

*Full Length Research Paper*

# Effect of transformational leadership on intellectual capital

Mohammad Ali Sarlak<sup>1</sup>, Mahdi Moradgholi<sup>1</sup> and Ali Ghorbani<sup>2\*</sup>

<sup>1</sup>Payame Noor University, Lashkarak Highway, Nakhli Street, Tehran, 19569, Iran.

<sup>2</sup>Islamic Azad University, Bonab branch, Imam St, Bonab, East Azerbaijan, Iran.

Accepted 16 May, 2011

**This research has tried to study the effects of the developmental leadership on the intellectual capitals in the customs of Islamic Republic of Iran (I.R.I). The methodology of this descriptive and analytic research is based on structural equations model (SEM). In this case, researchers made sure of the efficacy of the computational models by using an analysis of a confirming factor. The results showed that transformational leadership has a positive and meaningful effect on human and structural capitals, but has not shown any meaningful effect on the customer capitals in the customs of I.R.I. In a clearer way, by improving the conditions of transformational leadership in the organization, human and structural capitals improve. Also, the results showed that transformational leadership by way of human capitals has a positive effect on the structural capitals of the organization. At the end, considering the final model of research and the effects of transformational leadership on the intellectual capitals, some suggestions have been proposed to develop parts of intellectual capitals and to expand transformational leadership.**

**Key words:** intellectual capital, human capital, structural capital, customer capital, transformational leadership, structural equations model.

## INTRODUCTION

Nowadays, managing the intellectual capitals in an organization has become one of the most important concerns of the organizations. Since these kinds of resources have not been reflected in the balance sheet, and considering that they have considerable effects on profit-making, function, and value, it needs more attention, resources, and more emphasis from the management boards of the organizations. Managing intellectual capitals enables organizations to develop and expand organizational merits. Since organizations merits are attained based on intellectual capitals, any improvement in them requires the effects of the management on intellectual capitals, which as a result, there will be improvements in business and values will be created. So many theoreticians believe that the next

decade is the decade of value-making through the intellectual capitals for organizations and countries. The concept of intellectual capitals has been turned into a necessity in leading the organizations and in a broader sense the transformational leadership of countries. So, making divisions and assigning roles to the elements of intellectual capitals and affective elements in each stage of transformational leadership is an affective factor in leading the intellectual capitals. Because the transformational leaders are all the time concerned about renovating their organization, they will be after intellectual capitals and developing them. In fact, transformational leaders can make decisions about determining the business strategies, designing processes, increasing innovation and creativity, expanding cooperative activities and the culture of knowledge sharing, understanding social networks of the organization, and determining the factors involved in the change, by assessment and evaluation of intellectual capitals and knowledge-management functions of the organization.

---

\*Corresponding author: E-mail: [ghorbani@phd.pnu.ac.ir](mailto:ghorbani@phd.pnu.ac.ir). Tel: +98 21 22 80 48 42. Fax: +98 21 22 80 84 94.

In the definition made in 1404 perspective, Customs of the Islamic Republic of Iran (I.R.I), as the economic border guard on the country, has an important role in receiving governmental income and also in performing economic and commercial policies, and this requires making use of the patterns of transformational leadership in order to develop intellectual capitals for transforming the structure, procedures, culture, and other organizational aspects. So, the results obtained from this study as a first step in programming and making foundations for an economy based on knowledge in the Customs of I.R.I, can make a great help in establishing models and systems of knowledge management in this organization. Also, it can lead the leaders' views to the intangible capitals and their strategic development, and persuade them to keeping and protecting these resources and establish the required infrastructure for the future success of the organization.

## Literature review

### Transformational leadership

The increasing trend of the central role of knowledge and economic knowledge as a central lever of the organizations in a competitive environment produced new requirements and a new atmosphere in the domain of organizational activities, which caused the theory of transformational leadership to develop in order to have transformations and renovations in the organizations. It is a kind of leadership which can enable the hidden capitals to expand and dynamic potentials to activities. Organizations cannot create such a strategic coalition without emphasizing the style of transformational leadership (Braun et al., 2006). Kanger and Canango claim that transformational leaders express a perspective in order to make new ideas and facilities for the future in the times of crisis and alternation and often create new strategic dimensions (Berson and Avolio, 2004). Burnes showed that transformational leaders have perception and persuade and challenge others to do extraordinary tasks. Burns in the following asserts that: only transformational leaders are capable of drawing the essential routes for the new organizations. Because they are sources of changes, have a thorough understanding of the changes in the organization, and have a thorough command of the change waves (Mughlezi, 2003). Transformational leaders express the future prospect of the organization, present a model which is compatible with that prospect, and develop the acceptance of group goals, and provide support for each individual (Spreitzer et al., 2005).

### Intellectual capital

Intellectual capitals are sets of knowledge-based

properties that belong to a specific organization and are considered as the organization's characteristics which by the way of adding value to the key stakeholders in the organization, leads to a considerable improvement in the competitive mood of the organization (Marr, 2004). In other words, intellectual capitals include a set of non-physical sources of value and consist of components like the abilities of staff, the resources present within the organization, the accessible operational routes, and relations with the stakeholders, all of these affect the competitive abilities of the organization (Kujansivu et al., 2007). Dean and Kretschmer (2007) showed that different definitions of the intellectual capitals essentially point to the compound knowledge which is preserved efficiently in order to increase the value of the organization.

### Indexes of intellectual capital

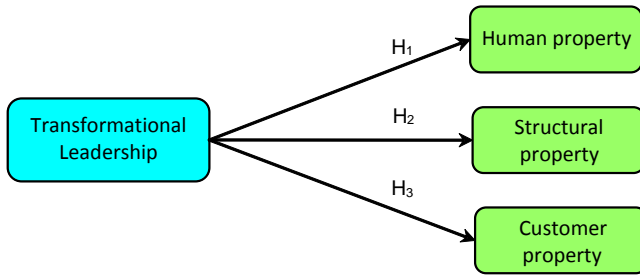
The analysis of the performed operations as an excuse for intangible capitals through ranking shows that researchers use differing terminology in referring to intellectual capital and with the inclination to unifying the ranking of intellectual capitals, accept the three dimensional ranking of sveiby– human, structural, and customer (Choong, 2008; Sveiby, 1997; Edvinsson, Malone and 1997; Bontis, 1998; Sullivan, 1998; Mouritsen et al., 2004; Pablos, 2003). Bratianu et al., 2011 mentioned intellectual capital integrators as: technology and its associated processes, management and leadership, vision and mission, and organizational culture (Bratianu et al., 2011).

#### 1. Human capital

This is one of the most important and in fact the most important type of intellectual capitals in an organization, because these capitals are the main source of creativity and innovation. Human capital is defined as the individual person's knowledge, skills, and experience in the organization to create value and solving problems of business (Norma, 2005). Moon and Kym (2006) describe human capital as consisting of 3 factors: ability, satisfaction, and stability of the staff (Moon and Kym, 2006). These 3 factors altogether describe the ability and motivation of individuals in the performance of the organization in the long run (Noel, 2009).

#### 2. Structural capital

Structural capital consists of the philosophy and facilitating systems of the performance of the organization. In other words, structural capital is a supportive infrastructure for enriching human capital in reaching the performance-related goals (Hsu and Fang, 2008). Structural capital consists of all the non-human capitals of knowledge in the organization which includes



**Figure 1.** The proposed conceptual model of the research.

databases, organizational figures, operative instructions, processes, performance strategies and programs, and all that its value is more important than its material money for the organization (Roos et al., 1997). Structural capital refers to the structures and processes within an organization which the staff have used them and operate their knowledge and skills through that (Vergauwen and van Alem, 2005).

### 3. Customer capital

However the term customer capital was first used by Hubert, new definitions have developed its concept by communicative capital which include the kind of knowledge focused on creating values by the way of the organizations' relations with new and old customers, and indicates the organization's potential in using intangible capital outside the organization.

The base of the customer capital is established from the accumulated knowledge with respect to the external relations of the organization (Bontis, 1998). Andriessen (2005) calls customer capital as consisting of the knowledge present in all of the relations between the organization and customers, competitors, suppliers, commercial committees, or government.

### Theoretical framework of the research

Theoretical studies of this research are mainly based on the Bontis et al. (2000) theories about intellectual capitals and also the theory of transformational leadership by Avolio and Bass, the conceptual model of the research shown in Figure 1 which shows the effects of transformational leadership on intellectual capitals (human capitals, structural capitals, and customer capitals) has been designed. Based on this model, the independent variable is transformational leadership and dependent variable is intellectual capital. Also, the research assumptions are presented in this way:

H<sub>1</sub>: Transformational leadership in the Customs of the I.R.I has a meaningful positive effect on human capitals.  
 H<sub>2</sub>: Transformational leadership in the Customs of the

I.R.I has a meaningful positive effect on structural capitals.

H<sub>3</sub>: Transformational leadership in the Customs of the I.R.I has a meaningful positive effect of customer capitals.

### METHODOLOGY

The research uses structural equations model to investigate and test the hypotheses after gathering data and information by the way of a questionnaire, Lisserel statistical software have also been employed.

### Research goals

1. Designing and explaining the model of the effectiveness of transformational leadership on intellectual capitals.
2. To help the organization's leaders in decision-making about intellectual capitals and also proposing some hints about policy-making regarding intellectual capitals.

### Statistical sample and grouping

The respondents to this research include all the executives, deputies, and managers of the operational sections and executive Customs of Iran, which altogether were 400 and the magnitude of the sample regarding the whole participants and calculation using the formula (calculating the magnitude of the sample) was 196 persons. Sampling method is simple random sampling and the following formula has been used for calculating the magnitude the required sample in the research:

$$n = \frac{N(Z_{\alpha})^2(P)(1-P)}{\varepsilon^2(N-1) + (Z_{\alpha})^2(P)(1-P)} = \frac{400 \times 1/96^2 \times 0/25}{0/05^2(399) + 1/96^2 \times 0/25} = 196$$

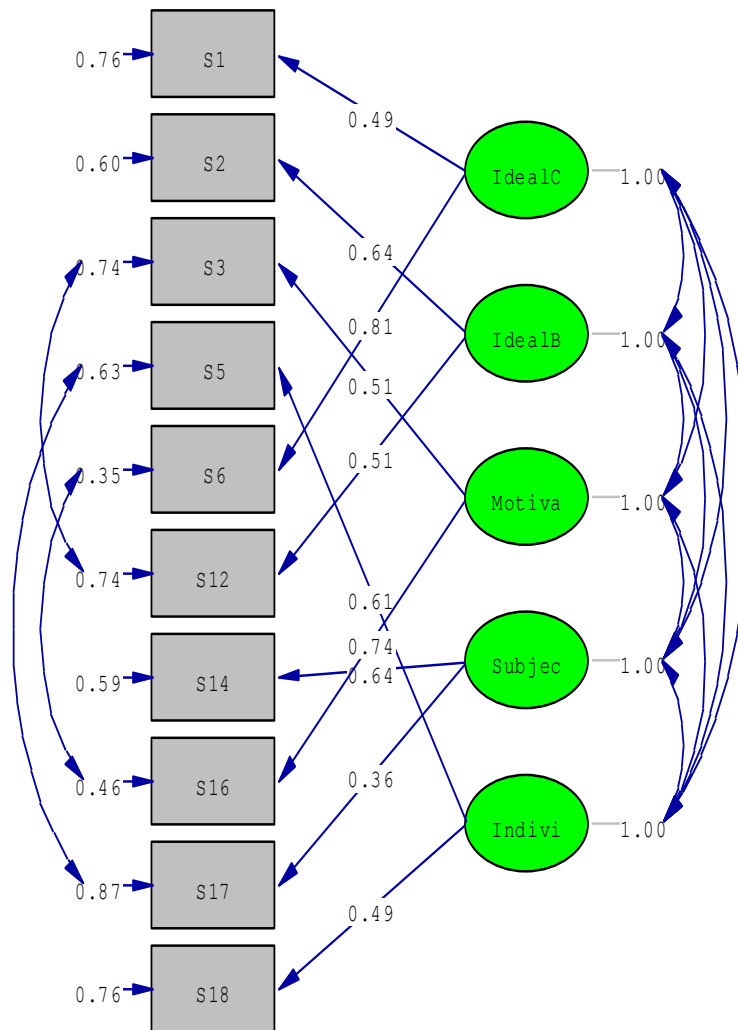
In order to have access to 196 correct and faultless questionnaires, 250 questionnaires were distributed, which after collecting them, 217 of them were deemed as appropriate.

### Data collecting methods and tools

In this research, for collecting the required information, library and field research methods have been used. The tools used were: field and library research methods to extract and edit the information related to the subject and also the questionnaire of surveying intellectual capitals which was based on the models proposed by Bontis (2000, 2002, 2004) and Leap et al. (2004), and also the questionnaire of transformational leadership style based on the model proposed by Avolio and Bass (2002). Because the criteria of the intellectual capitals and transformational leadership in this research were qualitative, in order to quantify them, the Lickert 5 levels scale was used.

### Reliability and validity of the tools

In order to investigate the content validity, the comments of university professors and experts and also a number of the organization's executives have been used; in order to investigate construct validity, factor analysis has been conducted. The criterion



**Figure 2.** The revised model of the evaluation of transformational leadership in a standard estimate. Chi-square=40.56; df=22; P-value=0.00929; RMSEA=0.063.

for researcher's decision-making about acceptance or rejection of the indicators is also factor analysis. Also, in this research Cronbach's Alpha method has been used to investigate reliability of the data. In the first stage of investigation of reliability, the amount of output alpha of the software for the 40 distributed questionnaires was 0/735 for intellectual capitals and 0/701 for transformational leadership which are suitable quantities. Also, after finishing the collection of questionnaires this was again calculated and the obtained alpha was 0/816 and 0/763 respectively. So, both of the questionnaires have a satisfying level of reliability.

**Analyzing the models of evaluating the research parameters**

Before testing hypotheses, evaluation models should be made accurate. Factorial models act as evaluation models in structural equations models. So, evaluation models related to factor analysis that have been extracted using structural equations model and also Lissrel software, are shown in Figure 2. The core parts of the model of intellectual capitals include structural capitals, human capitals, and customer capitals. Also, the core parts of

transformational leadership model include ideal characteristics, ideal behaviors, inspirational motivation, mental encouragement, and individual considerations.

The criteria for a thorough fitness of the two evaluation models of the research for the two conditions namely primary and revised have been shown in Table 1.

As the results presented in Table 1 show, all the criteria approve a complete fitness. In the revised models have been improved comparing their primary models. These models have a suitable level of fitness so the measurement models are appropriate for building the structural equations model.

**Analyzing the structural model of the research**

After evaluation and determining the reliability of the measurement models, in order to test hypotheses of the research we should at first investigate the complete fitness .of the comprehensive model of the research, and if approved, there is the possibility of evaluation of the structural model.

In this stage, the output results of lissrel showed that all the

**Table 1.** Indicators for the fitness of the research model.

Fitness indicator	Criterion for acceptance	Model of measuring intellectual capital		Model for measuring transformational leadership	
		Primary model	Revised model	Primary model	Revised model
$\chi^2$ (Chi Square)	$\chi^2 \leq 3df$	$\chi^2 = 622.80,$ df = 402	$\chi^2 = 405.68,$ df = 292	$\chi^2 = 481.90$ df= 125	$\chi^2 = 40.56$ df= 22
$\chi^2/df$	$\chi^2/df \leq 3$	1.549	1.389	3.855	1.843
RMSEA	RMSEA $\leq 0.08$	0.050	0.042	0.115	0.063
SRMR	SRMR $\leq 0.10$	0.066	0.059	0.13	0.16
NNFI	0.90 $\leq$ NNFI	0.90	0.93	0.58	0.94
CFI	0.90 $\leq$ CFI	0.90	0.94	0.66	0.97
GFI	0.80 $\leq$ GFI	0.84	0.87	0.80	0.96
AGFI	0.85 $\leq$ AGFI	0.81	0.85	0.73	0.91

**Table 2.** The results obtained of testing the hypotheses of the research.

Hypotheses of the research model	Sig. level	Coefficient of affect	Test results
H <sub>1</sub> : transformational leadership has a meaningful positive effect on human capitals	4.48	0.84	Accepted
H <sub>2</sub> : transformational leadership has a positive meaningful effect on structural capitals.	5.69	0.95	Accepted
H <sub>3</sub> : transformational leadership has a positive meaningful effect on the customer capitals.	1.33	0.11	Rejected

criteria of complete fitness of the comprehensive model of the research have an appropriate level of fitness and this is the reason why the ratio of Chi-2 to the degree of freedom is less than 3 and RMSEA is less than 0/08. NNFI and GFI also are higher than 90%. So, the comprehensive model of the research (Figure 3) can be used in order to test the hypotheses of the research. The results obtained related to testing the hypotheses of the research have been summarized in Table 2.

In Table 2, column of the coefficient of effect indicates the influence of a structure on another structure in the conceptual model of the research. In fact, coefficient of effect indicates the amount of effect or determining effects of one variable on another variable. Significant level also shows the meaningfulness of each effect. For being meaningful, the number must be below -2 or above +2.

So, in hypothesis 1, considering the results of statistical test (standard coefficient of 0/84 and significant level of 4/48), it is evident that transformational leadership has a positive and meaningful effect on human capitals. Also, data and the results of statistical analysis of hypothesis 2 (with standard coefficient of 0/95 and significant level of 5/69), approves this hypothesis, meaning that transformational leadership has a meaningful and positive effect on structural capitals. Also, hypothesis 3 is not approved because meaningfulness coefficient is below 2 and standard coefficient is 0/11. This means that transformational leadership does not have any positive and meaningful effect on customer capitals.

Also, regarding the revised indicators of the model, a proved hypothesis also can be mentioned in the comprehensive model of the research (Figure 3). This proved hypothesis indicates that human capital affects structural capital. So, it can be claimed that transformational leadership has a meaningful positive effect on

structural capital by the way human capital (Figure 4).

Altogether, regarding the results obtained from testing the hypotheses of the model and the proposed hypotheses, the research model can be revised and a model like the one shown in Figure 5 can be proposed. From Figure 5, the quantity of R<sup>2</sup> indicates the amount of the explained variance in the exogenous structures of the research model. In fact, the quantity of R<sup>2</sup> indicates the amount of explained changes in the structures of the model based on other predictive variables in the research.

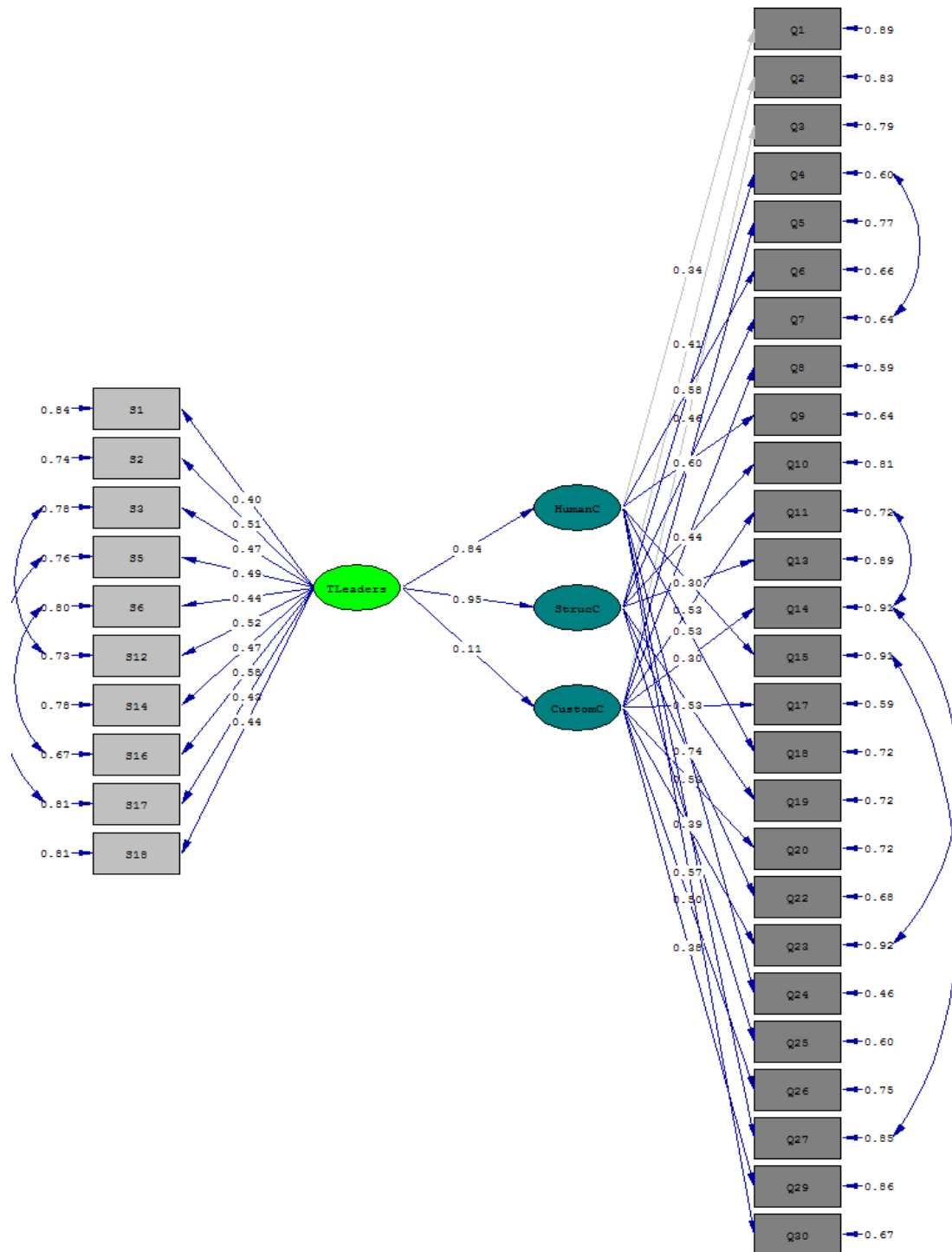
### Evaluating and ranking the research structures

With regard to the results obtained from testing the research hypothesis, the amount of effect of the structures present in this model can be ranked. In Table 3, the whole amount of effect (both direct and indirect), of the structure of transformational leadership in the revised model on the intellectual capital has been determined.

Based on the results shown in Table 3, transformational leadership by having 0/82, has the highest amount of effect on the structural dimension of intellectual capital. Also, other dimensions of intellectual capital, including human and customer capital, also are ranked in the next priorities regarding the impressionability of transformational leadership.

### Discussion and conclusion

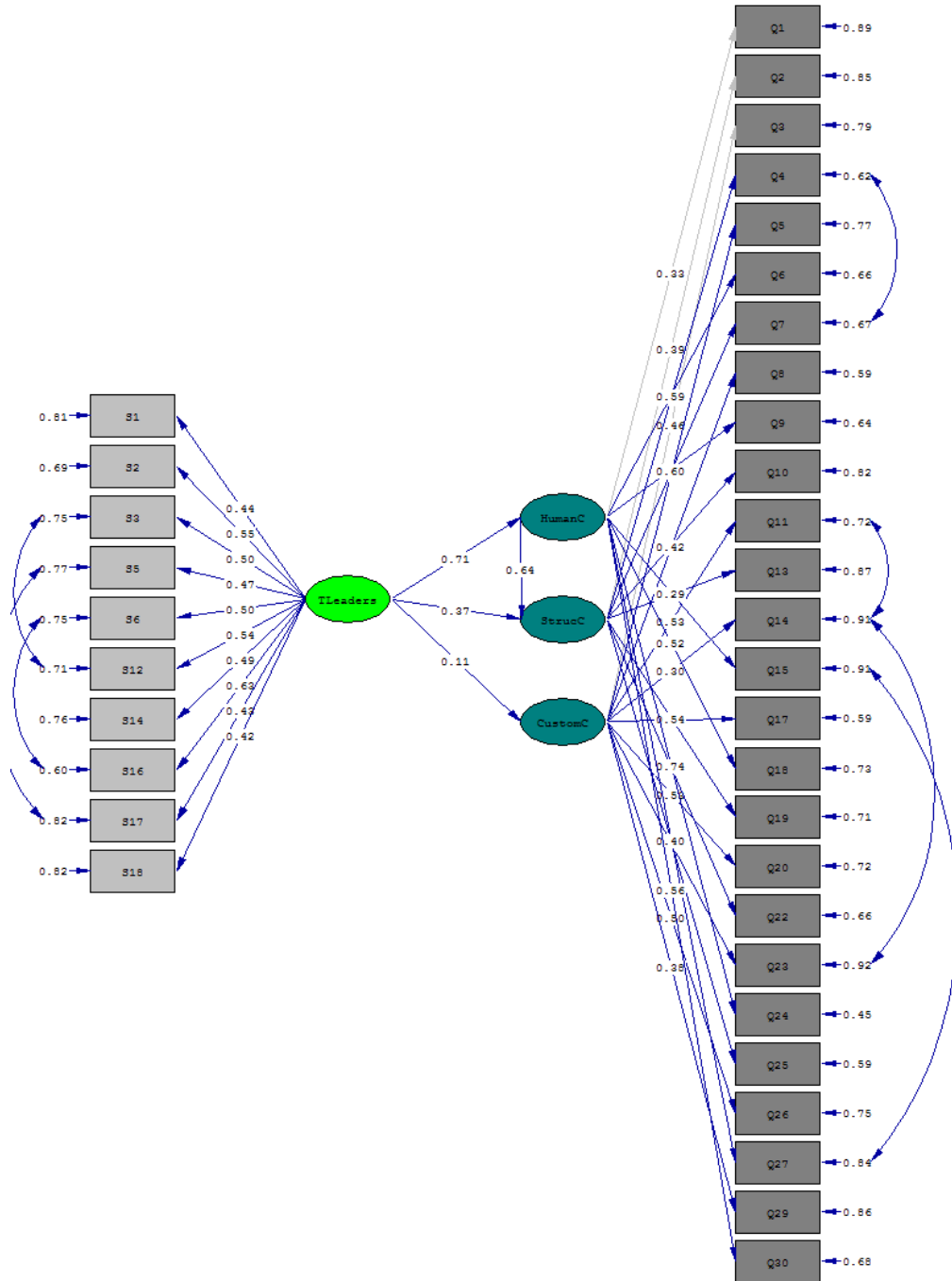
The main purpose of the present research is to investigate the effectiveness of transformational leadership on the intellectual capital (human, structural,



**Figure 3.** The comprehensive model of the research in the case of standard estimate Chi-square=857.67; df=584; P-value=0.00000; RMSEA=0.047.

and customer) in the Customs of I.R.I. The obtained results showed that transformational leadership, according to the proposed analysis model, has a meaningful positive effect on human and structural capital

and that effect of transformational leadership on customer capital was not proved. This indicates that by using transformational leadership in management methods of the managers, human and structural capitals



**Figure 4.** The revised comprehensive model of the research in the state of standard estimate Chi-square=827.99; df=583; P-value=0.00000; RMSEA=0.044.

in Customs of I.R.I. Transformational leadership has an appropriate managerial thinking which creates the flexibility of strategy, and develops human capital to become an appropriate set of skills in order to answer a dynamic environment. So, in cases that that the managers of the Customs have an appropriate style of transformational leadership, they can increase the merits

of staff, skills, and education, developing creative and intelligent individuals, encouraging the staff to think about their own actions, improving the performance of staff, increasing staff satisfaction and encouraging them to participate in group discussions, and also with the effect that transformational leadership has on structural capital, Customs of the I.R.I can improve and develop its

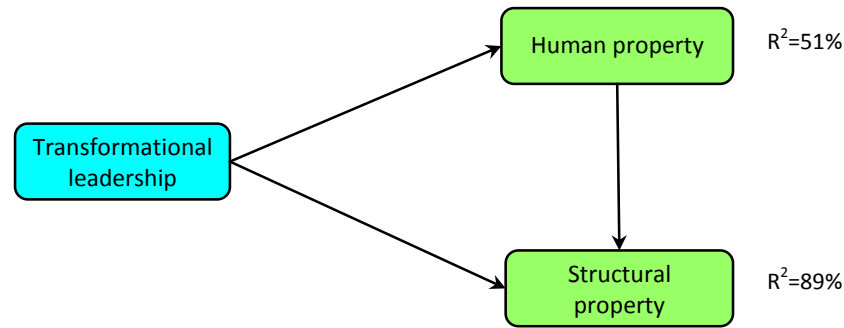


Figure 5. The proposed model of the research.

Table 3. Rank-ordering the structures impressionable from transformational leadership.

Transformational leadership → intellectual capital	Type of impression		
	direct	indirect	whole
Structural capital	0.37	(0.71*0.74)	0.82
Human capital	0.71	0	0.71
Customer capital	0.11	0	0.11

structural capital by reinforcing the dimensions of transformational leadership style in the management methods of its managers, and in this way, improve and reconstruct the structure, processes, systems, and procedures of the management of the managers, and support creativity and innovation by creating systems which protect new ideas and facilities, and operationalize a great body of these ideas, and by diminishing the bureaucracy and establishing an appropriate information system, facilitate access to information and provide a supportive and relaxing culture and atmosphere within the organization.

However, it was expected that transformational leadership to have an influence on customer capital also. But this hypothesis was not proved in Customs of Iran and the reasons for that include factors like not disseminating the feedback of customers all over the organization, and lack of a comprehensive plan to automate and mechanize some of the issues related to the customers, lack of enough attention to improving the view of customer centrality among all the members of this organization, lack of recognition and investigation of some of the needs and expectations of customers, and ruling-based procedures and activities of customs.

Also, regarding the proposed model and the structural equations between variables and variables' direct and indirect influence on each other and the whole amount of influence (direct plus indirect influence), the structure of transformational leadership had the most amount of influence on intellectual capital (0/82) and after that human and structural capital had the most amounts of influence from the transformational leadership,

respectively. So, it can be concluded that transformational leadership has an important role in explaining the structural and human capital. The most influential factors in the priorities related to impressionability are managers' carefulness to select and employ individuals who possess group, team, and technical skills, making use of the information systems which facilitate access to information., identification and paying attention to key processes which have the most significance to customers and managers' attempts in order to decrease the complex system of hierarchy and redundant processes by way of creating the single window system in the customs all over the country, presence of a supportive culture and a relaxing atmosphere in customs and structural knowledge management like the knowledge of processes, knowledge of work systems, and knowledge of strategies of the organization in the domain of structural capital, in the organization. In the domain of human capital, as the second priority from the perspective of impressionability from the structure of transformational leadership, the attempts of managers of Customs of I.R.I to identify strategic careers of the organization (careers which the fulfillment of the organization's goals depends on their fulfillment), designing the framework of managers' and staff merits including knowledge, skills and their abilities and their plans for development which is based on merits, education, counseling and opportunities for improving the future condition of those employees who have a good performance, managers' support of the improving the level of skills and education of their staff, continuous evaluation of staff performance in time intervals, and



using performance-related information of the employers in times of promotion; but the managers should plan better in times establishing a better and meaningful relationship between the levels of salary and reward, and the level of individuals merits and performances in the organization and designing a system based on improving the efficiency in domains of human capitals and measurement systems and keeping watch on the job satisfaction of their staff. Finally, considering the revised indicators of the model, another hypothesis was proposed in the comprehensive model of research and was tested. The results show that transformational leadership by the way of human capital, too, has an influence on structural capital and this shows that transformational leadership, by the way of human capital as the base for intellectual capital, has an influence on structural capital, too. This means that with developing and improving human capital of the organization, structural capital, also, will improve and this depends on the capabilities of the managers of this organization in achieving the goals of the organization to make use of human capital in developing structural capital.

As can be seen from the final model of the research (Figure 5), the explained coefficient of variance of the model for human capital equals 0/51. This means that transformational leadership accounts for about 51 percent of the changes in human capital, and other changes (around 49), are explained by other, external variables. Also, the explained coefficient of variance for the structural capital equals 0/89. This means that transformational leadership accounts for around 89 percent of the changes in structural capital and only 11 percent of these changes are explained by other, external variables that the researcher has not considered them as important and they are not present in the current research. It is propose that for identifying these variables, complementary researches are done. So, considering the results obtained from the first and second hypotheses and the effect of transformational leadership on the intellectual capitals of the organization, it is proposed that the characteristics of the transformational leadership style be reinforced in management methods of the managers of the organization in order to improve and develop intellectual capitals. The managers of Customs, also, should emphasize cooperation and group work in the organization's affairs and by putting emphasis on the importance of having a strong feeling about the goals and investigation of the bases of a new engineering, and the importance of presenting an optimistic view about the future, and showing certainty about reaching goals should do their best. Based on this, Customs of I.R.I can develop this style among the managers and leaders of the organization by creating patterns and characteristics. Preparing and compiling educational programs in order to develop and spread the characteristics and skills of transformational leadership for managers of the organization and granting some bonuses for those who have passed courses successfully is also important.

Finally, regarding the aims of research and the results obtained from the analysis of the data, it is recommended to the managers of Customs of the I.R.I in order to support and improve structural capital in Customs abolish all the redundant rules, instructions, and redundant work methods and complex hierarchy, and in this way keep paperwork in the organization to a minimum, and make use of modern structures like team and project structures, and try to create a supportive culture by designing systems of reward and motivation, reinforcing creativity and innovation, learning and development of human capitals of the organization, and establishment of an answering unit which responds to the changes in the environment and the needs of stakeholders and emphasize them, and try to use a system of proposals within the organization to receive the proposals of the staff and outside the organization to receive the proposals of the customers. Also, the development and improvement of new ideas and services should be reinforced. Also, in order to develop and improve human capitals in Customs of the I.R.I, it was proposed that by a continuous measurement of the job satisfaction of the staff within time intervals and analysis of them to remove barriers in attaining job satisfaction, proper decisions be made and by designing a system of reward and support to the best ideas of the staff employ them in operational processes of the organization and put emphasis on the analysis and improving systems of the performance of the staff based on the development of the organization, and try to establish a system of creating substitutes for the key employees of the organization. Also, the programs related to the selection of staff in Customs must be designed in a way that the best options are selected and a balance be created between their merits and the salary and rewards they receive.

Finally, it was proposed to the managers of the Customs to make plans for the employment, education, and creating motivation and enriching those groups of staff who provide service to the customers in one way or another, and by receiving feedback from the customers in all issues and considering them as important, try to spread it all over the organization, and by way of establishing relations and receiving information about their level of satisfaction and by creating a system of measuring and controlling customer satisfaction, identify their expectations, and by establishing a system of complaints and expectations of customers, analyze their opinions and try to do something based on these findings, and by making plans in order to increase customer satisfaction, decrease the amount of time spent on investigating and solving their problems in order to improve customer capital in the Customs of the I.R.I, too.

## REFERENCES

- Andriessen D (2005). On the metaphorical nature of intellectual capital: A textual analysis. The 4<sup>th</sup> International Conference on Critical Management Studies, Judge Institute of Management, University of

- Cambridge.
- Avolio BJ, Bass BM (2002). Developing Potential across a Full Range of Leadership Cases on Transactional and Transformational leadership. Lawrence Erlbaum Associates, Mahwah, NJ.
- Berson Y, Avolio BJ (2004). Transformational leadership and the dissemination of organizational goals: A case study of a telecommunication firm. *Leadersh. Q.* 15:625-646.
- Bontis N (1998). Intellectual capital: an exploratory study that develops measures and models. *Manag. Decis.* 36(2):63-76.
- Bontis N (2000). CKO Wanted – Evangelical Skills Necessary: A review of the Chief Knowledge Officer position. *Knowledge and Process Management*, in press. pp. 4-7.
- Bontis N (2002). World Congress on Intellectual Capital Reading, Butterworth Heinemann Boston, MA.
- Bontis N (2004). Intellectual capital questionnaire, institute for intellectual capital research, Hamilton, Canada.
- Bontis N, Keow W, Richardson S (2000). Intellectual capital and Business performance in Malaysian Industries. *J. Intellect. Cap.* 1(1):85-100.
- Bratianu C, Jianu I, Vasilache S (2011). Integrators for organizational intellectual capital. *Int. J. Learn. Intellect. Cap.* 8(1):5-17.
- Braun W, Acar W, Bevger D (2006). Transformational Leadership in organizations: An Environment induced model international. *J. Manag.* 27(1).
- Choong K (2008). Intellectual capital: definitions, categorization and reporting models. *J. Intellect. Cap.* 9(4):609-638.
- Dean A, Kretschmer M (2007). Can ideas be capital? Factors of production in the postindustrial economy: a review and critique. *Acad. Manag. Rev.* 32(2):73-94.
- Edvinsson L, Malone M (1997). *Intellectual Capital: Realizing your Company's True Value by Finding its Hidden Brainpower*. Harper Business, New York, NY.
- Hsu YH, Fang W (2008). Intellectual capital and new product development performance: The mediating role of organizational learning capability. *Technol. Forecast. Soc. Change*, available in <http://dx.doi.org/10.1016/j.techfore.2008.03.12>.
- Kujansivu P, Lonnqvist A (2007). Investigating the value and efficiency of intellectual capital. *J. Intellect. Cap.* 8(2):272-287.
- Leap T, Loughry P, Misty L (2004). The stakeholder friendly firm. *Bus. Horiz.* 47:22-28.
- Marr B (2004). Measuring and Benchmarking Intellectual. *Benchmarking: Int. J.* 11(6):559-570.
- Moon YJ, Kym HG (2006). A model for the value of intellectual capital. *Can. J. Admin. Sci.* 23(3):253-69.
- Mouritsen J, Bukh PN, Marr B (2004). "Reporting on intellectual capital: why, what and how?". *Measuring Bus. Excel.* 8(1):46-54.
- Mughlezi AR (2003). Designing Model of Transformational Leadership in Public Organizations of Iran, *Quart. J. Manag. Knowl.* 62:1-18 (In Persian).
- Noel JP (2009). The role of experiences increasing and developing intellectual capital. Rhodes Investec Business School, Rhodes University, Grahams town, South Africa. *Manag. Res. News.* 32(4): 371-382.
- Norma AJ (2005). The relationship between intellectual capital and new venture performance: an empirical investigation of the moderating role of the environment. Unpublished doctoral dissertation, Texas state university.
- Pablos POD (2003). Knowledge management projects: state of the art in the Spanish manufacturing industry *International. J. Manuf. Technol. Manag.*, 14(4):297-310.
- Roos G, Roos J, Edvinsson L, Dragonetti NC (1997). *Intellectual Capital Navigating in new Business landscape*, NewYork University press, New York, NY.
- Spreitzer GM, Perttial KH, Xin K (2005). Traditionally matters: an examination of the effectiveness of transformational leadership in the united states and Taiwan. *J. Organiz. Behav.* 26:208-209.
- Sullivan PH (1998). *Profiting from Intellectual Capital, Extracting Value from Innovation*, John Wiley, New York, NY.
- Sveiby KE (1997). *The New Organizational Wealth: Managing and Measuring Knowledge-based Assets*, Barrett-Kohler, San Francisco, CA.
- Vergauwen P, Van Alem F (2005). Annual report IC disclosures in The Netherlands, France and Germany. *J. Intellect. Cap.* 6(1):89-104.