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THE STUDY OF RELATIONSHIP BETWEEN INTELLECTUAL CAPITAL COMPONENTS AND EFFECTIVENESS OF IN ISLAMIC AZAD UNIVERSITY OF AHVAZ EDUCATIONAL PROGRAMS

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ABSTRACT

In this ultra-competitive age, the organizations face with an environment with some characteristics such as increase in complexity, globalization, and getting dynamic. In the knowledge economy, knowledge or intellectual capital as a factor of wealth production is more preferable in comparison with other tangible and physical capitals. In this economy, intellectual capitals especially human capital are regarded among the most important organizational capitals and the potential success of an organization rooted in its intellectual capabilities. This study aimed to investigate the relationship between the components of intellectual capital, including human capital, structural capital and relational capital with the educational effectiveness and they were studied in order to examine their potentials for the use of intellectual capital and accordingly six research questions have also been raised.

The statistical population consisted of two groups of faculty members and students of Islamic Azad University of Ahvaz including 52 faculty members and 3,500 students. Data collection was done by using two questionnaires; first educational effectiveness assessment questionnaire which was developed by the researcher and second intellectual capital questionnaire by Bontis (1998). Then, they were distributed among 221 students and 11 faculty members in Islamic Azad University of Ahvaz. The sample size was determined through Cochran formula that was used in a definite population. Thus, regarding 95% confidence level and the maximum relative error to 0.05, the sample size for students was obtained 221 and for faculty members it was 11. Sampling was done randomly and the results which were obtained by using correlation, regression and structural equation modeling showed no significant relationship between intellectual capital components together and between these components (except human capital) and educational effectiveness.

INTRODUCTION

Over the past 10 years, different economic, social and technological factors have been increasingly raised and they have changed the workplace. These changes happened so fast and they made so much competition that organizations like huge dinosaurs but with small brains grew in the twentieth century, while they cannot survive in the new world of the twenty-first century any more. Because of the nature of this age, the present organizations are completely different with the past ones. In the knowledge-based economy, intellectual capital is used to create value for the organization. Today, the success of any organization is related to the ability to manage these capitals. The future decade will attempt to value the intellectual capital for the organizations and countries. Therefore, regarding the intellectual capital in the global and regional level and since this issue is new, so it can be considered as an advantage for our country. Intellectual capital or intellectual property has been mentioned in the society, government, industry and academia levels and the accumulation of them makes the intellectual property of a country. In the national level, according to the priorities of the twenty-year vision, development of intellectual capital can help in the field of innovation, entrepreneurship, business development and the establishment of basic knowledge. Intellectual capital as a combination of intangible resources and defined activities allows an organization to transfer to a value making beneficiary and powerful system through a mass of human resources, finance and raw materials[1]. The experts define intellectual capital as what shows the intangible value of an organization. Intellectual capital is intellectual-knowledge materials, information, intellectual property and experience and the use of that can create the wealth (Stewart)[2]. According to the definition of Europe Commission intellectual capital is a combination of intangible resources and activities that enable an organization to change a set of human, financial and material resources to a system that is capable of creating value for shareholders[3,4]. Intellectual capital is a set of knowledge-based capitals that are specific to an organization and they are categorized in its characteristics and by adding value to key stakeholders of the organization, and they significantly improve the competitive position of the organization [5] Intellectual capital includes several components or dimensions. Bontis stated three types of capitals including human capital, structural capital and customer capital and in 2000 he changed his classification into human capital, structural capital, relational capital and intellectual capitals or property Chen et.al. (...) believed that intellectual capital has four elements; 1 human capital, 2. customer capital, 3 innovation capital and 4. structural capital. They believed that the structure and components of intellectual capital are very weak and fragile unless they are supported by a series of continuous and interconnected relations. In fact, they emphasized on the relationship between intellectual capital components rather than its components. It is concluded that when in the literature of study, the intellectual capital is examined, it seems that most of intellectual capital models regard three human, relational and structural aspects with some common features for intellectual capital. [5] Human capital means a level of personal capital, and a level of individual knowledge that the employees working in an organization possess and this knowledge is normally implicit. Mayo defined human capital as something that consists of ability, knowledge, skills, experience and working network with the ability to achieve potential results and growth, motivation in terms of ambition, working motivation, efficiency, effectiveness of teamwork in support and assistance, mutual respect, leadership in transparent vision and ability to communicate and announced that vision, organizational climate in terms of culture (especially innovation freedom, , openness, flexibility, and respect to individuals). In academia level, human capital is a set of

KEY WORDS

Intellectual capital,
educational
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Azad University

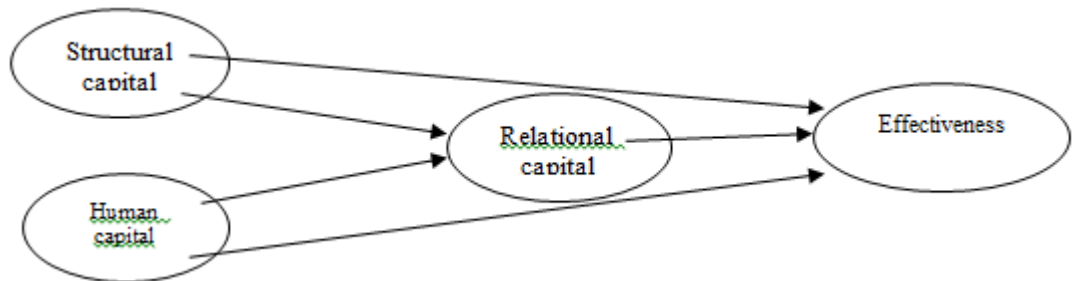
explicit and implicit knowledge of manpower in universities (professors, researchers, PhD students and administrative staff, etc.) which are achieved through formal or informal educational and practical processes and embodied in their activities. The structural capital means all non-human capitals or organizational capabilities. Structural capital is defined as the total capitals which have the ability to make the creativity of an organization possible [6]. Mission, vision, basic values, business strategies and systems and internal processes within an organization can be counted among these types of capitals. Structural capital can be referred to anything that exists in the organization and it supports employees (human capital) in their work. Structural capital is owned by the organizations and even when employees leave the organization, it can be seen in the organization [7]. Structural capital of the university remains within the organization after the withdrawal of the employees from the organization and it includes all non-human resources of knowledge. Structural capital in university covers all supportive infrastructures to strengthen the university human capital. Thus, administrative rules and practices, organizational procedures and levels, cultural systems, databases and intellectual property are especially important. The relational capital means all learned knowledge from an organization relationship with its environment, including customers, suppliers, scientific associations and so on. According to Chen, the most important part of a relational capital is the customer capital since the organization success depends on the customer capital. In general, the customer capital that acts as a bridge and intermediate in intellectual capital process is the main determining factor in the transformation of intellectual capital to the market value and consequently it is the business function in the organization. In the academia level, the relational capital is a set of implicit and explicit knowledge which are related to the practices and the ways in which universities can interact with other institutions and social organizations, such as the exchange letters, memorandum of understanding or contracts for research and etc. Relational capital is to create the relationship between the university and its unscientific partners such as companies, nonprofit organizations, public authorities, the government and generally the society. In fact, it is the university relational capital to achieve a broad set of continuous and developed economic, political and organizational relationships. Higher education is the core of sustainable development of any country and the university as a scientific, educational and research reference plays a legitimate role in the process of sustainable development in the global, national and local communities. If human is the heart of sustainable development, the university can make a generator of knowledge and skills appropriate with different educational levels. In this era when knowledge is associated with it, the university is the most important institution of higher education which makes some challenges. While one of the traditional functions of university is to make knowledge, certainly the advent of the knowledge-creation companies to universities will be accompanied by some challenges. Regarding the importance of higher education institutions, especially universities in today society, universities are experiencing some profound crisis as Peter Drucker the scholar in management science warned that in thirty years, the major universities will be as a memorial and the higher education remains in a deep crisis. The environment is changing and facing with globalization and the advent of advanced communication of relationship and information are major challenges that universities are confronted with. As it was previously mentioned, growth and rapid development of knowledge have drastically changed the educational system, because it allows the faster and more affordable transfer of data (the amount of knowledge doubles every 5 years) [8]. Also, if in these situations the traditional universities do not coordinate with the phenomenon of globalization and don't consider the impact of new technologies on the diffusion of knowledge, it will become the end of their lives. Today the survival and life of the organizations in present knowledge-based community requires intellectual capital in the university. Universities must take a leadership role in the creation and development of intellectual capital because basically the main task of universities is knowledge-creation. Optimal utilization of the information available at the University at a time when universities are facing with massive amounts of diverse data is an important issue. Does intellectual capital management to implement mechanisms of intellectual capital management in organizations require to turn them into economic capital in the university? According to the meaning of university some people might believe that university is a place to get knowledge which is implicit in its meaning and it covers intellectual capital management. But in order to have effective education, the universities require management of intellectual capital. In our country, some foundation were designed to develop knowledge-based economy for the first time in the economic, social and cultural development programs and knowledge-based development was considered as a key strategy to achieve sustainable development in this program from 2006 to 2009. However, the main question that has been raised is that when in the economical social and cultural development program in our country, knowledge has been mentioned as a basic strategy, how much some organizations especially universities where have been regarded as the place of producing knowledge rely on knowledge? Do universities have the essential organizational contexts in order to develop and train the knowledge-based economy? Thus, evaluation of contexts and infrastructures in order to apply a new system, particularly with regard to social nature and complexity of intellectual organizations is very important. Using the models related to new approaches of intellectual capital management regardless of the availability of the contexts and examining their strengths and weaknesses are often faced with failure and ruin the effectiveness of educational programs. Since recently, networks and formal and informal modes of production and distribution of knowledge have been presented, universities pay attention to various aspects of intellectual capital in order to achieve their goals.

Since the main purpose of universities is effectiveness of educational programs, the present study attempts to investigate if there is any significant relationship between intellectual capital present in universities and the effectiveness of their educational programs. In fact, by determining the effectiveness of educational programs it can be judged that the achievement of goals in universities is desirable and it is important to know how much it should be improved [9].

Recently, many studies have been done on the relationship between intellectual capital with factors such as knowledge management, organizational culture, organizational learning and etc. in Iran. However, no study have been done on the role of intellectual capital on effectiveness of curriculum. Most of the studies have measured the intellectual capital management at the level of international organizations and institutions. Bontis et al. in the service and non-service industries in Malaysia have done a study titled "The relationship between intellectual capital and business performance" and they concluded that there is a mutual relationship between the components of intellectual capital and they fairly affect the business function about 20 to 30 percent. In order to provide a framework to measure intangible capitals in higher education and research institutions in Italy, Schando et.al.investigated existing theories and practical experiences of the fundamental conceptual model by combining measurement indicators of intellectual capital and he found that the development of intangible capitals is done by focusing on the mission of educational and research organizations. Thus, identification and measurement of intellectual capital is an operational priority in assessing the alignment between the strategic direction and performance within such institutions. The supposed comprehensive set of indicators can be useful to refine them in order to make a relationship between strategy and management subjects and indicators. On the other hand, it is the practical application that the indicators set can be used as a communication tool and support the strategic decisions related to structural, human and social capitals and educational and research organizations

In Iran some studies were conducted to examine the intellectual capital which often belongs to economic and non-scientific organizations. Sattari Ghahfarkhi conducted a study which was done by using descriptive and correlation methods to predict organizational intelligence based on intellectual capital component among the faculty members and university administrative employees in Mazandaran PayamNour University. He found that the relationship between the organizational intelligence and intellectual capital is relatively strong and it is about 54%. The findings of this study are consistent with Jong theoretical framework in which intellectual capital has been considered as an element of organizational intelligence. The findings of the fifth hypothesis based on stepwise regression showed that all components of intellectual capital are significantly able to predict organizational intelligence and in fact these findings introduce the components which can improve organizational intelligence. This means that organizations invest in any of the three components of intellectual capital (human capital, structural capital and relational capital) and they can expect decrease in collective idleness and increase in organizational intelligence[10].

Conceptual model of the research



Research objectives

1. To explain the relationship between the components of the human capital (intellectual property) and the effectiveness of educational programs in Islamic Azad University of Ahvaz
2. To explain the relationship between the components of the social capital (intellectual property) and the effectiveness of educational programs in Islamic Azad University of Ahvaz
3. To explain the relationship between the components of the structural capital (intellectual property) and the effectiveness of educational programs in Islamic Azad University of Ahvaz
4. To present strategies and suggestions in order to improve the effectiveness of intellectual capital level of educational courses in Islamic Azad University of Ahvaz

Research hypotheses

1. Components of intellectual capital are significantly and positively correlated with the effectiveness of educational programs in Islamic Azad University of Ahvaz.
2. Components of human capital (of intellectual capital) are significantly and positively correlated with the effectiveness of educational programs in Islamic Azad University of Ahvaz.
3. Components of social capital (of intellectual capital) are significantly and positively correlated with the effectiveness of educational programs in Islamic Azad University of Ahvaz.
4. Components of structural capital (of intellectual capital) are significantly and positively correlated with the effectiveness of educational programs in Islamic Azad University of Ahvaz.

RESULTS

The research method was descriptive and a survey. The statistical population consisted of two groups of faculty members and students of Islamic Azad University of Ahvaz including 52 faculty members and 3,500 students. Data collection was done by using two questionnaires; first effectiveness assessment questionnaire which was developed by the researcher and second was intellectual capital questionnaire by Bontis and they were distributed among 221 students and 11 faculty members in Islamic Azad University of Ahvaz. The sample size was determined through Cochran formula that was used in a definite population. Thus, regarding 95% confidence interval and the maximum relative error to 0.05, the sample size for students was obtained 221 and for faculty members it was 11. Data analysis was done by using descriptive statistics (frequency, percentage, mean, standard deviation for components and questions in the questionnaire) and regression analysis to test hypothesis of the relationship between intellectual capital components and educational effectiveness (SPSS.19 was used). Then, the structural equations modeling: SEM was used for confirmatory factor analysis and analysis of the relationship between intellectual capital components and effectiveness of educational program was analyzed based on conceptual model of the study.

Background information of the students and faculty members: The statistical distribution of variables such as gender, education, age, educational group and scientific rank.

Table: 1. Distribution of frequency percentage of students' gender

| Gender | Frequency | Valid percentage | cumulative percentage |
|--------|-----------|------------------|-----------------------|
| Female | 78 | 36.8 | 36.8 |
| Male | 134 | 60.6 | 100 |
| Total | 212 | 100 | - |

Table: 2. Distribution of frequency percentage of students' education

| Education | Frequency | Valid percentage | cumulative percentage |
|-----------|-----------|------------------|-----------------------|
| Bachelor | 131 | 78 | 92.3 |
| Master | 24 | 14.3 | 0 |
| PhD | 13 | 7.7 | 100 |
| Total | 168 | 100 | - |

Table: 3. Distribution of frequency percentage of students' educational group

| Educational group | Frequency | Valid percentage | cumulative percentage |
|-------------------|-----------|------------------|-----------------------|
| Literature | 98 | 48.8 | 48.8 |
| Basic sciences | 24 | 11.9 | 60.7 |
| Technical | 76 | 37.8 | 98.5 |
| Agriculture | 3 | 1.5 | 100 |
| Total | 201 | 100 | - |

Table: 4. Distribution of frequency percentage of professors' gender

| Gender | Frequency | Valid percentage | cumulative percentage |
|--------|-----------|------------------|-----------------------|
| Female | 4 | 44.4 | 44.4 |
| Male | 5 | 55.6 | 100 |
| Total | 9 | 100 | - |

Table: 5. Distribution of frequency percentage of professors' scientific rank

| Education | Frequency | Valid percentage | cumulative percentage |
|---------------------|-----------|------------------|-----------------------|
| Lecturer | 6 | 66.7 | 66.7 |
| Assistant professor | - | - | 100 |
| Associate professor | - | - | - |
| Master | 3 | 33.3 | - |
| Total | 9 | 100 | - |

Table: 6. Distribution of frequency percentage of the professors' educational group

| Educational group | Frequency | Valid percentage | cumulative percentage |
|-------------------|-----------|------------------|-----------------------|
| Literature | 5 | 45.5 | 71.4 |
| Basic sciences | 2 | 18.2 | 100 |
| Technical | - | - | - |
| Agriculture | - | - | - |
| Total | 7 | 100 | - |

Research instrument

In this study, two types of questionnaires were used. Inventory dimensions of intellectual capital in higher education by Bontis (1998) have been used and it was designed, validated and applied earlier. The questionnaire contained 53 questions, and it measured the components of human capital, structural capital and relational capital. The educational effectiveness measurement questionnaire in first level of KorkPatric model was designed by the researcher and according to the supervisor's experiences and some valid resources, it evaluates the effectiveness of educational programs in the Likert scale with five options. The questionnaire contained 37 questions. Both questionnaires have been introduced following: A. Questionnaire of intellectual capital in higher education. The components of this questionnaire with the number of questions related to each component were presented in the table below. An example of the

questionnaire has been presented in Appendices.

Table:7. Components and relationships between questions of the intellectual capital questionnaire and its statements

| Title of components | Number of item |
|---------------------|----------------|
| Human capital | 1-20 |
| Relational capital | 21-37 |
| Structural capital | 38-53 |

B. The educational effectiveness measurement questionnaire in first level of KorkPatric model was designed by the researcher. The statement and number of them have been stated in the following table.

Table: 8. Components and relationships between the statements of the question naire of evaluating the effectiveness of educational programs with its items

| Title of components | Number of item |
|------------------------|----------------|
| Lesson features | 1-9 |
| Content features | 10-16 |
| Professor features | 17-24 |
| Management features | 25-29 |
| Possibilities features | 30-37 |

Validity and reliability assessment of the questionnaire

In this study, to assess the reliability of the questionnaire, Cranach's alpha was used. The results obtained from Cronbach's alpha analysis to assess reliability were analyzed by SPSS.19 for all components of both questionnaires which have been presented in the table below.

Table: 9. The reliability coefficients of the questionnaire components of intellectual capital in higher education based on Cronbach's alpha

| Components | Cronbach's alpha | Cronbach's alpha (Babazadeh) | Number of the statement questions | Considerations |
|--------------------|------------------|------------------------------|-----------------------------------|--------------------|
| Human capital | 84% | 88% | 20 | Proper reliability |
| Relational capital | 77% | 80% | 17 | Proper reliability |
| Structural capital | 80% | 79% | 16 | Proper reliability |

Table: 10. Reliability coefficients of main component of the educational effectiveness questionnaire based on Cronbach's alpha

| Component | Cronbach's alpha | Number of the statement questions | Considerations |
|----------------------|------------------|-----------------------------------|--|
| Lesson features | 67% | 9 | By deleting question 6 of this component alpha reached to 0.705 |
| Content features | 82% | 7 | Proper reliability |
| Professor features | 58% | 8 | By deleting question 1 and 2 of this component alpha reached to 0.71 |
| Management features | 82% | 5 | Proper reliability |
| Possibility features | 64% | 8 | By deleting question 4 of this component alpha reached to 0.69 |

These figures show that the reliability of the components of intellectual capital questionnaire used in the study has a good reliability. Although reliability in this study is mostly lower when it is compared with Bontis (1998) study, the general reliability is proper.

The researcher made questionnaire on educational effectiveness for two components of content features and management features showed also a good reliability. However, for the lesson features, the sixth question should be deleted, and in professor features; question 1 and 2 and in possibilities features; question 4 should be deleted to achieve an acceptable and proper reliability. So in chapter four, an analysis has been done after deleting the mentioned questions. The lack of reliability of the questions mentioned above, perhaps shows lack of clarity or intelligibility of the question for students and faculty members. So as it was mentioned, subsequent analysis can be done by removing the mentioned questions from the questionnaire.

Assessment of validity of the questionnaire: The validity in this research has been done in two ways. Content validity (formal) and construct validity.

To measure the content validity of the questionnaire in case of intellectual capital questionnaire in higher education, the results of Bontis (1998) study were satisfactory. In case of educational effectiveness questionnaire the following steps were followed :

1. Designing a questionnaire based on theoretical model and research literature.
2. Showing the questionnaire to the supervisor and consultant to study the preliminary questions and give opinion
3. Using other professors' opinions and their views and actions were investigated and applied under the guidance of the supervisor

Another way to check the validity of components and the questions in the questionnaire was construct validity which is one method of assessing the validity of the questions and components of the questionnaire through factor analysis which is done in two ways; exploratory and confirmatory factor analysis.

Table: 11. The results of exploratory factor analysis for fit criteria of the intellectual capital questionnaire to

| Fitting criteria | KMO | Bartlet significance test | Variance | Number of extracted factors |
|--------------------|-------|---------------------------|----------|-----------------------------|
| Human capital | 0.737 | 0.022 | 20.3 | 1 |
| Relational capital | 0.853 | 0.010 | 18.5 | 1 |
| Structural capital | 0.890 | 0.018 | 14.7 | 1 |
| Total percentage | -- | -- | 53.5 | -- |

Table: 12. The results of factor analysis for fit criteria of the educational effectiveness questionnaire to assess the validity of components

| Fitting Factors | criteria KMO | Bartlett test | significance | Variance | Number of extracted factors |
|------------------------|--------------|---------------|--------------|----------|-----------------------------|
| Lesson features | 0.799 | 0.013 | | 15.8 | 1 |
| Content features | 0.805 | 0.025 | | 12.4 | 1 |
| Professor features | 0.720 | 0.011 | | 11.7 | 1 |
| Management features | 0.889 | 0.032 | | 10.9 | 1 |
| Possibilities features | 0.665 | 0.047 | | 10.04 | 1 |
| Total percentage | -- | -- | | 60.84 | -- |

In **Table- 11**, the value of KMO and Bartlett's test show that the number of samples used in the study is sufficient to run a factor analysis of all components because KMO coefficient for all of them is higher than 0.6. Besides, the significance value of Bartlett's test for all factors was lower than 0.05 which shows the extracted factors by factor analysis are significant. Thus, the questions of each component (as a whole) could explain the mentioned component. In other word, these questions are valid to make the desired component (validity). (It should be noted that the fourth column (share percentage) Bartlett test are kind of validity coefficient test for the questions). In addition to the abovementioned, in general it can be said that these three components together explain 53.5% of the whole variance of intellectual capital. Besides, in case of the educational effectiveness questionnaire, KMO and Bartlett's test show that the number of samples used in the study is sufficient to run a factor analysis of all components because KMO coefficient for all of them is higher than 0.6. Besides, the significance value of Bartlett's test for all factors was lower than 0.05 which shows the extracted factors by factor analysis are significant. Thus, the questions of each component (as a whole) could explain the mentioned component. In other word, these questions are valid to make the desired component (validity). (It should be noted that the fourth column (share percentage) Bartlett test are kind of validity coefficient test for the questions). In addition to the abovementioned, in general it can be said that these five components together explain 60.84% of the whole variance of educational effectiveness.

Findings

Table: 13. The mean and standard deviation of the components of intellectual capital and educational effectiveness in the total sample

| Statistics Component | Number of samples | Mean | SD |
|---------------------------|-------------------|------|------|
| Educational effectiveness | 232 | 3.26 | 0.77 |
| Human capital | 232 | 3.01 | 0.59 |
| Relational capital | 232 | 2.97 | 0.55 |
| Structural capital | 232 | 2.97 | 0.54 |

As it can be seen in the above table, descriptively mean of one component of intellectual capital (human capital) and educational effectiveness are positively different with the average amount (3 value), and the truth (or so-called significance) of the difference must be tested. And other components of intellectual capital (relational capital and structural capital) are not positively different with the average amount (3 value).

First hypothesis: The components of intellectual capital (human, relational and structural capital) have a significant relationship with the effectiveness of educational programs in Islamic Azad University of Ahvaz.

Table: 14. The results of t - a single model for intellectual capital component and educational effectiveness status in Islamic Azad University of Ahvaz

| Component | T statistics value | Degree of freedom | Significance level |
|---------------------------|--------------------|-------------------|--------------------|
| Educational effectiveness | 5.16 | 231 | 0.00 |
| Human capital | 0.44 | 231 | 0.66 |
| Relational capital | -0.59 | 231 | 0.55 |
| Structural capital | -0.71 | 231 | 0.47 |

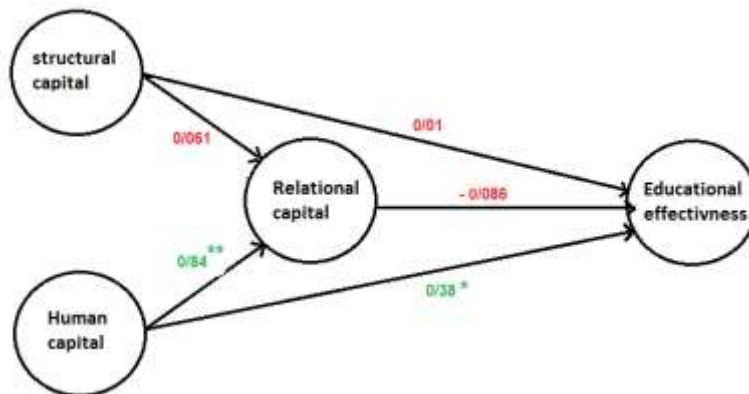
As it can be seen in the above table, the significance value of the three components of intellectual capital is higher than 0.05 (0.000 means the fourth decimal gets rounded and to three decimal places is zero). Thus, for all three components, the null hypothesis was confirmed and therefore in reality (non-random) the mean of educational effectiveness status of all components of intellectual capital in the population is lower than 3 (lower than average). Therefore, just the component of educational effectiveness is lower than 0.05, and so H1 is confirmed. Based on the results, to answer the subsidiary hypothesis among the general one, the following are summarized:

Hypothesis (2 to 4): Components of human capital, structural capital and relational capital by professors have a positive significant relationship with the educational effectiveness in Islamic Azad University of Ahvaz.

Table: 15. Regression coefficients of the relationship between intellectual capital and educational effectiveness in Islamic Azad University of Ahvaz

| Predictors | Non-standard coefficient | Beta | standard coefficient | Beta | T value | Significance value |
|--------------------|--------------------------|------|----------------------|------|---------|--------------------|
| Fixed value | 65.30 | | -- | | 5.61 | 0.000 |
| Human capital | 0.59 | | 0.24 | | 2.44 | 0.015 |
| Relational capital | -0.08 | | 0.30 | | -0.27 | 0.785 |
| Structural capital | 0.48 | | 0.29 | | 0.14 | 0.097 |

Table- 16 shows that the components of human capital has a significant positive relationship at the level of 99% with the educational effectiveness in Islamic Azad University of Ahvaz, and it can be a significant predictor for the effectiveness of education. Other components (relational capital and structural capital) at 95 percent have a significant positive relationship with the educational effectiveness in Islamic Azad University of Ahvaz and they can be a significant predictor for the educational effectiveness. Analysis of the structural part of the model based on structural equation: the final result of the structural model of research has been presented in the following figure;



As it can be seen, the relationship between human capital and educational effectiveness was significant at 95% confidence level. Other relationships between intellectual capital components and educational effectiveness were not significant. Besides, the relationship between human capital with another components of intellectual capital (ie, relational capital) was significant.

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