

# The Effect of Intellectual Capital on Knowledge Management with the Mediating Role of Organizational Commitment

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**Abstract:** For many years, at the competitive examination, Yazd province students have the highest acceptance rate to enter university. The attention to knowledge management and its impact in the creation of an intangible capital type (but vital) called intellectual investment among employees and institutional managers responsible to educate are an indispensable necessity in the education department of Yazd province. In this regard, the present study was conducted with the aim of investigating the effect of intellectual capital on knowledge management with the interceding role of organizational commitment in the General Office of Education in Yazd province, Iran. The results showed that intellectual capital affects knowledge management and intellectual capital is imperative for organizational commitment. Organizational commitment influences knowledge management. Organizational commitment has a significant positive mediation effect in the influencing of intellectual capital on knowledge management.

**Key Words:** intellectual capital, knowledge management, organizational commitment, knowledge creation, knowledge sharing

**Abstrak:** Bertahun-tahun, pada ujian kompetitif, siswa provinsi Yazd memiliki tingkat penerimaan tertinggi untuk masuk ke universitas. Perhatian terhadap manajemen pengetahuan dan dampaknya dalam penciptaan modal tidak berwujud (tetapi vital) yang disebut investasi intelektual di antara karyawan dan manajer institusional yang bertanggung jawab untuk mendidik adalah kebutuhan yang sangat diperlukan di departemen pendidikan provinsi Yazd. Penelitian dilakukan dengan tujuan menyelidiki efek modal intelektual pada manajemen pengetahuan dengan peran menjadi perantara komitmen organisasi di Departemen Pendidikan provinsi Yazd, Iran. Hasil penelitian menunjukkan bahwa modal intelektual mempengaruhi manajemen pengetahuan dan modal intelektual sangat penting untuk komitmen organisasi. Komitmen organisasi mempengaruhi manajemen pengetahuan. Komitmen organisasi memiliki efek mediasi positif yang signifikan dalam mempengaruhi modal intelektual pada manajemen pengetahuan.

**Kata kunci:** modal intelektual, manajemen pengetahuan, komitmen organisasi, penciptaan pengetahuan, penyebaran pengetahuan

## INTRODUCTION

Knowledge management is a process that identifies, organizes, transfers, and correctly utilizes the internal information and experience of the organization. Today, knowledge is the most important asset of organizations. Therefore, knowledge management is a challenge for discovery of individual knowledge and Transforming it into an information subject matter so that it can be stored in databases, exchanged with others and used in the process of routine works (Arvin et al., 2014).

We know that every year in the entire budget of the country, large sums of money allotted to the education of students, and a great deal of expenses are spent on in-service training of teachers, mentors and staff of education throughout the country. Yazd provinces, with the assistance of the school's charity that pays the funds for the development and improvement of educational facilities and spaces of schools in the country have a good position. On opposite, one of the problems that has always existed in our educational system and consequently, the entire education departments as the custodian of education each province has in-

involved, is a good record of creating knowledge among staff, teachers and students with suitable and acceptable output. This positive function could lead to scientific and economic mutations in the province and as such in the country (Samadi et al., 2009).

Organizational commitment means the degree of psychological replication or adherence to the organization we work for which. Organizational commitment has the following components: accepting the values and goals of the organization, the desire of affording for an organization and having a strong desire to continuously stay in the organization (Modi, Porter, & Steers, 2013). There are many reasons why an organization should increase the level of its organizational commitment of members (Steers & Porter, 1974). Intellectual capital provides organizations with a great deal of organizational value diversification. For example, generating profits, determining strategies, innovating, reducing costs, improving productivity, and more. Intellectual capital management is critical to the long-term success of educational systems. The present research seeks to find an answer to the inadequacy of knowledge created in the organization and to integrate this knowledge and complete the knowledge management cycle. In addition, in this research, we have tried to investigate the relationship between knowledge management (Ghayouri et al., 2012) and intellectual capital (Bontis, 1998; Nazem & Matlabi, 2011; Zagal & Mull, 2010), which has three dimensions of human capital, structural capital, and relationship capital.

Organizational commitment sets the term of commitment as conscientious, work ethics, willingness and accountability. Guitam (2004) considers organizational commitment as the attitude or orientation of an organization’s relationship that links an individual’s identity with the relevant organization. In addition, Mayer

(2001) defines the commitment as willingness of individuals to spend on energy and their loyalty to the social system. In a study titled “Creating Organizational Commitment in the Public Sector,” the two dimensions of employees’ commitment in a government organization, namely, its effectiveness and continuity, were reviewed. The findings of this study confirmed the multi-dimensional nature of the motivations and organizational commitment of public sector employees. Additionally, the empirical results obtained supported the importance of the organizational commitment effect of employees to government agencies (Akhavan et al., 2006).

Considering the theoretical foundations of the research and the proposed models, the research hypotheses are as follows (Figure 1). (1) Intellectual capital affects knowledge management. (2) Intellectual capital affects organizational commitment. (3) Organizational commitment influences knowledge management. (4) Organizational commitment has a significant positive mediation effect on the impact of intellectual capital on knowledge management.

Fratti et al. (1394), in a study on this fundamental issue, investigated the effect of knowledge management on human capital development. The results of the research showed that knowledge management measures have a significant and positive effect on all investigated dimensions of human capital. In addition, they researched that effective implementation of knowledge management activities in organization leads to further development of human capital in which organization. Lee (2009) explores on the title of “global economic crisis in years 2008-2009 and its relation to the creation of intellectual capital”. This research’s results showed that the cases should be determined are the scope of this effect, the identification of those cases specially affected and the regulation of scientific

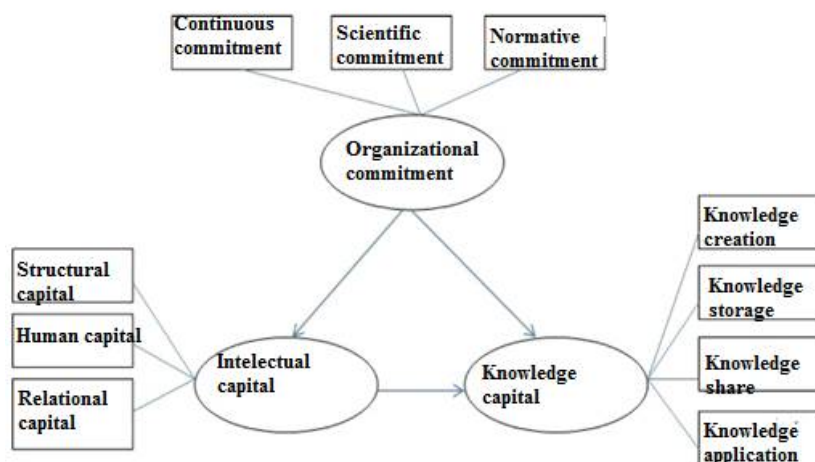


Figure 1. Conceptual Research Model

and political observations related to controlling the existing turmoil in the path of creating and disseminating intellectual capital. Researches on the early evidence of the global economic crisis cycle in 2007-2009 and the process of creating intellectual capital reflect the harshness of reporting on both groups of intellectual capital based on a momentary stock valuations process. The use of these intellectual capitals in predicting economic shocks is a question and its cause is conceptual and practical reasons.

Edwinson (1997) explored the global progress of intellectual capital. His findings showed that the capacity of the knowledge management process increases the effectiveness of the organization, in which human capital also has had a considerable impact on the performance of the organization. In a research on the role of intellectual capital of organizations in knowledge management revealed that there is a significant relationship between organizational intellectual capital and knowledge management, which these dimensions in addition to having deep relationship with each other, plays a major role in organizational knowledge management (Bontis, 2001).

**METHOD**

The present research is extensive study in terms of the applied, collecting method of descriptive surveying information, time, cross-sectional and depth of work. In this study, tools such a questionnaire were used to collect information. To obtain data used three questionnaires of knowledge management (Josh Para,

2004), intellectual capital and organizational commitment. In this research, 83% of Cronbach’s alpha used to verify the reliability of the structures. In the present study, the population under study is all employees of the General Directorate of Education in Yazd province, which are over 220 in the sampling period. Sampling in this research is simple random, because the number of employees is clear and here the community formula is limited to measure the number of samples used. The community considered in this research is the total staff and managers and was used the simple random sampling method. To determine the sample volume, the general sample volume formula (Cochran formula) will be used, and according to the 220 population, the obtained sample volume is 140.

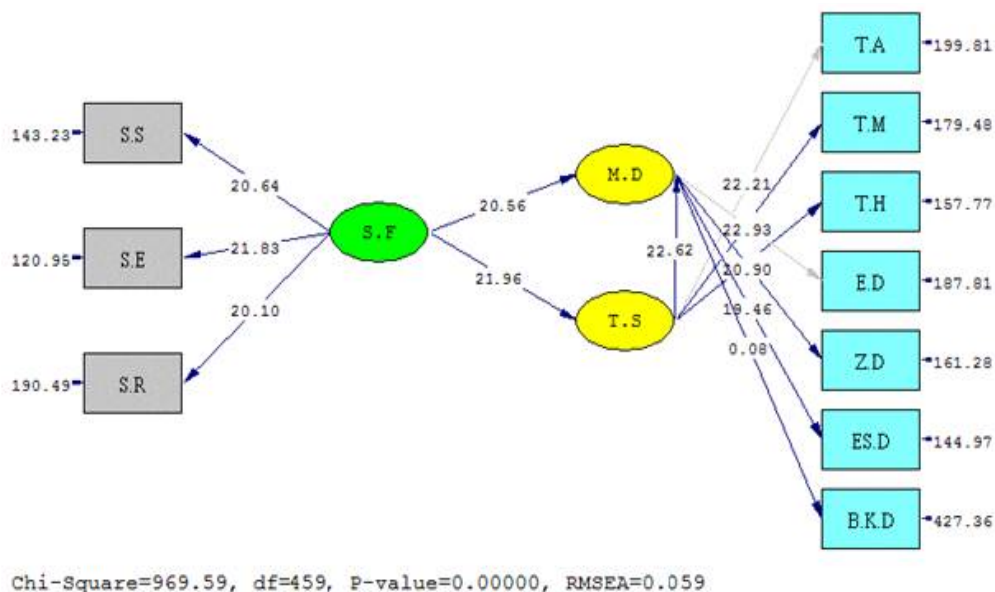
**RESULTS**

For evaluating research hypotheses, the values of path coefficient and T statistic were used (Figure 2 & 3). If the value of T statistic becomes outside the range of -1.96 to 1.96, means that this hypothesis is accepted with the p-value of 95 percent.

**DISCUSSION**

**Investigation on Intellectual Capital Effects on Knowledge Management**

According to Table 1, statistical significance between intellectual capital and knowledge management is 20.56, which is greater than 1.96 and shows that



**Figure 2. T-Value Numbers of Research Structural Model**

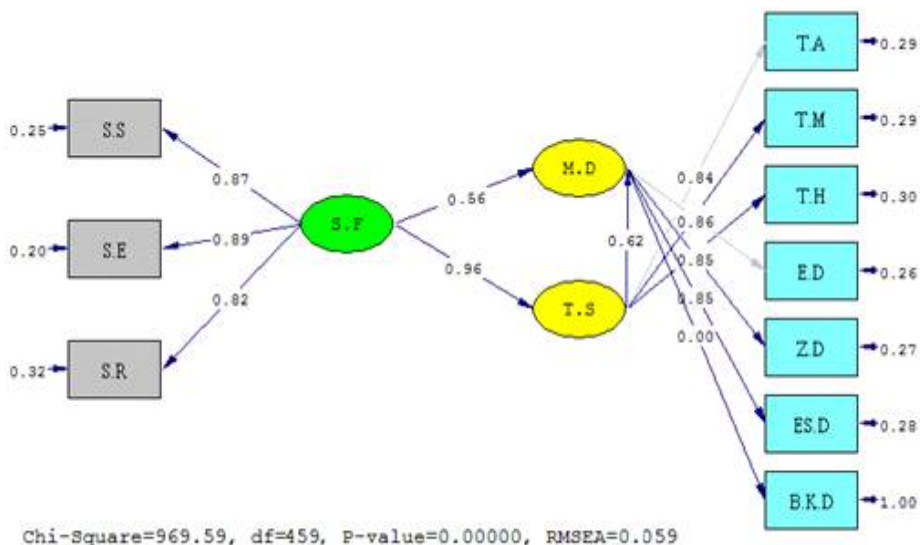


Figure 3. Standard Estimation Coefficients of Research Structural Model

Table 1. Obtained Results from Structural Model Evaluation

Exam results	T-value number	Path coefficient $\beta$	Path		Hypothesis
			To variable	From variable	
Hypothesis confirmation	20.56	0.56	Knowledge management	Intellectual capital	1
Hypothesis confirmation	22.96	0.96	Organizational paradigm	Intellectual capital	2
Hypothesis confirmation	22.62	0.62	Knowledge management	Organizational paradigm	3

the relation between intellectual capital and knowledge management is statistically significant in 95% confidence level. In addition, path coefficient between these two variables is 0.56 and shows the positive effectiveness of intellectual capital variable on organizational paradigm. In other words, with a unit of change in intellectual capital, we see a 56-unit increase in knowledge management and this means that intellectual capital is effective on knowledge management. So the second hypothesis of research is confirmed.

**Investigation on Intellectual Capital on Organizational Commitment**

According to Table 1, statistical significance between intellectual capital and organizational commitment is 22.96 that is greater than 1.96 and shows that the relation between intellectual capital and organizational commitment is statistically significant in 95% confidence level. Also path coefficient between these 2 variables is 0.96 and shows the positive effectiveness of intellectual capital variable on organizational commitment. In other words, with a unit of change in intel-

lectual capital, we see 0.96-unit increase in organizational paradigm and this means that intellectual capital is effective on organizational commitment. The second hypothesis of research is confirmed.

**The Effect of Organizational Commitment on Knowledge Management**

According to Table 1, statistical significance between organizational commitment and knowledge management is 22.62, which is greater than 1.96 and shows that the relation between organizational commitment and knowledge management is statistically significant in 95% confidence level. Also path coefficient between these 2 variables is 0.62 and shows the positive effectiveness of organizational commitment variable on knowledge management. in other words, with a unit of change in organizational commitment, we see 0.62-unit increase in knowledge management and this means that intellectual capital is effective on knowledge management. The second hypothesis of research is confirmed.

**Table 2. Direct, Indirect, and Total Effect between Intellectual Capital and Knowledge Management**

Total effect	Indirect effect	Direct effect	Path	
			To variable	From variable
0.724	0.144	0.58	Knowledge management	Intellectual capital

### Investigation on Mediation Effect of Intellectual Capital on Knowledge Management

For investigating mediation role of organizational commitment variable, structural equation outlets were used. Direct effect, indirect effect and total effect between intellectual capitals on knowledge management are calculated in the Table 2.

As it can be seen from Table 2 and Figure 1, the direct effect of intellectual capital on knowledge management is 0.58. The indirect effect of intellectual capital variable on knowledge management is equal to 0.144.

To evaluate the mediation role of organizational commitment variable in the relationship between intellectual capital and knowledge management, Sobel test is used.

$$Z\text{-value} = \frac{a \times b}{\sqrt{(b^2 \times S_a^2) + (a^2 \times S_b^2)}}$$

a: The value of the path coefficient between the independent variable and the mediator variable

b: The value of the path coefficient between the mediator variable and the dependent variable

$S_a$ : The standard error of the path between the independent variable and the mediator variable

$S_b$ : The standard error of the path between the mediator variable and the dependent variable

$$Z\text{-value} = \frac{0.48 \times 0.3}{\sqrt{(0.3^2 \times 0.09^2) + (0.48^2 \times 0.12^2)}} = 2.264$$

The results show that Z-value of the Sobel test is equal with 2.264, which is more than 1.96. Therefore, it can be stated that mediation effect of organizational commitment variable on the relationship between intellectual capital and knowledge management is meaningful at the significance level of 0.95; so, the fourth hypothesis of the research is confirmed.

In addition to the Sobel test, the variance-accounted-for (VAF) statistics are used to compute the magnitude of the indirect effect through the intermediate variable. This statistics is between 0 and 1, and the closer the value of this statistics to 1, the stronger the impact of the mediator variable. In fact, the variance-

accounted-for (VAF) statistics determines the size of the indirect effect in relation to the total effect (indirect effect/total effect).

$$VAF = \frac{a \times b}{(a \times b) + c}$$

a: The value of the path coefficient between the independent variable and the mediator variable

b: The value of the path coefficient between the mediator variable and the dependent variable

c: The value of the path coefficient between the independent variable and the dependent variable

$$VAF = \frac{0.48 \times 0.3}{(0.48 \times 0.3) + 0.58} = 0.574$$

The amount of VAF indicates that 57.4% of total effect of intellectual capital on knowledge management is explained with the mediator variable of organizational commitment. Therefore, because this value is close to one, it shows the strong impact of the mediator variable of organizational commitment.

### CONCLUSION

In addition, it mentioned that there is a meaningful relationship between intellectual capital and knowledge management. In one hand, impact of the mediator variable of organizational commitment is strong and on the other hand, relationship between intellectual capital and knowledge management is meaningful. Therefore, it can be concluded that organizational commitment has partial mediation role in the relationship between intellectual capital and knowledge management.

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