

**THE EFFECT OF SOCIAL CAPITAL ON IMPROVING PRODUCTIVITY OF HUMAN RESOURCES IN THE PROJECT OF ENGINEERING, PROCUREMENT AND CONSTRUCTION BANDAR ABBAS GAS CONDENSATE REFINERY**

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**ABSTRACT**

In contrast to human resources or physical capital, social capital refers to a concept other than possessions an individual would have. It has the advantage of relations and settings in which interaction plays the main role and bears the most responsibility. One effect of social capital is to increase the productivity of human resources, especially dealing with big projects. In this respect, social capital in project-based organizations is considered as an important productivity resource so that actions would be done in a suitable way and teamwork could be more coherent than ever. Thus, the objective of the present study is to investigate the effect of social capital on productivity of human resources concerning project-based plans. In this respect, a general hypothesis along with three minor hypotheses were formed, which evaluated the effect of social capital and its three-fold aspects (trust, solidarity and cooperation) on productivity, respectively. The results of tests showed that increasing one unit of social capital and each of its three-fold aspects, productivity might be increased by 0.91, 0.58, 0.79 and 0.91, respectively. SPSS 19 and LISREL 8/8 software were used to analyze data and the statistic universe of this study included the managers and employees of Bandar Abbas Gas Condensate Refinery.

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The number of the sample was 169 people using Morgan sample table. The results showed that social capital has a positive effect on productivity.

**Key words:** productivity, trust, solidarity, cooperation, social capital.

## 1. INTRODUCTION

A few decades ago, concept of new capitals was merged and thus the concept of capital developed dramatically because of revolutionary changes of the concept. Pierr Bourdieu (1992) believed in three forms of capital: economic capital, which is represented as assets and savings; cultural capital, which is represented as education and proficiency; and social capital as a set of potential and actual resources, which is resulted from a durable network of more or less institutionalized relations among the individuals' reciprocal acquaintances (interests a person gains from his/her group cooperation). Basically, capital can be divided into four categories: economic capital; social capital (valuable relations with others); cultural capital (types of legitimate knowledge); and symbolic capital (social prestige and honor). We live in an age bewildered by organizations and people in our environment. The organizations and people have special functions, cooperate with and compete against each other.

Capital in the society presents in a form that its existence cannot be considered in a specific domain of the society, rather it can be said that capital covered the whole society. The reason is that the capital is sometime symbolic and in some other times is social or cultural. Furthermore, the great importance of economic capital cannot be ignored and capital is not only belonged to organization and society but also to the individuals. The individuals are also beneficiary of different capitals and one cannot imagine a society and human beings without capital. There are organizations and individuals with much, little, negative or positive capital but there is no organization and individual without capital. Moreover, there is no doubt at all that the most obvious and general finding of research in recent decades on organizations and management showed the unique importance and function of human resources. In this respect, organizations should absorb intelligent and salient individuals and maintain them in the organization by creating positive, supporting and developing atmosphere (Edrisi et al. 2012).

In fact, human resources are the fatal and strategic factor for increasing productivity and may result in development of the society. Studies showed that effective conditions for safe working and achieving favorable factors in work environment owes to productive individuals in the

organizations. Examples of favorable factors can be trust, solidarity and cooperation (Bahreini Zadeh, 2013).

Qualitative and quantitative increasing of social capital (trust, solidarity and cooperation) is the main factor for productivity and using capital and institutionalizing it in the organization has a central role and can increase productivity of the organization (Panahi, 2012).

Different areas of society is not empty of capital and everywhere in the society, individuals and organizations have capital but it differs in degree (little and much) and direction (negative and positive). Formal and informal groups in the organizations may have goals other than those of the organization. In this case, they can challenge the management and organization and even force them to destruction. Thus, it should be understood how to adjust these groups with the management and organizational goals or try to develop favorable ones. Now, the question could be that how we can use these capitals saturated in the organization and create competitive advantages along with perpetual productivity. To answer we continue to review previous research:

Rahmati and Moradi (2010) carried out a research titled “Social Distribution of Consumption Model”. Studying artistic taste in Tehran, they referred to the importance of consumption as the most important research topic concerning sociology. They used Pier Bordio’s notions and other post-modernist theories. Their research was done in surveying method, using questionnaire with double cluster sampling among 410 people aging 15 – 45 in Tehran. According to the research findings, the individuals’ artistic taste has not significant relation with the variables such as age, gender, race and job on the one hand, and some mixed and eclectic state is observed in consumption pattern of cultural and artistic products among the studied sample, on the other.

In 2011 Noogani et al. carried out a research titled “the Effect of Economic, Social and Cultural Capital on Achieving University Entrance Examination”. A sample of 400 male and female pre-university students of state and nonprofit schools in Isfahan. Findings based on the results from analyzing logistic regression showed that the variables of social, economic and cultural capital have a significant effect on the possibility of achieving university entrance examination.

Emamjomeh Zadeh et al. (2013) carried out a research titled “Relation between Social Capital and Political Consumerism among the Students of Isfahan University”. The research sample includes 250 male and female students of Isfahan University. Dividing social capital into two variables (social trust and social networks) along with considering three aspects of political

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consumerism, that is, behaviors, motivations and habits showed that there is a significant correlation between the aspects of social capital and the degree of political consumerism among the respondents. In this respect, political consumerism was affected the most in comparison with social solidarity, one of the components of social networks and the least in comparison with generalized trust, one of the components of social trust.

Another research was carried out in 2013 by Righi titled “Measuring Social Capital: Official Statistics Initiative in Italy”. The researcher reviewed the theoretical, international and national literature of social capital. He pointed out that the basic problem in measuring the variable of social capital is that it is multidimensional and it should be considered precisely. The researcher concluded that the aspects of social capital are measurable and the paper concluded by considering three aspects of trust, solidarity and cooperation for social capital.

Kirkbesoglu (2013) conducted a research titled “the Impact of Social Capital on Managerial Reputation”. The study was carried out on 28 managers who were the richest in Turkey. The results showed that the structural aspect of social capital has significant effect on explaining family credit and the communicational aspect of social capital has significant effect on explaining individuals’ credit. The interactions of strategic resources in the organization were considered as key factors to create behavioral value, which might cause the effect of social capital on strategic resources to be understood better and more deeply.

Dinga (2014) conducted a research titled “Social Capital and Social Justice”. The research dealt with social justice in a society with democratic rules and paid attention to the important function of social capital. The researcher dealt with typology and nature of social capital and examined the general aspects of social capital in terms of trust, solidarity and cooperation. The result showed that there is a significant relation between social justice and social capital. A specific typology was also considered to measure social capital in this research.

In the present research, we tried to study the effect of social capital on the organizational productivity with the aim of understanding whether the value of individuals’ productivity can be increased by changing their social capital. Naturally, given Hawthorn’s theory and studies on human as a social entity and the notion that social relations can increase human beings productivity, one can predict that social capital would have a positive relation with productivity in the organizations. Thus, this theory was retested in the article by asking whether social capital has a positive and significant effect on productivity in the organizations or not.

## 2. RESEARCH METHODOLOGY

This research is an applied research by its objective and descriptive by its nature and was done in surveying method, using SPSS 19 and lisrel 8/8 software. The statistic universe of the research included the managers and employees of Bandar Abbas Gas Condensate Refinery. The number of the sample was 169 people using Morgan sample table and it was amount to 168 people using Cochran formula with measurement error coefficient of 0.05 (level of confidence 0.95). The number of sample was considered 210 in order to achieve high confidence. Tool for gathering data was questionnaire (Likert scale with five alternative), which distributed randomly among the sample society. The questionnaire included 20 components 5 of which were assigned to each aspect of social capital and 5 components for measuring productivity of human resources. Two experts (one assistant professor of sociology and one assistant professor of management) confirmed validity of questionnaire in terms of its form. Its reliability was evaluated by SPSS 19 software and Cronbach Alpha. Table 1 shows resulted different values.

**Table1.** The values of Cronbach Alpha

social capital	Productivity	Social trust	Social cooperation	Social solidarity
0.875	0.762	0.891	0.831	0.877

### Research questions

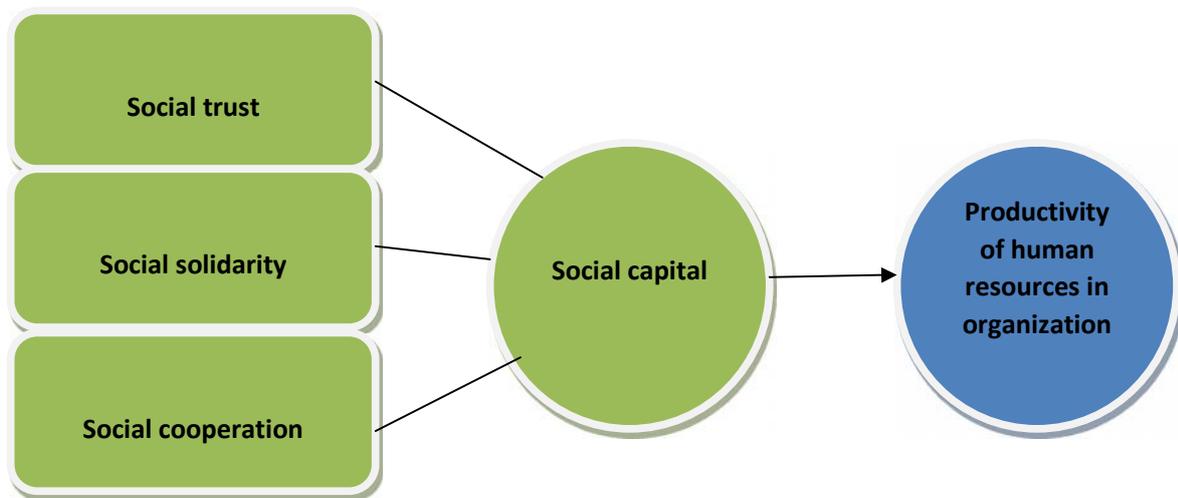
#### Main question

Does social capital have positive effect on the productivity of human resources?

#### Subordinate questions

1. Does social trust have positive effect on the productivity of human resources?
2. Does social solidarity have positive effect on the productivity of human resources?
3. Does social cooperation have positive effect on the productivity of human resources?

#### Conceptual model of the research



**Research findings**

In this section, we try to prove the research hypotheses. Two models are presented. First, we explain the main hypothesis and then we will continue to explain the subordinate hypotheses.

Tables 2 and 3 show the fitting indexes including Chi-square, RMSEA, GFI ... If the value of  $\chi^2$  is low, the ratio of  $\chi^2$  to freedom degree (df) low than 3, RMSEA less than 1, and GFI and AGFI higher than 90%, then it can be concluded that the applied model may have suitable fitness. Standard coefficient of the existed relation will be significant on confidence level of 99% if the t value higher than 1.96 or lower than -1.96.

**Table2.** The model of structural equations of main hypothesis

The model of structural equations of research hypotheses			
	Relation (acting load)	significance coefficient	Result proved
Main question	0,91	14.34	
Fitness indexes of subordinate hypotheses model			
Chi-square	d.f	p-value	RMSEA
86.23	53	0.000	0.018
GFI	AGFI	CFI	NFI
0.92	0.91	0.92	0.89

**Table3.** The model of structural equations of subordinate hypotheses

The model of structural equations of research hypotheses			
	Relation (acting load)	significance coefficient	Result
Question 1	0.58	22.85	proved
Question 2	0.79	15.88	proved
Question 3	0.91	27.31	proved
Fitness indexes of subordinate hypotheses model			
Chi-square	d.f	p-value	RMSEA
223	126	0.000	0.168
GFI	AGFI	CFI	NFI
0.91	0.92	0.89	0.91

As can be observed, considering the significance of t value, the validity and fitness of the model is proved since the value of Chi-square, RMSEA and the ratio of Chi-square to degree of freedom is low and the value of GFI and ADFI is also higher than 90%.

#### 4. DISCUSSION AND CONCLUSIONS

The objective of the research was to study the effect of social capital on the productivity of human resources. Therefore, one general hypothesis and three subordinate hypotheses were formed in which the effect of social capital and its three-fold aspects (trust, solidarity and cooperation) on the productivity was studied. The results of tests showed that increasing one unit of social capital and each of its three-fold aspects, productivity might be increased by 0.91, 0.58, 0.79 and 0.91, respectively. Thus, all the hypotheses (proposed questions) were proved in this research, which indicates that increasing one unit of social capital can increase productivity by 0.91 units. This significant fact shows the strength of its effect. Considering bibliographic studies and investigations, no research was carried out on the effect of social capital on the productivity of human resources but its variables were studied separately, the fact that research literature shows it obviously. The studies by Rahmati and Moradi (2010), Nogani et al. (2011) and Emamjomeh Zadeh et al. in the country and international studies by Righi (2013), Kirkbesoglu (2013) and Dinga (2014) showed that social capital can be effective on many aspects of organizations and the results of the present research were consistent with those of other researches mentioned here in terms of being positive and affective.

Therefore, it can be said that increasing social capital among the organization employees may result in improving their productivity. In other words, if individuals trust in each other and be ensured not being suffered by others then they share their resources including information and

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facilities with other people. On the other hand, if separated people in an organization can gather together and form a unit and consider each other as a whole they would create synergistic effect and work as a team, the fact that results in increased productivity. By the same token, it should be considered that the more the individuals practice positive and constructing participation and political behaviors in the organization the more the organization will achieve its pre-assigned goals and improve its productivity.

In this respect, managers and employees in the organizations should try to increase trust among the individuals and socialize them and encourage them to work as teams and groups and participate in goal making so that they can cooperate to achieve goals and consider the organizational goals as their own and struggle to achieve them.

- It is suggested that managers and employees in the organizations educate employees and other managers to be socialized and provide them with brochures and books in line with this strategy.
- It is needed to institutionalize the atmosphere and culture of participation and teamwork and attempts should be made to turn the organization as a set of individuals into a coherent whole of individuals so that employees can act together at the best and highest level.
- A suggestion is made to the future researchers to study the variables of this research with other organizational and social variables.
- Other forms of capital including economic and cultural capitals can be added to this research and then investigated.
- Using standard questionnaire to do this research will be another suggestion.
- It is also suggested that the variable of social capital is evaluated using Nahapit and Gushal model and the results compared with the results of the present research.

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