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Study of the Relationship between Organizational Performance and Intellectual Capital Improvement of Governmental Bank Employees

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Abstract: Today, the issue of intellectual capital is considered one of organizational success element, and organizations need to identify intellectual capital indicators and deal with them in order to be part of the global village amidst today's highly turbulent environment. The present research explores the relationship between intellectual capital and organizational performance of Ghavamin Bank in West Azerbaijan Province, and seeks answers to the question if there is a significant relationship between organizational performance and intellectual capital improvement of governmental banks in West Azerbaijan. The research method of this study is descriptive-correlational, and applied by purpose. The study population consists of directors, top staffing expert, head, deputies, and top employees of governmental bank branches in West Azerbaijan, of whom a number of 200 individuals were chosen and 70 individuals constituted the study sample. Regarding the validity of the measuring tool, expert's opinions sufficed for the present purpose. The reliability of the intellectual capital and performance questionnaires was estimated to be 925% through Cronbach's alpha. Descriptive and inferential statistics were used for result analysis. The research hypotheses were tested by Pearson correlation, and the results of statistic tests showed that the relationship between dimensions of intellectual capital and organization performance in governmental banks of West Azerbaijan Province is significant.

Keywords: Intellectual Capital, Organization Performance, Human Capital, Communicative Capital, Structural Capital, Governmental Banks.

INTRODUCTION

Today with environment changing, organizations have to remain dynamic against environment change in order to survive and compete with other organizations and be able to maintain their activities, adapting themselves to environment circumstances. One of the factors in thriving on a contemporary evolved environment is the use of knowledge.

As against other production factors such as land, capital, and machineries, etc., knowledge takes a higher priority, in that in this economy knowledge is considered the most important factor of production, and believed to be the most important competitive advantage of organizations. One of the features of this knowledge is its intangible feature; that is, it is untouchable and its valuation and measurement is quite difficult. However, organizations were able to fully evaluate and measure their production factors in the past by using accounting methods. today, these accounting practices have no longer essential effectiveness, as

organizations are about to penetrate a knowledge-based economy in which knowledge is considered the most important reason for generating wealth. In this regard, organizations are thriving when they use managerial instruments and new technologies as well as opportunities to their advantage. Intellectual capital is one of these tools and the category of knowledge and intellectual capital have begun to prevail in organizations and firms, as it is the most important part of company capital that contributed to long-term profit-making and sustainability of most companies (Saghebtehrani et al., 2001).

Statement of the problem

In the modern world what has taken on more importance is manpower, in that economists believe that it is human resource of a country that after all determine the process of economic and social development in that country rather than capital or other material resource. It is human resource that condenses capitals, uses natural resources, and create economic, social and political organization and proceed with national development. A country that fails to develop its people's skills and knowledge and use them in national economy effectively is unable to develop anything.

The contemporary world is knowledge era. Today natural and tangible assets are no longer the key to the success of organizations and societies, but it is enjoyment of intellectual capitals and management of these capitals, which are considered the key to success in the turbulent and challenging environment. This class of assets is often gone unnoticed due to their nature, which in turn adds to their importance. As a matter of fact, intellectual capital is knowledge existence of an organization, which comes to existence at a certain point in time. Intellectual capital is the very knowledge-based resources that generates value for organization but they are not included in financial statements (Pablos, 2004).

On the other hand, these intangible resources are taken as one of the value-creating resources of firms and key capital in wealth creation. Thus, development and management of intellectual capital has turned into a pressing requirement in business arena and give rise to a change in the dominating paradigm of industrialized economy by moving toward knowledge-based economy. That is to say, we can witness the emergence of an economy based on information and knowledge, which rests on intellectual capital. To simply put, we may view intellectual capital as a knowledge package containing a set of intangible and hidden resources, culture, behavioral pattern, capabilities, competencies, structures, connections, and processes leading to knowledge (Marr, 2008).

Now, considering the role and function of intellectual capital in creating competitive advantage in organizations and improving their performance, this research aims to answer this main question if there is a significant relationship between intellectual capital, its dimensions and performance of governmental banks in West Azerbaijan Province.

Research necessity and importance

Today world competition lays an emphasis on the elements of intellectual capital, and international organizations aim to design global frameworks for intellectual capital management. accordingly, measuring intellectual capital has become an inevitable necessity for adoption and competition in international markets as well as a prerequisite for investment both at micro and macro levels. To many theorists, the next decade is the decade of creating value through intellectual capital for organizations and nations. Thus, considering the topic of intellectual capital at global and regional levels, this new theory can be considered an advantage to our country. Once in the past, possessing physical assets, professional employees and using new and updated technologies were simply considered a benchmark for company valuation. However, today it can be obviously said that physical assets depreciate, professional employees leave organizations, and technologies are perceived to be more inefficient and backward than future technologies. Hence, the art of intellectual capital management and measurement, the art of non-depreciable and value-creating intangible and intellectual asset development, development of value-adding capacity of physical financial assets, transfer of knowledge capacities of professional employees and converting them to organizational knowledge or assets under organization's intellectual possession are creating in-house technologies or developing the capabilities for using purchased technologies and updating them internally, and finally creating more sustainable value-added for organizations and their stakeholders, and persuading investors into making investment in organization and improving capital and financial markets' trust and confidence (Chen et al., 2004).

For the above reasons, it can be said that studying intellectual capital in business enterprises can provide us with a clear picture of their tangible and intangible assets. Since banks have a crucial role in economic developments and trade facilitation, intellectual capital and its dimensions in terms of competitive advantage can receive attention in increasing performance rank.

On the other hand, since working employees have a fundamental role in creating this intellectual capita by means of their capabilities, skills and creativity, conducting such studies can have an effect on future development and particularly regulation of productivity system, employee motivation and their satisfaction, belongingness, and loyalty, as well as identifying current situation of banks in terms of human resource for planning bank human resource system.

Research hypotheses

There is a significant relationship between intellectual capital and organizational performance of governmental bank branches in West Azerbaijan Province.

Sub-hypotheses:

1. There is a significant relationship between human capital and organizational performance of governmental bank branches in West Azerbaijan Province.
2. There is a significant relationship between structural capital and organizational performance of governmental bank branches in West Azerbaijan Province.
3. There is a significant relationship between relational capital and organizational performance of governmental bank branches in West Azerbaijan Province.

research goals:

Investigating the relationship between intellectual capital and organizational performance of governmental banks in West Azerbaijan; in doing so, the following goals are pursued;

Investigating the relationship between human capital and organizational performance of governmental banks in West Azerbaijan Province

Investigating the relationship between structural capital and organizational performance of governmental banks in West Azerbaijan Province

Investigating the relationship between relational capital and organizational performance of governmental banks in West Azerbaijan Province

Prioritizing intellectual capital indicators of a relationship to organizational performance of governmental banks in West Azerbaijan Province

Research method

This research is applied by purpose and a survey by nature because the relationship between organizational performance and intellectual capital improvement was studied by getting opinions of governmental banks. Likewise, since the relationship between organizational performance and intellectual capital improvements was investigated, this research is correlational. In the end, it can be said that this research is correlational-type, applied by purpose and survey by nature.

Data analysis

Frequency distribution and percentage of respondents are in terms of sex as follows; of 70 subjects of this sample 55 individuals are male (78.6 percent) and 15 individuals (21.4 percent) are female. Based on education, of 70 subjects of this sample 8 individuals (11 percent) had diploma, and 44 individuals (17.1 percent) associate degree, 12 (63.9 percent) bachelor's degree, and 6 (9 percent) master's degree. Based on occupational situation, of 70 subjects of this sample 14 individuals (20 percent) are managers, 15 (21.4 percent) are deputies, and 41 individuals (58.6 percent) senior employees. Based on the age of respondents, of 70 individuals of this sample 6 individuals (8.6 percent) were between the ages of twenty and twenty-five, 25 individuals (35.7 percent) between the ages of twenty-five and thirty, 25 individuals (35.7) between the ages of thirty and thirty-five, and 14 individuals (20 percent) are older than 35 years of age. Based on tenure, of 70

subjects of this sample 8 individuals (8 percent) had a tenure between 1 and 3 years, 25 individuals (35.7 percent) had a tenure between 3 and 6 years, 16 individuals (22.9 percent) a tenure between 6 and 9 years, and 21 individuals (30 percent) had a tenure more than 9 years.

Inferential analysis:

There is a significant relationship between intellectual capital and organizational performance of governmental banks in West Azerbaijan Province.

This hypothesis develops into three sub-hypotheses:

First sub-hypothesis:

Descriptive statistic:

Table 1: a summary of questionnaire results of questions about human capital

factor	Strongly agree	agree	Neither agree nor disagree	disagree	Strongly agree	total
frequency	207	290	112	65	26	700
Relative frequency	29.6%	41.4%	16.0%	9.3%	3.7%	100%

As can be seen, over 30 percent of respondents agree that human capital criterion has an effect on organizational performance.

- H₀: There is no significant relationship between human capital and organizational performance of governmental banks in West Azerbaijan Province.
- H₁: There is a significant relationship between human capital and organizational performance of governmental banks in West Azerbaijan province.

To examine this hypothesis, the mean of responses received from respondents to performance and human capital is calculated in the first place. If there is no significant difference between the mean of the received responses, it can be claimed that there is a relationship between human capital and organizational performance. To this end, some hypotheses are developed as follows:

- H₀: The mean of the received responses to human capital and to organizational performance of governmental bank employees is not significantly different. ($\mu_{\text{performance}} - \mu_{\text{human capital}} = 0$)
- H₁: The mean of the received responses to human capital and to organizational performance of governmental bank employees is significantly different ($\mu_{\text{performance}} - \mu_{\text{human capital}} \neq 0$)

t test results are briefly shown in the following table:

The number of sample is more than 30, so t-student parametric statistical tests can be used for testing hypothesis. But prior to the implementation of this test, homogeneity test of variance should be run in the two populations:

Table 2: test result of homogeneity of variances

result	P-Value	Levene statistic
Variance is equal in both populations	0/621	0/244

Table 3: result of t student test

t student value	Degree of statistic freedom	P-Value	Mean difference	Confidence level	result
0.00	1398	1/00	0/00	(-0/011/11)	Null hypothesis is not rejected

As can be seen in the above table, concerning the effect of human capital on organizational performance of employees, t student values are firstly smaller than its corresponding values in the table ($t_{\alpha=0.975} = 1/96$), and secondly calculated P-value is 5 percent more than the significance level, so the null hypothesis is not rejected. Therefore, with 95 percent condidene gained by the responses, it can be said that the mean of the received responses to human capital and to organizational performance of governmental bank employees is

not significantly different. Thus, having determined the lack of difference in responses, contingency table was used to examine the relationship between organizational performance and human capital, as well as the level of this relationship.

To examine the above hypothesis, contingency table is used;

Table 4: a summary of the questionnaire result in the first hypothesis

factor	Strongly agree	agree	Neither agree nor disagree	disagree	Strongly disagree	total
Human capital	207	290	112	65	26	700
Organizational capital	198	315	94	62	31	700

Table 5: test results of contingency tables in the first hypothesis

P-Value	Degree of freedom	Statistic value	Statistic name
0.00	4	13/31	Pearson Chi square statistic
0.00	--	750/8	Cramer statistic

Given the values, since the value of Pearson chi square statistic is greater than its corresponding value in the table ($\chi^2(4) = 13/31$) and P-value is less than 5 percent, so the null hypothesis is rejected and it can be said that human capital and organizational performance in governmental banks of West Azerbaijan Province are significantly related. The level of this relationship is about 51 percent according to Cramer statistic and positive and significant, so the first hypothesis is accepted.

Second sub-hypothesis

Descriptive statistic:

Table 6: a summary of the questionnaire result concerning structural capital

factor	Strongly agree	agree	Neither agree nor disagree	disagree	Strongly disagree	total
frequency	206	295	111	58	30	700
Relative frequency	29.4%	42.1%	15.9%	8.3%	4.3%	7100

As can be seen, over 71 percent of respondents agree that structural capital criterion has an effect on organizational performance.

- H₀: There is no significant relationship between structural capital and organizational performance of governmental banks in West Azerbaijan Province.
- H₁: There is a significant relationship between structural capital and organizational performance of governmental banks in West Azerbaijan province.

To examine this hypothesis, the mean of responses received from respondents to performance and human capital is calculated in the first place. If there is no significant difference between the mean of the received responses, it can be claimed that there is a relationship between structural capital and organizational performance. To this end, some hypotheses are developed as follows;

- H₀: The mean of the received responses to structural capital and to organizational performance of governmental bank employees is not significantly different. ($\mu_{\text{performance}} - \mu_{\text{structural capital}} = 0$)
- H₁: The mean of the received responses to structural capital and to organizational performance of governmental bank employees is significantly different ($\mu_{\text{performance}} - \mu_{\text{structural capital}} \neq 0$)

t test results are briefly shown in the following table;

Table 7: test result of homogeneity of variances for structural hypothesis

result	P-Value	Levene statistic
Variance is equal in both populations	0.724	0.125

Table 8: result of t student test

t student value	Degree of statistic freedom	P-Value	Mean difference	Confidence level	result
50.0	1398	1/00	0/00	(-0/011/11)	Null hypothesis is not rejected

As can be seen in the above table, concerning the effect of structural capital on organizational performance of employees, t student values are firstly smaller than its corresponding values in the table ($t_{\alpha=0.975} = 1/96$), and secondly calculated P-value is 5 percent more than the significance level, so the null hypothesis is not rejected. Therefore, with 95 percent condidene gained by the responses, it can be said that the mean of the received responses to structural capital and to organizational performance of governmental bank employees is not significantly different. Thus, having determined the lack of difference in responses, contingency table was used to examine the relationship between organizational performance and structural capital, as well as the level of this relationship.

To examine the above hypothesis, contingency table is used;

Table 9: a summary of the questionnaire result in the second hypothesis

factor	Strongly agree	agree	Neither agree nor disagree	disagree	Strongly agree	total
Structural capital	206	295	111	58	30	700
Organizational performance	198	315	94	62	31	700

Table 10: test results of contingency tables for structural hypothesis

P-Value	Degree of freedom	Statistic value	Statistic name
0.00	4	12/37	Pearson Chi square statistic
0.00	--	7/41/2	Cramer statistic

Given the values, since the value of Pearson chi square statistic is greater than its corresponding value in the table ($\chi^2(16) = 12.37$) and P-value is less than 5 percent, so the null hypothesis is rejected and it can be said that structural capital and organizational performance in governmental banks of West Azerbaijan Province are significantly related. The level of this relationship is about 41 percent according to Cramer statistic and positive and significant, so the second hypothesis is accepted.

Third sub-hypothesis:

Table 11: a summary of the questionnaire result about relational capital

factor	Strongly agree	agree	Neither agree nor disagree	disagree	Strongly agree	total
frequency	188	278	127	74	33	700
Relative frequency	26.9%	39.7%	18.1%	10.6%	4.7%	7/100

As can be seen, over 66 percent of respondents agree that relational capital criterion has an effect on organizational performance.

- H₀: There is no significant relationship between relational capital and organizational performance of governmental banks in West Azerbaijan Province.
- H₁: There is a significant relationship between relational capital and organizational performance of governmental banks in West Azerbaijan province.

To examine this hypothesis, the mean of responses received from respondents to performance and relational capital is calculated in the first place. If there is no significant difference between the mean of the received

responses, it can be claimed that there is a relationship between relational capital and organizational performance. To this end, some hypotheses are developed as follows:

- H₀: The mean of the received responses to relational capital and to organizational performance of governmental bank employees is not significantly different. ($\mu_{\text{performance}} - \mu_{\text{relational capital}} = 0$)
- H₁: The mean of the received responses to structural capital and to organizational performance of governmental bank employees is significantly different ($\mu_{\text{performance}} - \mu_{\text{relational capital}} \neq 0$)

t test results are briefly shown in the following table;

Table 12: test result of homogeneity of variances for structural hypothesis

result	P-Value	Levene statistic
Variance is equal in both populations	0.015	5.881

Table 13: result of t student test for relational hypothesis

t student value	Degree of statistic freedom	P-Value	Mean difference	Confidence level	result
-1.791	1398	0.074	-0.10	(-0.022,10)	Null hypothesis is not rejected

As can be seen in the above table, concerning the effect of relational capital on organizational performance of employees, t student values are firstly smaller than its corresponding values in the table ($t_{\alpha=0.975} = 1/96$), and secondly calculated P-value is 5 percent more than the significance level, so the null hypothesis is not rejected. Therefore, with 95 percent condidene gained by the responses, it can be said that the mean of the received responses to relational capital and to organizational performance of governmental bank employees is not significantly different. Thus, having determined the lack of difference in responses, contingency table was used to examine the relationship between organizational performance and structural capital, as well as the level of this relationship.

To examine the above hypothesis, contingency table is used;

Table 14: a summary of the questionnaire result in the third hypothesis

factor	Strongly agree	agree	Neither agree nor disagree	disagree	Strongly agree	total
relational capital	188	278	127	74	33	700
Organizational performance	198	315	94	62	31	700

Table 15: test results of contingency tables for relational hypothesis

Statistic name	Statistic value	Degree of freedom	P-Value
Pearson Chi square statistic	10/617	4	0.02
Cramer statistic	27//8	--	0.03

Given the values, since the value of Pearson chi square statistic is greater than its corresponding value in the table ($\chi^2(16) = 10.617$) and P-value is less than 5 percent and equal to zero, so the null hypothesis is rejected and it can be said that relational capital and organizational performance in governmental banks of West Azerbaijan Province are significantly related. The level of this relationship is about 28 percent according to Cramer statistic and positive and significant, so the third hypothesis is accepted.

Discussion about research hypotheses:

Given the hypotheses developed in the present research, we address their results;

Hypothesis 1: there is a significant and positive relationship between human capital and organizational performance.

Given the results of the test (Cramer statistic test is 50.8% and significant), it can be said that there is a significant and strongly positive relationship human capital and organizational performance of governmental banks in Tehran. This suggests that any kind of increase in human capital can increase organizational performance and vice versa.

According to the researcher, the results obtained from the population in question are totally rational and in line with theories and previous studies in this regard. Chen et al. (2004) believe that human capital as intellectual capital refers to such factors as knowledge, skill, capability, and attitude of employees, which results in performance improvement, customer attraction and company profit increase. This knowledge and skill lie in employee's mind, in the sense that their minds carry knowledge and skill. If thoughtful employees are not optimally recruited by an organization, existing knowledge and skill in their minds cannot be activated or function as a market value. Bonites (1998) contends that human capital is a source of innovation and strategic reconstruction to important organizations, and a human capital with higher level is often associated with more productivity and higher income or payment and bonuses. Johnson (2002) in his journals states that intellectual capital can provide organizations with superiority capability through management of human capital process.

Paku (2007; quoted by Alam et al., 2009) demonstrated that companies find team knowledge and technical knowledge of employees to be the most suitable source of competitive advantage. Vakesler (2002) studied the link between intellectual capital and organizational memory, and his results showed that these two variable are significantly related, which is found in this research.

Hypothesis II: there is a significant and positive relationship between structural capital and organizational performance.

Given the results of the test (Cramer statistic test is 41.2% and significant), and the above hypothesis is confirmed about a significant, and strongly positive relationship between structural capital and organizational performance of governmental banks in West Azerbaijan Province. This suggests that any kind of increase in structural capital can increase organizational performance and vice versa.

According to the researcher, the results obtained from the population in question are totally rational and structural capital should be directly linked with firm performance, which is in line with existing theories in this respect and structural capital containing philosophy and facilitating systems of organizational capabilities in previous studies. Hsu and Fang (2008) contend that infrastructural structural capital supports empowerment of human capital in achieving performance goals. Moreover, Vasile (2008) hold that structural capital is referred to as learning and knowledge assigned in everyday activities. It is knowledge group who remain in the firm at the end of a day after the leave of individuals in the organization. Structural capital is supporting infrastructure of human capital and consists of all non-human knowledge storage in organizations such as databases, strategies, procedures of organizational culture that creates value to organizations, so it adds to material value of organizations. The results of Ghoreishi (2007), Karimi (2006), and Rahnavard and KazemNejad (2009), who conducted studies in this regard, are in line with the findings of this research.

Beigi (2006) in a research entitled "role of intellectual capitals in the survival or demise of organizations in Mellat Bank, showed that there is no significant relationship between structural capital and organizational performance in Mellat Bank branches in West Azerbaijan Province, which is not consistent with the findings of this research.

Hypothesis III: there is a significant and positive relationship between relational capital and organizational performance.

Given the results of the test (Cramer statistic test is 27.8% and significant), and it is seen that the above hypothesis is confirmed in this research and there is a significant, and strongly positive relationship between customer capital and organizational performance of governmental banks in West Azerbaijan Province. This suggests that any kind of increase in relational capital can increase organizational performance and vice versa.

The results of this hypothesis suggest relational capital importance, understanding of its value on the part of investors and managers of firms in relation to customer and its position. Andriessen (2005) holds that it is relational capital, i.e. customer capital, that encompasses existing knowledge about relationships of organization with customers, rivals, suppliers, trading associations or government. The results of Bontis (2002), Kong (2007), and Ghershi (2007), which are achieved in this regard, are in line with the findings of the hypothesis. Moreover, the results of various studies showed that a specific and permanent framework for intellectual capital auditing seem necessary for present and future. In this framework, all important data about company's intellectual capital either financial or non-financial are taken into consideration. Generally speaking, for the above hypotheses, it can be concluded that in governmental banks of West Azerbaijan Province we witness a strong relationship between components of intellectual capital (human capital, structural capital and customer capital).

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