospitals

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Abstract

The main purpose of this research is to explain the relationship between policies of compensation in terms of pay levels and structure on organizational performance (productivity and financial performance) in this regard has been explained the impact of pay levels on resource productivity, financial performance and results of patient care in Iranian governmental hospitals dealt. Descriptive research method is kind of correlation and in terms of purpose is functional and as well as in terms of information analysis is kind of correlation-causal. Data collection has been done through analysis of documents and evidences available in the statistics department, finance and planning and budget of treatment management and governmental hospitals. Statistical sample and population, include governmental hospitals in Iran. Considering that studying the whole population was possible and considered population is not large enough that their specifications cannot be measured, therefore, the sampling was not done in this research and the whole population was studied. The results indicate that relationships between strategy of payment level, resource productivity and financial performance and the relationship between resources productivity and payment dispersion and the relationship between the pay dispersion and results of patient care are significant.

Keywords: Compensation, Organizational Performance, Financial Performance, Productivity, Pay Levels, Pay Structure.
Introduction

Along with the progress of various science and technologies, knowledge management has been transformed in organizations and position of human resources has been considered as the intellectual capital in each organization. Today, protection and preservation this capital and preventing the outflow of that due to the spent costs of training, education and experimenting are the concerns of all organizations and their managers. Successful managers believe that the most important and the most valuable capital of them are human resources.

So organizations that have not had necessary attention and investment about the human resources have been obliterated from the scene of activity so with the knowledge of this subject, we can say that compensation system is one of effective factors in education, recruit, retain and promoting the skilled manpower. Due to increasing trend of healthcare costs, hospitals as main organizations providing healthcare services has been turned to one of the major devices and at the same time more costly and have special important and sensitivity.

While about 65 to 75 percent of the annual budget spend for staff costs in hospitals. Nevertheless, hospitals do not benefit from optimum effectiveness and efficiency. Accordingly, investigation the relationship between compensation policies is considered necessary with the financial performance of hospitals.

Health is one of the basic needs that people think about it and social responsibility of hospitals in prevention and treatment is responding to this need as the first and the biggest buyer of services in the country. The governmental organization as the first and the biggest buyer of services in the country, in the treatment section with a budget of amounting to one third of all premium collections, Has such wide dimensions which fixing it’s all issues requires tremendous effort and the use of opinions of experts, real specialists and the owner of knowledge and opinion in this field.

Due to the volume of hospital costs and limited resources, this institution requires a scientific and efficient management at all levels and The ultimate goal of applying proper management in the hospital is increasing the efficiency and its productivity in terms of the provision of services at different levels, shortening the length of hospitalization of patients and prevention of financial losses (Ghorbanpour and optical Nouri, 2007).

In various areas of human resource management, the most important and sensitive area is related to the management of salary that requires review, study and design the system fit to internal and external conditions of organizations. Therefore, human resource management by utilizing the existing theories, assessment of knowledge and new theoretical science in this context and by using internal and external experiences and by studying and investigation the conditions of labor...
market examines the ability to pay and also the general economic situation of each country until can design a pattern with a strategic vision, that causes to make the correct and logical communications with economic, social and cultural systems which eventually leads to an ideal and desirable management of salary.

Compensation system have been replaced with terms such as salary management and payment system in the past two decades, and Includes all cash and non-cash compensation and benefits that employees and managers of organizations have commensurate with the type of organization and conditions of work environment and also job features and how to do the work. In other words, in order to compensate the activities that employees do in the organization, for the time and energy that they spend to achieve organizational goals, is paid the wages and bonuses.

A system that according to it is determined the rate and the way of paying these payable amounts is called compensation system. Compensation system in a new attitudes of human resource management aimed at improving the quality and Finally, the desirability of life of manpower and by using classification techniques and jobs evaluation, organizational structure, the way of deploying the posts, open businesses engineering and design the job has been received considerable attention in organizations (Zivdar, 2007).

Due to increasing highlighting the organizational goals in the current turbulent and variable environments, the ability of employers to attract and retain employees and ensuring of optimum levels of their performances in order to efficiency and effectiveness and increasing the organizational productivity through the establishment of compensation system have particular importance

Establish a proper relationship between reward and performance is the biggest, unique and effective secret of organizations. Reward system as a part of the organizational culture represents that organizations should give rewards to what behaviors to achieve the correct and expected results and so failure in rewarding to correct behavior causes likely to wrong result (Mousavi Nasab, 1976).

Performance management is an approach that by giving necessary training to labor force and also establishment a fair system in evaluation the performance of employees and also the establishment salary and benefits systems and performance-based bonuses, tries to create empathy between employees and supervisors So that aligns the goals of employees with goals of organization by this way and increases labor productivity (Seyyedi and Akbari, 2009).
The relationship between compensation policies and organizational performance has been examined in this study that how the pay structure and pay levels have relationship with resource productivity, outcomes of patient care and financial performance in governmental hospitals of Iran.

According to the research background of subject it can be noted that Azouji and Amini (2008), investigate the relationship between wage and productivity and provide a wage pattern based on productivity in economy of Iran and state that change of wage fit to change of key variables of labor market such as labor productivity plays an important role in the orientation of the firm. The results show that labor productivity, average years of education of employees who are working in industry and real minimum wages have a significant impact on the real wage rate of industrial section and is confirmed in the short-term and long-term relationship.

While variables of public sector wage and unemployment rate in the long-term do not affect the wage of industrial sector, however, in the short term the wages of industrial sector are affected of public sector wage. Thus, to increase real wage and labor welfare in addition to increasing the profitability of firms it is suggested that proper conditions are provided for improving labor productivity and wage determination system is reviewed according to productivity factor.

Kameli and colleagues (2011), have conducted a research with the purpose of, "investigate the role of salary management system on efficiency of employees of NAJA headquarter from the perspective of employees at different levels of NAJA headquarter. The kind of research is applied and in terms of descriptive method is a survey- correlation. Research statistical population are 2,200 employees of NAJA headquarter that sample size was determined 327 people by using Cochran statistical method and by using stratified and random sampling method was measured to select the studied sample.

The research data were analyzed by using Spearman correlation method. Research findings indicate that, respectively, there is positive significant and stronger relationship between salary and benefits, facilities and welfare services and bonuses and work overtime with performance of employees of NAJA headquarter; Thus, primary and secondary research hypotheses were accepted by error coefficient less than 5 percent.

Mark P. Brown et al. (2003), have investigated the relationship between decision making of compensation at the organizational level and organizational performance and also pay structure and pay levels related to resource productivity, outcomes of patient care and financial performance. And state that overall practices of human resources management and especially compensation systems have strong relationship with organizational performance. Theory and empirical researches show that the pay level and the pay structure of each one is important to understand the implications of pay policy at the level of organization.
In addition, when the pay system was identified by two elements is essential, is discussed this fact that how operate both elements in relation to the organizational implications at same time.

Tea Jen Common (2008), has investigated the effect of design the compensation of large companies on organizational performance and states that this study is to determine the relationships between the three variables of the compensation plans of large companies (independent variable), Mental motivation (adjustment variable) and organizational performance (the dependent variable).

In addition, most of the effect of psychological motivation was studied in the relationship A design of organizational compensation and organizational performance and the findings indicated that the design of compensation of company can have a positive effect on the organizational performance. A system of compensation of a company includes bonuses, performance bonuses and benefits. Certainly the amount of compensation depends on performance. Better performance leads to offer greater bonus. In this regard, there is a special relationship between design of organizational compensation and organizational performance.

**Research Methodology**

Due to the nature of the considered research, the descriptive research method is kind of correlation and also in terms of purpose is applied and as well as in terms of information analysis is kind of correlation-causal. Data collection has been done through analysis of documents and evidences available in the statistics department, finance and planning and budget of treatment management and governmental hospitals.

**Statistical population**

Statistical population of this research includes governmental hospitals in Iran. Considering that studying the whole population was possible and considered population is not large enough that their specifications cannot be measured, therefore, the sampling was not done in this research and the whole population was studied.

**The research hypotheses**

According to the research literature and theories about compensation policies, productivity and financial performance have been raised, the following hypotheses are posed.

**The main hypothesis**

There is a significant relationship between compensation policies in terms of pay levels and structure on organizational performance (productivity and financial performance).

**Secondary hypotheses**

1. There is a significant relationship between pay levels and productivity of resources
2. There is a significant relationship between pay levels and results of patient care.
3. There is a significant relationship between pay levels and financial performance of organization.
4. Organizational performance (productivity of resources, results of patient care and financial performance) has significant relationship with dispersion of pay in the pay structure.

Analysis of data

Descriptive Statistic

In Table 1, descriptive statistics related to the main variables of research have been provided. Based on this data, the average of index of resources productivity which is measured by the average of duration of staying that is equal to 2.78 days with a standard deviation of 0.37 days. This information indicates this fact that duration of residence during the period of investigation does not have many fluctuations. The average of patient care results that is measured with the ratio of dead patients to whole patients (in thousands of deaths) indicates 9 deaths in thousands of patients who are admitted with a standard deviation of 4.36 per thousand.

The average of indicator of financial performance is measured with the ratio of Rail performance of hospital to current costs and represents coverage of 81 percent of costs with the standard deviation of 51%. The average of dispersion index, which is measured by the Gini coefficient is 0.4 with a standard deviation of 0.05 that indicates this fact that pay dispersion during the period of investigation had not been have much fluctuation. The average index of active bed with 253 beds and standard deviation of 104 represents significant fluctuations of active bed.

Table 1: Descriptive statistics of research variables

<table>
<thead>
<tr>
<th>Description</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Skewness</th>
<th>Elongation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources productivity</td>
<td>2.783</td>
<td>0.375</td>
<td>0.056</td>
<td>-1.100</td>
</tr>
<tr>
<td>Patient care outcomes</td>
<td>90.133</td>
<td>4.368</td>
<td>0.239</td>
<td>-0.663</td>
</tr>
<tr>
<td>Financial performance</td>
<td>0.819</td>
<td>0.512</td>
<td>2.809</td>
<td>10.808</td>
</tr>
<tr>
<td>Payment level strategy</td>
<td>0.000</td>
<td>0.638</td>
<td>0.251</td>
<td>2.947</td>
</tr>
<tr>
<td>Payment dispersion</td>
<td>0.403</td>
<td>0.050</td>
<td>0.151</td>
<td>1.797</td>
</tr>
<tr>
<td>Active bed</td>
<td>253.23</td>
<td>104.94</td>
<td>0.138</td>
<td>-1.492</td>
</tr>
</tbody>
</table>
Inferential statistics

Main hypotheses test

Pearson and Spearman correlation coefficient tests have been used to investigate the existence of relationship between variables.

First hypothesis

\[ H_0: \rho_{xy} = 0 \]
\[ H_1: \rho_{xy} \neq 0 \]

Pearson and Spearman correlation coefficients between payment level strategy and resources productivity based on the above information are equal to 23% and 26%, respectively, which is significant at the error level of 1%. Accordingly the null hypothesis is rejected. In fact, the existence of relationship between payment level strategy and resources productivity is confirmed.

Second hypothesis

H0: There is no significant relationship between Payment level strategy and patient care outcomes.

H1: There is a significant relationship between Payment level strategy and results of is patient care.
Pearson and Spearman correlation coefficients between payment level strategy and patient care outcomes based on the above information are equal to 10% and 18%. Linear correlation due to significance level of 0.15 at error level of 5% is not significant; accordingly the null hypothesis is not rejected. In fact, the existence of a linear relationship between payment level strategy and patient care outcomes is not confirmed. Spearman correlation coefficient is equal to 18% and is significant due to the significance level of 0.011 at error level of 5%. In other words, non-linear relationship between the intended variables is confirmed.

**Third hypothesis**

H0: There is no significant relationship between payment level strategy and financial performance of the organization

H1: There is a significant relationship between payment level strategy and financial performance of the organization.

<table>
<thead>
<tr>
<th>Correlation coefficient</th>
<th>Pearson</th>
<th>Spearman</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>Significance level</td>
<td>Value</td>
</tr>
<tr>
<td>0.108</td>
<td>0.150</td>
<td>0.189*</td>
</tr>
</tbody>
</table>

Pearson and Spearman correlation coefficients between payment level strategy and financial performance based on the above information are equal to -57% and -47%, respectively, which is significant due to significance level of 0.000 at error level of 1%. Accordingly, the null hypothesis is rejected. In fact, the existence of linear relationship between payment level strategy and financial performance is confirmed.

**Forth hypothesis**

H0: There is no significant relationship between resources productivity and payment dispersion.

H1: There is a significant relationship between resources productivity and payment dispersion.

<table>
<thead>
<tr>
<th>Correlation coefficient</th>
<th>Pearson</th>
<th>Spearman</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>Significance level</td>
<td>Value</td>
</tr>
<tr>
<td>-0.573**</td>
<td>0.000</td>
<td>-0.474**</td>
</tr>
</tbody>
</table>
Pearson and Spearman correlation coefficients between resources productivity and payment dispersion based on the above information are equal to -41% and -46%, respectively, which is significant due to significance level of 0.000 at error level of 1%. Accordingly, the null hypothesis is rejected. In fact, the existence of linear relationship between resources productivity and payment dispersion is confirmed.

**Fifth hypothesis**

H0: There is no significant relationship between patient care outcomes and payment dispersion.

H1: There is a significant relationship between patient care outcomes and payment dispersion.

<table>
<thead>
<tr>
<th>Correlation coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson</td>
</tr>
<tr>
<td>Value</td>
</tr>
<tr>
<td>-0.248**</td>
</tr>
</tbody>
</table>

Pearson and Spearman correlation coefficients between patient care outcomes and payment dispersion based on the above information are equal to -24% and -27%, which is significant at error level of 1%. Accordingly, the null hypothesis is rejected. In fact, the existence of linear relationship between patient care outcomes and payment dispersion is confirmed.

**Sixth hypothesis**

H0: There is no significant relationship between financial performance and payment dispersion.

H1: There is a significant relationship between financial performance and payment dispersion.

<table>
<thead>
<tr>
<th>Correlation coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson</td>
</tr>
<tr>
<td>Value</td>
</tr>
<tr>
<td>0.023</td>
</tr>
</tbody>
</table>

Pearson and Spearman correlation coefficients between financial performance and payment dispersion based on the above information are equal to 2.3% and 9.8%, which is not significant.
Accordingly, the null hypothesis is rejected. In fact, the existence of linear relationship between financial performance and payment dispersion is not confirmed.

**Hypotheses test and linear regression models**

The linear relationship between the research variables has been expressed in this section in terms of cause and effect relationships, in form of regression model.

\[
X_4: \text{Payment level strategy} \\
X_5: \text{Payment dispersion} \\
X_3: \text{Fixed bed} \\
X_4: \text{Number of human force} \\
X_5: \text{Active bed} \\
X_6: \text{Percentage of bed occupancy} \\
X_7: \text{Bed turnover}
\]

According to results of the first part of table (3) in model 1, the linear relationship has been evaluated between strategy of pay level and productivity of sources that according to the information of table, the slope coefficient of line interface is 0.13 between these two variables. That according to significant level of 0.002 at the error level of 1% is significant. So again the existence relationship is confirmed between these variables.

In model two the linear relationship has been evaluated between the strategy of pay level and pay dispersion and resource productivity that according to the information of table, the slope coefficient of line interface between variables of resource productivity and strategy of pay level is 0.105 and variable dispersion of pay is -2.852 that due to the significant level of 0.009 and 0.000 at error level of 1% is significant. So again the existence relationship is confirmed between these variables.

In model three, linear relationship has been evaluated between strategy of pay level, pay dispersion, fixed bed and labor with resource productivity that according to the information of table and the slope coefficient, line relationship is significant between these variables and according to the significant level of 0.028 and 0.000 and 0.017 at error level of 5%. So again the existence relationship is confirmed between these variables and in model four, linear relationship has been evaluated between strategy of pay level, pay dispersion, fixed bed, labor, active bed, the percentage of bed occupancy and bed turnover with resource productivity that according to the information of table and slope coefficient the line interface between these variables and according to significant level of 0.005 for pay level strategy and 0.000 for percentage of bed occupancy and bed turnover at the error level of 1% and significant level of
0.034 for the variable of pay dispersion in the error level of 5% and significant level of 0.082 for fixed bed at the error level of 10% is a significant so again existence relationship between variables of pay level strategy, pay, fixed Bed ,percentage of bed occupancy and bed turnover is confirmed with resource productivity.

According to results of the second part of table (3) in model 1, the linear relationship has been evaluated between strategy of pay level and the results of patient care that according to the information of table, the slope coefficient of line interface is 0.73 between these two variables. That according to significant level of 0.015 at the error level of 1% is not significant. So again the existence relationship is not confirmed between these variables

In model two the linear relationship has been evaluated between the strategy of pay level and pay dispersion and the results of patient care that according to the information of table, the slope coefficient of line interface between variables of the results of patient care and strategy of pay level is 0.501 and variable dispersion of pay is -20.376 that due to the significant level of 0.001 for variable of pay dispersion at error level of 1% is significant. But it is not also significant for variable of pay level strategy according to 0.32 in error level of 10.

So again the existence relationship is confirmed between the variables of pay dispersion and outcomes of patient care. Here in one word the pay dispersion has positive impact on patient care outcomes as an independent variable. In model three the linear relationship has been evaluated between the strategy of pay level and pay dispersion, fixed bed and labor with the results of patient care that according to the information of table, and the slope coefficient of line interface between these variables and due to significant level of 0.021 for few labor in error level of 5% is significant.

So the existence relationship is confirmed between the variables of number of labor and outcomes of patient care. In model for the linear relationship has been evaluated between the strategy of pay level and pay dispersion, fixed bed and labor and active bed and percentage of bed occupancy and bed turnover with results of patient care that according to the information of table, and the slope coefficient of line interface between these variables and due to significant level is not confirmed existence of relation between these variables.

According to results of the third part of table (3) in model 1, the linear relationship has been evaluated between strategy of pay level and financial performance that according to the information of table, the slope coefficient of line interface is -0.459 between these two variables..

So again the existence relationship is confirmed between these variables. Here in one word, the strategy of pay level as an independent variable has a positive impact on financial performance.
In model two the linear relationship has been evaluated between the strategies of pay level and pays dispersion and financial performance that according to the information of table, the slope coefficient of line interface between variables of financial performance and strategy of pay level is significant in error level of 1%.

So the existence relationship is confirmed between the variables of strategy of pay level and financial performance. Here in other words, pay level strategy as an independent variable has a positive influence on financial performance. But the relationship is not confirmed between the pay dispersion with financial performance due to the significant level.

In model three the linear relationship has been evaluated between the strategy of pay level and pay dispersion, fixed bed and labor and financial performance that according to the information of table, and the slope coefficient of line interface between these variables and due to significant level of 0.000 is significant for all 3 variables of the strategy of pay level, fixed bed and labor in error level of 1%. So again existence relation is confirmed between these variables.

But pay dispersion relation with financial performance due to the significant level is not confirmed. In other words, the strategy of pay level as an independent variable and fixed bed labor as control variables has a positive impact on financial performance. In model 4 the linear relationship has been evaluated between the strategy of pay level and pay dispersion, fixed bed and labor, active bed and percentage of bed occupancy and bed turnover and financial performance that according to the information of table, and the slope coefficient of line interface and significant level of relation between variables of strategy of pay level, fixed bed, bed turnover and financial performance is significant in error level of 1% and variable of labor in error level of 5% is significant.

Table 3: Results of regression relationship of resources productivity, care outcomes, financial performance and research variables

<table>
<thead>
<tr>
<th>Model</th>
<th>$\alpha$</th>
<th>$\beta_1$</th>
<th>$\beta_2$</th>
<th>$\beta_3$</th>
<th>$\beta_4$</th>
<th>$\beta_5$</th>
<th>$\beta_6$</th>
<th>$\beta_7$</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>2.78</td>
<td>0.137</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.234</td>
</tr>
<tr>
<td></td>
<td>0.000</td>
<td>0.002</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.449</td>
</tr>
<tr>
<td>Model 2</td>
<td>3.93</td>
<td>0.105</td>
<td>-2.852</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.449</td>
</tr>
</tbody>
</table>

http://www.ijhcs.com/index.php/ijhcs/index
Comparison with previous researches

Mark P. Brown et al., in 2003, have investigated the relationship between services compensation decision-making at the organizational level and organizational performance, and also payment structure and payment levels related to resources productivity, patient care outcomes and financial performance. They state that in general methods of human resources management, and in particular services compensation system has a strong relationship with organizational performance. Theory and empirical researches show that both payment level and payment structure are important to understand the concepts of payment policy at the organization level. The research findings indicate confirmation of the relationship of payment level strategy with resources productivity (average duration of patient's hospitalization) and patient care outcomes. The existence of relationship between organizational performance (resources productivity, patient care outcomes and financial performance) with dispersion in payment structure was also confirmed. The existence of an inverse relationship between payment levels and financial performance was not confirmed.
Discussion and Conclusion

The aim of conducting this research was to investigate the relationship of services compensation policy with organizational performance, productivity and financial performance in terms of payment levels and payment structure. Statistical population of this research includes public hospitals in Iran. The entire statistical population was investigated and sampling method was not used since it was possible to investigate and analyze the information of statistical population. Research data were extracted from databases and documents of Iran Social Security Hospitals and were analyzed.

The results related to the index of patient care indicate the high oscillations of this index during the research period. Financial performance index indicates also 81% cover of costs. Index of dispersion payment also shows sustainability of Gini coefficient during the period. The results of hypotheses test indicate a significant relationship between payment level strategy and resources productivity, non-linear relationship between payment level strategy and patient care outcomes, and a negative relationship between payment level strategy and financial performance. The negative linear relationship between resources productivity and payment dispersion was confirmed. On this basis, increase of index of resources productivity reduces index of payment dispersion. On the other hand, the existence of negative linear relationship between patient care outcomes and the payment dispersion is confirmed.
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