ANALYZING THE RELATIONSHIP BETWEEN ORGANIZATIONAL INTELLIGENCE AND STAFF PRODUCTIVITY IN GOVERNMENTAL DISTRICT: A CASE OF SHIRAZ MUNICIPALITY

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ABSTRACT

This research engages in examining and analyzing the relationship between organizational intelligence and staff productivity in Shiraz municipality. For determining the standard deviation, a preliminary sampling has been used. Based on obtained standard deviation maximum estimated sample size are 72 people in 5% significant level. Examination of research hypothesis indicates that two dimensions of total seven dimensions (strategic vision and appetite for change) are not in desired situation in Shiraz municipality. In addition, except incentive dimension, other factors of human productivity are in desired situation. On the other side, analysis of correlation results showed that there is a relationship between staff productivity and organizational intelligence. Therefore, the main hypothesis is confirmed. The analysis of correlation shows that there is significant relationship between organizational intelligence and four components of human resource productivity but organizational intelligence doesn't have significant impact on job clarity, organizational help and environmental compatibility.

KEYWORDS: human resource productivity, organizational intelligence, knowledge management, Shiraz municipality

INTRODUCTION

The importance of productivity is no secret to anyone according to expanding of competition's level, technology complexity, information interchange speed and taste variety. Nowadays, productivity and efficiency have special place by managers and everybody is looking for more efficiency and effectiveness and their efforts are being formed in this line so that guarantee organization's stability in competitive world. Productivity is based on knowledge, skills and rational abilities of schooled person, increasingly. In fact, productivity is an intellectual system that is obtained in an organization before improving and updating equipment and machinery by productive human resource (Fachin and Gavosto, 2010). Moreover, nowadays, there is talking of any kind of intelligence. In any kind, intelligence is referred to understanding ability, perception and use of signs and symbols that is a kind of abstract ability. In these days, intelligence has become prefix of much management contexts and this is indication of the change of organization...
and organizational large minder's view of experimental intelligence on modern approaches towards intelligence topic. One kind of intelligence is organizational intelligence. Organizational intelligence makes us able for organization's decision-making. Organizational intelligence means having a comprehensive knowledge on effective factors on business; deep knowledge on every factors such as customers, competitors, economic environment, operation and organizational process that impress the quality of management decision and productivity increasing in organizations (Beikzad et al, 2010).

Staff performance in any situation shows the people's insight and awareness toward the special position or issue that are evaluated about them and based on the fact that employee's organizational intelligence show their awareness and information about the effective factors on organization, so it can be considered as one of the impressive factors on employee's productivity in an organization. Since in any organization the role of employees and human resource as one of the most important factor on organization's success, is undeniable, so enhancing and improving of employees and human resource productivity in achieving success and gaining competitive advantage, is an unavoidable and vital issue. In fact, we can say that organizational intelligence causes enhancing and improvement of work force and on the other hand, it causes inciting of human resource towards suitable effective and efficient behaviors (Khodadadi et al, 2010). Recent studies have shown that five characteristics of personality, talent, interest, intelligence and skill are effective in furtherance of organizational learning, knowledge oriented, creation coefficient and enhancing of employees productivity, as human resource's success (Marellie &Pastore, 2010). Nowadays, with fully confidence, we can say that identifying and utilizing of organizational intelligence can increase effectiveness and efficiency of work force and an organization's competition power and make it outstanding from other organizations, results of researches indicate that human resource productivity index in Iran is low comparing with zone and east of Asia countries. Advertised statistics in field of employees' productivity in Iran, in 2000, compared with 1995, shows 25% decrease. i.e. 25% negative growth, meanwhile during these years, productivity level in Hong Kong, Thailand, Taiwan, South Korea, Singapore, India and Pakistan has increased 40%, 37%, 36%, 34% 27%, 19%, 14% in a row. Thus, the necessity of deliberation for ways of enhancing work force's productivity is felt as the main and worthy organization's asset (Rezaeian & Ghasemi, 2010). Furthermore, according to mentioned topics in this research, we are determined to examine and analyze the relationship between staff productivity and organizational intelligence in Shiraz municipality as a case study and present solutions for improving these two variables and their relationship in this organization by specifying their relationship.

EXAMINING OF RESEARCH BACKGROUND

Organizational intelligence

As a theoretical concept, we can recall organizational intelligence as one of the most important points in organization's theory. Organizational intelligence is defined as organization's ability in solving organization's problems. The concentration of this concept is on the accretion of technical and humanity abilities on solving organization's problems and if we want to talk more exactly, we have to say that organizational intelligence included total and complete information, experience, knowledge and perception of organization's issue (Jafari and Faghihi, 2009).
Organizational intelligence is a different and distinguished concept of business intelligence that is become mooted and not many related scientific and studious deliberations are become mooted, yet. Business intelligence is explained as having deep knowledge towards all factors such as customers, competitors, economic environment, operation and organizational process that have high impression on the quality of management's decision and experts of this concept believes that business intelligence, makes companies able to decide about all effective factors on organizations and companies, but organizational intelligence is a combination of all necessary skills for existence of an organization that these skills are change adjustment ability, action and reaction speed, flexibility and sensitivity to having open mind, ability of imagination and renovation.

Karl Albrecht defined organizational intelligence as it is an ability that motivate organization's total intellectual power and concentrated this on achieving its mission and goals (Lefter et al, 2008).

Goleman (1995) showed in his research about organizational intelligence that it enhances performance in several fields of management and group work whilst organizational intelligence's potency can determine physical-mental health along job progress level in people.

Glynn by publication of an article has presented three models for organizational intelligence including aggregation model, cross-level model and distributed model in 1996. He classified organizational intelligence in three categories that are individual intelligence aggregation, individual intelligence cross-level relationship, and organizational intelligence as a larger system. Furthermore, from the viewpoint of him organizational intelligence is consist of data analysis function that makes the compatibility of environment's need possible and is dependant to innovation and performing it (Glynn, 1996).

Albrecht has stated this concept in his book "the power of minds at work: organizational intelligence in action" in 2003. With more than 25 years experience as an organizational consultant, army intelligence officer, civilian program manager in the U.S. federal government and a technical marketing manager with an aerospace corporation, he proposed Albrecht's law in field of management and organization's issue in his book that is the result of many years experience and study. Albrecht's law says that intelligent people, when assembled into an organization, will tend toward collective stupidity. He presented seven components in this model that are appetite for change, shared fate, knowledge deployment, performance pressure, alignment and congruence, strategic vision and heart. Albrecht defined organizational intelligence as an organization's capacity of an enterprise to mobilize all of its available brain power and to focus that brain power on achieving its mission (Albrecht, 2003)

Prejmerean et al (2007) in his research on examination of organizational intelligence, standards and knowledge management's crystallization in academic and higher education center stated that some of the characteristics of higher education are barriers for fortifying organizational intelligence but from the other hand several social, cultural and information factors are in this center that prepared possibility of organizational intelligence enhancement. In addition, in accomplished researches in Libya, it is shown that oil and gas industry as backbone of Libya economic provide suitable background for studying the effect of organizational intelligence specially at the present time that economical boycotts have been removed. Organizational
intelligence is very various and describes the weakness and strength of decision making. According to the important role of oil and gas department, they have to be individuated from administrative deficit and complex organizational behavior. These departments' abilities are good for stimulation and concentration on employees' intellectual power in order for achieving objectives on future growth. In this article present hindrances of oil and gas industry in Libya related with gaining competitive advantages by organizational intelligence have been stated and it describes results that factor's variety such as organization's behavior, infrastructural equipment, production capacity, oil and gas companies' individual interests as determined factors for solving present hindrances (Hawedi et al, 2011).

Staff productivity

In economic text, different definition has presented for productivity that all of them refer to accurate and efficient use of sources in achieving determined objectives, in some way. In fact, productivity is a measurable tool and criterion for measuring the efficiency of economic activities in society. Struggling for this criterion's improvement has formed a part of human life and settled different aspects of material and spiritual life besides each other. Thus, productivity is a concept beyond economic criteria. Saharsauian (2002) has defined productivity like:

Productivity is the ratio of output to used sources unit that is compared with similar ratio in basis period and utilized. Moreover, Dobni (2004) stated that productivity is the relation between output and related to specific and known production operation. Also, in a research that has done on productivity, they struggled to identify the most important factors on human resource productivity and then prioritize them. Results of analyzing data showed that directional factors are the most important effective factors and then personal, cultural, social-psychological factors were effective and environmental factor has less effect on employees' productivity (Tavari et al, 2008). In another research that has been done by Rahimikia et al in 2011, it is showed that employees in Khorramabad municipality have positive view about the role of office automation use (office support system, telecommunication systems, document relocation systems, document management systems) in their productivity. In addition, Fallahi and Sojoudi (2011) in their study, engaged in checking the effect of education besides some other factors on human resource productivity. Results from analyzing these data showed that education level, physical capital, research and development activities, export and wage rate have positive effect on human resource productivity. Furthermore, increasing of educational expenses has negative effect on human resource productivity. Results from empirical analysis showed that the effect of the institute's ownership is not significant and based on this research's findings; private institutes don't have higher productivity in regard to governmental institutes.

Halkos and Bousinakis (2010) examined the effect of stress and job satisfaction on employees' productivity. Effective components in field of stress and job satisfaction on productivity were work hours, good relationship between employees and their mangers, good performance of group related to education and a education-related job. Results of the analysis of collected data from 425 people of employees in private and public office, in this research, illustrated that the employees' productivity has decreased by increasing stress level and it has increased by enhancing their satisfaction level consequently.
Alexi, in his research engaged in examination of effective factors on managers productivity in public organizations in Arizona University that has done by focus regression statistical model and he showed in this study that conceptual performance is one of the sub-scales that has high index as regard to productivity. In addition he concluded that the role of governed human relations in organization is not ineffective on increasing of the productivity of managers and employees because a relationship between governed human relations in organizations and the productivity of managers and employees has been reported at 95 percent confidence level.

Sinkkonen (2005) has done a research titled "work force productivity and industry's structure" and examined the effect of industry's structure on work force productivity's growth. The researcher has evaluated productivity's increase in 54 industries in 14 Europe and America union during 1979 to 2001. Results indicated that industry's structure was effective on rapid growth of work force productivity and resulted in depreciation of the price of produced goods. In this research, work force productivity in general level and in industry level has been examined. The researcher found that the growth of work force productivity has been decreasing in countries of Europe union from mid 1990 decade. In another research, a researcher engaged in examining the relationship between work force productivity on wages; he studied 46 large factories in Canada and has used productivity and wage-related date since 1961 to 1995. Results from data analysis showed that there is not any relationship between work force productivity rate and nominal wages changes. And in fact, work force productivity and nominal fees didn't have same direction changes (Bruce, 2002).

RESEARCH METHODOLOGY

The statistical universe of this research included all employees and managers in Shiraz municipality. This research is a survey-analytic research that is part of applied research. For examining research background two standard questionnaires has been used; for measuring organizational intelligence and staff productivity Albrecht's questionnaire has been used and we used Hersai's questionnaire for measuring human resource productivities that both of them are valid questionnaires in their category.

STATISYICAL METHOD

For analyzing data SPSS software was used. In addition, for examining current situation of organizational intelligence and human resource productivity and analyzing both variables we used T-test and ANOVA test, and also, for examining the relationship between two variables we used Pearson correlation test. In this research, because of large number of managers and employees in Shiraz municipality and for making the completion of statistical test possible, sampling method in limited universe and following formula were used.

As regard to the fact that in this research statistical universe mass is about 135 people, for determining standard deviation of universe, preliminary sampling was used. For this reason, the questionnaires distributed among employees and managers by chance. Results from analyzing standard deviation of questions indicate that the highest standard deviation in this universe is 0.318. so according to obtained standard deviation, maximum estimated sample mass is 72 people in 5% significant level. After distributing questionnaires, 81 of them were taken basis or analysis.
RESEARCH FINDINGS

Even though, research questionnaires were standard and their validity and reliability were proved in past researches, because of their use in new environment, their validity and reliability have to be evaluated again. Cronbach's Alpha for organizational intelligence questionnaire was 0.809 and for human resource productivity questionnaire was equal to 0.893. Their sampling sufficiency tests were in level of 0.859 and 0.803 in a row, which have proved high level of validity. In addition, the factor loadings of indexes were all in high level and therefore we didn't feel to omit any of indexes in questionnaires. Till this stage, the validity and reliability of questionnaires have been confirmed and now we can examine hypothesis based on questionnaires' dimensions.

The first step for doing statistical test is using non-parametric Kolmogrov-Smirnov test. This test is for examining considered claim about distribution of data related to a quantitative variable. The result of this test is an output that present data number, slightly parameters in examining distribution existence (such as mean and standard deviation in normal distribution), modulus of maximum deviation, maximum positive deviation, maximum negative deviation, level of Z factor and significance level. Since Sig. in both questionnaires is above 0.05, claim of being normal of variable's distribution is accepted. Now, we can use parametric tests for examining hypothesis. In this research in order to examine hypothesis, we have used T-student test. This test is used for quantitative variables and in some cases is used for diagnose of a variable's effectiveness or ineffectiveness on under-consideration's situation and sometimes it is used for measuring current situation with regard to a specific value.

Sample hypothesis: the situation of strategic vision in Shiraz municipality is in desired level.

To examine this hypothesis, statistical hypothesis is made as below:

The situation of strategic vision in Shiraz municipality is not in desired level. (H₀: µ≤4)

The situation of strategic vision in Shiraz municipality is in desired level. (H₁: µ>4)

To examine this hypothesis, one-sample T-student test was used and its results are shown in following table:
Examining research hypothesis indicates that two groups of seven dimensions (strategic vision and appetite for change) are not in desired situation in Shiraz municipality but other dimensions have suitable situation. Then there is this question that if current situation of these seven factors are the same or not? In order to answer this question analysis of variance statistical test (ANOVA) was used. Proportionate hypothesis for this test is as below:

There is not any significant difference between existing situations of 7 dimensions of organizational intelligence.

\[ H_0 : \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6 = \mu_7 \]

There is significant difference between existing situations of 7 dimensions of organizational intelligence.

\[ H_1 : \mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4 \neq \mu_5 \neq \mu_6 \neq \mu_7 \]
Results from analysis of variance indicate that at 95% confidence level, there is not any significant difference between the averages of organizational intelligence dimensions in Shiraz municipality. These tests have to be done for productivity questionnaire. A sample of under-consideration hypothesis about each of seven dimensions of human resource productivity is brought in below and results of all dimensions are shown in table 3.

Sample hypothesis: human resource productivity factor, in dimension of ability is in desired situation.

To examine this hypothesis, statistical hypothesis is made as below:

Human resource productivity factor, in dimension of ability is not in desired situation. ($H_0: \mu \leq 4$)

Human resource productivity factor, in dimension of ability is in desired situation. ($H_0: \mu > 4$)
TABLE3: FINDINGS FROM HYPOTHESIS IN QUESTIONNAIRE OF HUMAN RESOURCE PRODUCTIVITY'S DIMENSION.

One-Sample Test

<table>
<thead>
<tr>
<th>dimensions</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>ability</td>
<td>2.347</td>
<td>80</td>
<td>.000</td>
<td>.21158</td>
<td>.3896 - .0335</td>
</tr>
<tr>
<td>Job Clarity</td>
<td>2.017</td>
<td>80</td>
<td>.005</td>
<td>.18669</td>
<td>.3696 - .0038</td>
</tr>
<tr>
<td>help</td>
<td>.141</td>
<td>80</td>
<td>.000</td>
<td>.01391</td>
<td>-.2087 - .1809</td>
</tr>
<tr>
<td>incentive</td>
<td>-.472</td>
<td>80</td>
<td>.204</td>
<td>-.04257</td>
<td>-.2209 - -.1357</td>
</tr>
<tr>
<td>feedback</td>
<td>1.601</td>
<td>80</td>
<td>.000</td>
<td>.16667</td>
<td>-.3724 - .0391</td>
</tr>
<tr>
<td>validity</td>
<td>2.443</td>
<td>80</td>
<td>.000</td>
<td>.25974</td>
<td>.0497 - .4697</td>
</tr>
<tr>
<td>Environment</td>
<td>1.274</td>
<td>80</td>
<td>.000</td>
<td>.14935</td>
<td>.0822 - .3809</td>
</tr>
<tr>
<td>General situation</td>
<td>1.439</td>
<td>80</td>
<td>.007</td>
<td>.13871</td>
<td>.1139 - .2097</td>
</tr>
</tbody>
</table>

In above table, dimensions with significant level of lower than 0.05 are in desired situation that six dimensions are in this category and just incentive dimension is in undesired situation. Then ANOVA test is done in order to determine the difference between groups. The hypothesis of this test is as following:

There is no significant difference between the effects of seven groups of human resource productivity's dimensions.

\[ H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6 = \mu_7 \]

There is significant difference between the effects of seven groups of human resource productivity's dimensions.

\[ H_1: \mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4 \neq \mu_5 \neq \mu_6 \neq \mu_7 \]
TABLE 4: RESULTS OF ANOVA TEST FOR HUMAN RESOURCE PRODUCTIVITY’S QUESTIONNAIRE

ANOVA

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>39.079</td>
<td>6</td>
<td>5.583</td>
<td>3.570</td>
<td>.001</td>
</tr>
<tr>
<td>Within Groups</td>
<td>1914.245</td>
<td>1224</td>
<td>1.564</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1953.325</td>
<td>1231</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Results from ANOVA indicate that at 95% confidence level there is significant difference between the average and variance of human resource productivity in Shiraz municipality. Now, since data distribution was normal in both questionnaires, we should use parametric correlation coefficient for examining variables' correlation and that, Pearson correlation coefficient has been used in this research.

TABLE 5: PEARSON CORRELATION ANALYSIS BETWEEN ORGANIZATIONAL INTELLIGENCE AND HUMAN RESOURCE PRODUCTIVITY

Correlations

<table>
<thead>
<tr>
<th></th>
<th>OI</th>
<th>VAR00002</th>
</tr>
</thead>
<tbody>
<tr>
<td>OI Pearson Correlation</td>
<td>1</td>
<td>.184**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>81</td>
<td>81</td>
</tr>
<tr>
<td>VAR00002 Pearson Correlation</td>
<td>.184**</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>81</td>
<td>81</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed)

Results from above table indicate that there is a relationship between two research variables in level of 0.184 in Pearson correlation; it is significant in 1% Error level. Results of correlation between organizational intelligence human resource productivity dimensions are as following table.
As it is shown in correlation analysis between research's variables, there is positive and significant relationship between organizational intelligence and four dimensions of human resource productivity but organizational intelligence doesn't have significant effect on job clarity, organization help and environmental compatibility.

**CONCLUSION AND DISCUSSION**

The result of this research showed that there is relationship between two research's variables in Pearson correlation level of 0.184 and this relationship is significant at 1% Error level. It means human resource productivity will increase by increasing of organizational intelligence in an organization. In addition, there is significant relationship between organizational intelligence and ability, incentive, feedback and validity but organizational intelligence doesn't have significant effect on job clarity, organization help and environmental compatibility. Based on obtained results following suggestions can be presented to Shiraz municipality managers:

One dimension that was in undesired situation in Shiraz municipality has been appetite for change. It is, in fact, one of the most important difficulties for improving organizational intelligence and as a result, human resource productivity is inclination for stability and change confronting. Following solutions are presented for removing factors that make inclination for stability.

Education and communications: in order to omit resistance, establishing connection with employees and organization's member is necessary and causing them to understand the reason for change and enumerate the reasons. If employees and organization's members are awareness of all realities and any misunderstandings remove, resistance level will decrease. For doing this, we can discuss people, circularize or deliver a speech about that or prepare some reports.

Participation: if people participate in changing issue and making decision, they resist it hardly ever. We should invite people who resist changes probably, and share them in making decision.
To consider facilities: One of another ways that can omit potential resistance to changes is that offering something to people in return for reduction of resistance or enumerate advantages that will obtain by this way.

other result of this study, state that organizational intelligence's factor related to strategic vision in Shiraz municipality, are not in desired situation and proved this fact that under-consideration organization, doesn't express its objectives, vision and mission clearly. And it is suggested that in first step, establish suitable vision by regarding following descriptions:

Vision presents a picture of desired future. A future that can be long-term from the viewpoint of time in sight of top managers and designers and executives in an organization and results obtained from the vision should be positive and proportional to equipments, abilities and source, enforceable and practical otherwise these visions turn to imaginative mental ideals. Achieving vision needs programming and determining workable and applicable frame in order to reach results. In other words, vision should answer following questions:

a) What so we want?

b) When do we want?

This way of programming is applied as intermediate ring between physical and strategic programming. Strategic programming is often concentrated on existing conditions and only talks about today while vision programming broaden sight horizon of this program and presents clear and obvious picture of tomorrow. Success code of program and its accomplishment is compiler's attention to future opportunities (Nasehifar & Purhoseini, 2008).

Another result of this research, on the one hand states that the situation of human resource incentive dimension is not in desired situation and on the other hand, we can make positive effect on it directly by promotion of organizational intelligence. This dimension of human resource productivity is close to heart dimension of organizational intelligence. Based on this fact, promotion of factors related to heart, is effective on organizational incentive and following recommendations are suggested:

Promotion of employees work life in Shiraz municipality, creation of proud and honor feeling because of being in this organization, employees' optimism about their progress and promotion opportunities in the organization.

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