The relationship between employee productivity and dimensions of human resources architecture in Bu-Ali Sina Petrochemical

Hamid Shirali Fard
Department of Management, Yasouj Branch, Islamic azad University, Yasouj, Iran

Manahi Zahiri*
Department of Industrial Management, Omidiyeh Branch, Islamic Azad University, Omidiyeh, Iran
Corresponding author: zahiri1967@gmail.com

Abstract

The aim of this study was to investigate the relationship between employee productivity and aspects of human resources architecture in Bu-Ali Sina Petrochemical. This study is objectively applied and in terms of the method of collecting information is a descriptive survey study and is correlational. The population consisted of all employees of Bu-Ali Sina Petrochemical that their number was 417 people and the sample size was 200 people. The questionnaire was conducted using random sampling and data were analyzed using SPSS program. Pearson correlation test results show there is a significant relationship between human resources architecture and its dimensions with labor productivity. Based on the results of the Pearson correlation test, univariate and multivariate regression Strategic Human Resource Management (SHRM) has the greatest impact on labor productivity and then value-based human resources management has the greatest impact on labor productivity.

Keywords: human resource architecture, productivity, Bu-Ali Sina Petrochemical.
Introduction

Today, government agencies as well as private organizations are faced with demands and diverse needs of the environment, which should react well to meet and deal with those needs. In the current competitive environment, government agencies are also required to provide product and service of quality, reduce costs and efficient use of organizational resources. As a result, in the public sector the concepts of performance, efficiency, effectiveness, and performance management must also be taken into consideration (Guo et al., 2010).

Today, new change has been added to the roles of human resources. Some of these roles are business partner, leader, human resource professionals, and agents of change. Human capital is the basis for the core competencies of organizations in knowledge-based competition. The challenge that organizations face today, is that there is an important distinction between management and traditional practices and management of knowledge work; identifying these differences and understanding how to manage them, in making competitiveness is of crucial importance (Saeedi Parsa, 1392).

Human resource management has been defined "to identify, select, hire, train and develop human resources to achieve organizational goals". The purpose of the human resources of an organization is all those who are working at different levels of the organization. The purpose of the organization is big or small formation that with specific intent has created to achieve a specific goal. Enterprise architecture is a set of principles, rules, standards and guidelines that led the design of all components of the organization and how the relationships between these components. This approach is applicable to various organizations with different situations and maturity levels. Labor productivity only refers to the aspect of increasing the quantity or improving the quality of products (goods or services) which is created by improving the quality and the efforts of human resources. According to this definition a direct relationship is created between productivity and enabling the potential and actual ability of people. The higher percentage of this ability be streamlined, equally greater efficiency can be expected. Enterprise architecture is a key strategy that increases organizational efficiency and effectiveness, and application of its new methods causes to create dynamic, extensible and competitive organizations in the great scenes of competition. Today, organizations are looking to their employees as an important strategic resource to achieve their goals; so investing in actions that empower employees, improve their skills and their motivation will increase the organization's ability in facing with challenges ahead. Human resources in the public sector in Iran have a different situation than other sectors. In this section, labor productivity is lower than in the private sector, decision-making power of individuals and consequently their innovation and authority is limited, and the ratio of entrepreneurship and change is low. This study was done to investigate the relationship between human resources architecture and employee productivity is Bu-Ali Sina Petrochemical.
In light of the foregoing, and the importance and role of employee productivity of Bu-Ali Sina Petrochemical in improving organizational performance and like it the growth and development of the country, and the impacts of human resources architecture on it, the research problem is that Whether there is a significant relationship between human resources architecture and employee productivity in Bu-Ali Sina Petrochemical or not?

Research Methodology

In general, research methods in the behavioral sciences can be divided according to two criteria: A) The purpose of the study, b) how to collect data (Sarmad et al., 1388). According, since the present study aims to investigate the relationship between human resources architecture and employee productivity in Bu-Ali Sina Petrochemical, it is objectively applied and in terms of the method of collecting information is a descriptive survey study and is correlational. The study population included all formal and contracted employees in Bu-Ali Sina Petrochemical, which according to analysts; their number was around 417 persons.

Data Collection tools

Due to in various research projects, the researcher’s aim is different, so the researcher uses a variety of instruments to collect information. In order to collect information in this study the library studies and field research methods were used. In this way that, in order to collect the theoretical foundations the library method with refer to documents, websites, databases and scientific articles and theses, etc. was used. The data for this study were collected through questionnaires.

Inferential findings

Research hypotheses testing

The main hypotheses: human resource architecture forms have an impact on labor productivity in Bu-Ali Sina Petrochemical.

H0: human resource architecture forms have no impact on labor productivity in Bu-Ali Sina Petrochemical.

H1: human resource architecture forms have an impact on labor productivity in Bu-Ali Sina Petrochemical.

Pearson correlation test results in Table 1 show that there is a positive and significant relationship between human resources architecture and labor productivity at 99% confidence level (sig=0/000, r=0/540).This means that with the adoption and implementation of the human resources architecture, labor productivity increases and vice versa.
Table 1. Pearson correlation coefficient between human resources architecture with labor productivity

<table>
<thead>
<tr>
<th>labor productivity</th>
<th>Variable name</th>
<th>human resources architecture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0/540</td>
<td>The amount of correlation (r)</td>
<td></td>
</tr>
<tr>
<td>0/000</td>
<td>The significance level (sig)</td>
<td></td>
</tr>
<tr>
<td>200</td>
<td>Number</td>
<td></td>
</tr>
</tbody>
</table>

To understand the impact of human resources architecture forms on labor productivity two-variable linear regression test was used. The Results of Table 2 shows that the regression coefficient R between human resources architecture and labor productivity is equal to 0/540. The coefficient B is equal to 0/219 and indicates that a unit change in human resources architecture can cause 0/219 unit change in the dependent variable i.e. labor productivity. R² between the two variables human resources architecture and labor productivity is equal to 0/291 and indicates that 29/1 percent of changes of labor productivity are due to human resources architecture.

Table 2. The results of the bivariate regression between human resources architecture and labor productivity

<table>
<thead>
<tr>
<th>The significance level</th>
<th>t Value</th>
<th>Beta Coefficient</th>
<th>B Coefficient</th>
<th>R²</th>
<th>R</th>
<th>human resources architecture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0/000</td>
<td>9/025</td>
<td>0/540</td>
<td>0/219</td>
<td>0/291</td>
<td>0/540</td>
<td></td>
</tr>
</tbody>
</table>

First sub-hypothesis: incentive human resources management has an impact on labor productivity in Bu-Ali Sina Petrochemical.
H0: incentive human resources management has no impact on labor productivity in Bu-Ali Sina Petrochemical.
H1: incentive human resources management has an impact on labor productivity in Bu-Ali Sina Petrochemical.
Pearson correlation test results in Table 3 show that there is a positive and significant relationship between incentive human resources management and labor productivity at 99% confidence level (sig=0/000, r=0/382). This means that with the adoption and implementation of the incentive human resources management, labor productivity increases and vice versa. Table 3 shows the results above.

Table 3 Pearson correlation coefficient between incentive human resource management with labor productivity

<table>
<thead>
<tr>
<th>labor productivity</th>
<th>Variable name</th>
<th>incentive human resources management</th>
</tr>
</thead>
<tbody>
<tr>
<td>0/382</td>
<td>The amount of correlation (r)</td>
<td></td>
</tr>
<tr>
<td>0/000</td>
<td>The significance level (sig)</td>
<td></td>
</tr>
<tr>
<td>200</td>
<td>Number</td>
<td></td>
</tr>
</tbody>
</table>
To understand the impact of incentive human resources management on labor productivity two-variable linear regression test was used. The Results of Table 4 shows that the regression coefficient $R$ between incentive human resources management and labor productivity is equal to 0/382. The coefficient $B$ is equal to 0/514 and indicates that a unit change in incentive human resources management can cause 0/514 unit change in the dependent variable i.e. labor productivity. $R^2$ between the two variables incentive human resources management and labor productivity is equal to 0/146 and indicates that 14/6 percent of changes of labor productivity are due to incentive human resources management.

Table 4 The results of the bivariate regression between incentive human resource management and labor productivity

<table>
<thead>
<tr>
<th>The significance level</th>
<th>t Value</th>
<th>Beta Coefficient</th>
<th>B Coefficient</th>
<th>$R^2$</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>0/000</td>
<td>5/823</td>
<td>0/382</td>
<td>0/514</td>
<td>0/146</td>
<td>0/382</td>
</tr>
</tbody>
</table>

The second sub-hypothesis: value-based human resources management has an impact on labor productivity in Bu-Ali Sina Petrochemical.

H0: value-based human resources management has no impact on labor productivity in Bu-Ali Sina Petrochemical.

H1: value-based human resources management has an impact on labor productivity in Bu-Ali Sina Petrochemical.

Pearson correlation test results in Table 5 show that there is a positive and significant relationship between value-based human resources management and labor productivity at 99% confidence level ($\text{sig}=0/000$, $r=0/421$). This means that with the adoption and implementation of the value-based human resources management, labor productivity increases and vice versa. Table 5 shows the results above.

Table 5 Pearson correlation coefficient between value-based human resources management with labor productivity

<table>
<thead>
<tr>
<th>labor productivity</th>
<th>Variable name</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0/421</td>
<td>The amount of correlation $(r)$</td>
<td>value-based human resources management</td>
</tr>
<tr>
<td>0/000</td>
<td>The significance level $(\text{sig})$</td>
<td></td>
</tr>
<tr>
<td>200</td>
<td>Number</td>
<td></td>
</tr>
</tbody>
</table>

To understand the impact of value-based human resources management on labor productivity the two-variable linear regression test was used (Table 6).
The Results of Table 6 shows that the regression coefficient R between value-based human resources management and labor productivity is equal to 0/421. The coefficient B is equal to 0/517 and indicates that a unit change in value-based human resources management can cause 0/517 unit change in the dependent variable i.e. labor productivity. R² between the two variables value-based human resources management and labor productivity is equal to 0/177 and indicates that 17/7 percent of changes of labor productivity are due to value-based human resources management.

The third sub-hypothesis: Administrative Human Resources Management has an impact on labor productivity in Bu-Ali Sina Petrochemical.
H0: Administrative Human Resources Management has no impact on labor productivity in Bu-Ali Sina Petrochemical.
H1: Administrative Human Resources Management has an impact on labor productivity in Bu-Ali Sina Petrochemical.

Pearson correlation test results in Table 7 show that there is a positive and significant relationship between Administrative Human Resources Management and labor productivity at 99% confidence level (sig=0/000, r=0/376). This means that with the adoption and implementation of the Administrative Human Resources Management, labor productivity increases and vice versa. Table 7 shows the results above.

Table 7 Pearson correlation coefficient between Administrative Human Resources Management with labor productivity

<table>
<thead>
<tr>
<th>labor productivity</th>
<th>Variable name</th>
<th>Administrative Human Resources Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>0/376</td>
<td>The amount of correlation (r)</td>
<td></td>
</tr>
<tr>
<td>0/000</td>
<td>The significance level (sig)</td>
<td></td>
</tr>
<tr>
<td>200</td>
<td>Number</td>
<td></td>
</tr>
</tbody>
</table>

To understand the impact of Administrative Human Resources Management on labor productivity two-variable linear regression test was used. The Results of Table 8 shows that the regression coefficient R between Administrative Human Resources Management and labor productivity is equal to 0/376. The coefficient B is equal to 0/373 and indicates that a unit change in Administrative Human Resources Management can cause 0/373 unit change in the dependent variable i.e. labor productivity.
productivity. $R^2$ between the two variables Administrative Human Resources Management and labor productivity is equal to 0/141 and indicates that 14/1 percent of changes of labor productivity are due to Administrative Human Resources Management.

Table 8 The results of the bivariate regression between Administrative Human Resources Management and labor productivity

<table>
<thead>
<tr>
<th>Variable name</th>
<th>Coefficient</th>
<th>$R^2$</th>
<th>$R$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Human Resources Management</td>
<td>0/373</td>
<td>0/141</td>
<td>0/376</td>
</tr>
</tbody>
</table>

The fourth sub-hypothesis: Strategic Human Resource Management has an impact on labor productivity in Bu-Ali Sina Petrochemical.

H0: Strategic Human Resource Management has no impact on labor productivity in Bu-Ali Sina Petrochemical.

H1: Strategic Human Resource Management has an impact on labor productivity in Bu-Ali Sina Petrochemical.

Pearson correlation test results in Table 9 show that there is a positive and significant relationship between Strategic Human Resource Management and labor productivity at 99% confidence level (sig=0/000, $r=0/515$). This means that with the adoption and implementation of the Strategic Human Resource Management, labor productivity increases and vice versa. These results can be generalized to the entire population and in this case the hypothesis is confirmed and the null hypothesis is rejected. Table 9 shows the results above.

Table 9 Pearson correlation coefficient between Strategic Human Resource Management with labor productivity

<table>
<thead>
<tr>
<th>Variable name</th>
<th>Coefficient</th>
<th>$R^2$</th>
<th>$R$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Human Resource Management</td>
<td>0/820</td>
<td>0/265</td>
<td>0/265</td>
</tr>
</tbody>
</table>

To understand the impact of Strategic Human Resource Management on labor productivity two-variable linear regression test was used. Results of Table 10 shows that the regression coefficient $R$ between Strategic Human Resource Management and labor productivity is equal to 0/515. The coefficient B is equal to 0/820 and indicates that a unit change in Strategic Human Resource Management can cause 0/820 unit change in the dependent variable i.e. labor productivity. $R^2$ between the two variables Strategic Human Resource Management and labor productivity is equal to 0/265 and indicates that 26/5 percent of changes of labor productivity are due to Strategic Human Resource Management.
Table 10 The results of the bivariate regression between Strategic Human Resource Management and labor productivity

<table>
<thead>
<tr>
<th>The significance level</th>
<th>t Value</th>
<th>Beta Coefficient</th>
<th>B Coefficient</th>
<th>R²</th>
<th>R</th>
<th>Strategic Human Resource Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>0/000</td>
<td>8/452</td>
<td>0/515</td>
<td>0/820</td>
<td>0/265</td>
<td>0/515</td>
<td></td>
</tr>
</tbody>
</table>

Conclusion and Recommendations

The main hypotheses: human resource architecture forms have an impact on labor productivity in Bu-Ali Sina Petrochemical. To test this hypothesis regression analysis was used. The results of the regression analysis have shown that the human resources architecture has a significant positive impact on labor productivity. So the main hypothesis is confirmed.

This result shows that by improving human resources architecture, labor productivity will increase. In other words, attention and planning in the field of human resources architecture, as one of the organization's human resources management tasks, will increase staff productivity and improve organizational performance.

The results of this hypothesis are consistent with theoretical foundations and previous studies, including Khojastehpour et al (1393), Saeedi Parsa (1392), Saeedi Parsa et al (1392), Danaei (1387), Huselid (2005), the Khaliji and Wang (2006), Ridder et al. (2012), Ahmadi et al. (2013) and Honarmand (2013).

First sub-hypothesis: incentive human resources management has an impact on labor productivity in Bu-Ali Sina Petrochemical.

According to the results of two-variable linear regression, coefficient B is equal to 0/514 and indicates that a unit change in incentive human resource management increases labor productivity 0/514 unit. This result implies acceptance of the first sub-hypothesis of research.

This result shows that by increasing expertise of individuals in their jobs, increasing specialist staff cooperation with the organization, increasing specialist employee satisfaction in the organization and greater organizations ‘attention to welfare of specialist staff, the employee productivity and thus the performance of Bu-Ali Sina Petrochemical will improve. The results of this hypothesis are consistent with theoretical foundations and previous studies, including Saeedi Parsa (1392), Saeedi Parsa et al (1392) and Ridder et al. (2012).

The second sub-hypothesis: value-based human resources management has an impact on labor productivity in Bu-Ali Sina Petrochemical.

To understand the impact of value-based human resources management on labor productivity the two-variable linear regression test was used. The results show that with the adoption and implementation of value-based human resources management, labor productivity increases and vice versa. So the second sub-hypothesis off the study is also confirmed.
This result suggests that with the value-based management in the organization (through the induction of key positions within the organization, holding training programs for specialist staff, increased sense of responsibility in specialist staff to the organization, the organization's efforts to maintain and strengthen the specialist staff, and the organization’s attempts to attract professionals for jobs) employee productivity increases. The results of this hypothesis are consistent with theoretical foundations and previous studies, including Saeedi Parsa (1392), Saeedi Parsa et al (1392) and Ridder et al (2012).

The third sub-hypothesis: Administrative Human Resources Management has an impact on labor productivity in Bu-Ali Sina Petrochemical.

To understand the impact of Administrative Human Resources Management on labor productivity the two-variable linear regression test was used. The results show that the coefficient B is equal to 0/373 and indicates that a unit increase in Administrative Human Resources Management, increase the dependent variable i.e. labor productivity 0/373unit. This result confirms the third hypothesis.

This implies that, whatever non-key (non-expert) employees working in organizations be smaller, whatever the role of people in organizational goals be more notable, whatever people tend more to fulfill their obligations and have more accuracy and whatever the need to change manpower in the organization be less, the organizational efficiency will improve more. The results of this hypothesis are consistent with theoretical foundations and previous studies, including Saeedi Parsa (1392), Saeedi Parsa et al (1392) and Ridder et al (2012).

The fourth sub-hypothesis: Strategic Human Resource Management has an impact on labor productivity in Bu-Ali Sina Petrochemical.

Test results of two-variable linear regression show that coefficient B is equal to 0/820 and indicates that a unit increase in strategic human resource management increases labor productivity 0/820unit. So the fourth research hypothesis is accepted. Based on the results, by using and implementing strategic human resource management, labor productivity increases and vice versa. The results of the hypothesis suggest that attention and emphasis on strategic human resource management (through understanding the importance of jobs and workers, reducing the possibility of eliminating the job, increasing the standard of available jobs in the organization and increasing the proportion of jobs of employees with organizational goals) will increase employee productivity and improve organizational performance. The results of this hypothesis are consistent with theoretical foundations and previous studies, including Saeedi Parsa (1392), Saeedi Parsa et al (1392) and Ridder et al (2012).

Implementation of various forms of human resources architecture leads to different labor productivity of organizations. Based on the results of the Pearson correlation test, univariate and multivariate regression Strategic Human Resource Management (SHRM) has the greatest impact on labor productivity and then value-based human resources management has the greatest impact on labor productivity.
Suggestions for Future Research

- similar studies in other public and private organizations be done and the results be evaluated and the results be used in planning and policies.
- comparative researches be done on increasing labor productivity in private and public companies.
- to study and learn from models of successful countries in the world in the field of management so they can implement the best management in their organization.
- review the moderating role of human resource outcomes such as commitment and employee satisfaction in the relationship between Human Resources Architecture and Organizational Performance.
- in a research, other factors affecting employee productivity in Bu-Ali Sina Petrochemical be examined.

Research limitations

- ease answering to the questionnaire was a problem that was evident in the research, this can be reduced by designing questions impartial and insensitive as possible, but it was effective as a difficulty in collecting information.
- Since the research environment is limited to Bu-Ali Sina Petrochemical, to generalize the results to other organizations, cities and other provinces should be cautious.
- time consuming to complete and distribute questionnaires and collect them is another limitation of this study.
- research time and carry out projects at the same time with lesson and work plans, that the problem was removed with planning.
- the lack of scientific sources including academic books related to the subject (in particular human resources architecture)
- cost problems to do thesis at different stages of questioning to binding
Sources and references

Khojastehpour, Milad; Soltani, Iraj; Rashidpur, Ali (1393), the impact of human resources architecture on the performance of Intellectual Capital of staff in auxin Khuzestan Steel Company, an international conference on management tools and techniques.

Danaei, Shirin (1387), investigating the relationship between management styles with labor productivity in Power Distribution Company of Khorasan Razavi province, Twenty-Third International Conference on Electricity.

Sarmad, Zohreh, Bazargan, Abbas; Hejazi, Elaheh (1388), research methods in the behavioral sciences, publishing Agah.

Saeedi Parsa, Zahrasadat (1392), the relationship between human resources architecture with labor productivity in government agencies (Case Study: Cement Company in Kermanshah West), management conference, challenges and solutions, Shiraz.


Ridder, h.g. Baluch, a.m. and paining, E.P. (2012). the word is more than the sum of the part, HRM is configured in nonprofit organization and why it matters. Human resources management review, 221-14.