Explanation Model to Promote Innovation ThroughHuman Capital and Knowledge Sharing

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ABSTRACT
In today's competitive world corporate survival requires special attention to innovation. Given the key role of intellectual capital in corporate innovation capability, this article is written with the aim of provide a model to promote organizational innovation through human capital management and knowledge sharing. The population in this study is managers, directors and experts from 13 industrial Group Co. Iran Transfo. The sample size is 271 patients, data for this study were collected through questionnaires. For the reliability of the data the cronbach's alpha coefficient is used. results show that in total directly and indirectly , in order the product innovation, process innovation and management innovation, through human capital and knowledge sharing will lead to improve organizational innovation. It should be noted that the direct effect of human capital on product innovation is less than direct impact of human capital on process innovation and management innovation. While human capital indirectly and through knowledge sharing can have caused more effectively impact on product innovation.

Keywords
Human capital, Knowledge sharing, Organizational innovation.

1. Introduction
The letter of strategic management has known innovation as a vital element for companies to create value and keep competitive advantage [1]. For making innovation, companies may figure on human capitals as a basic element of intellectual capitals. Intellectual capital as a set of intangible assets is an important part of the value of the knowledge-based companies, and it can create value in organization. Many studies have shown that management of human capitals increases organizational learning by bringing up the ability of knowledge sharing. Organizational learning can increase innovation in the organization. Therefore success of the companies in achieving stable advantage and keep competitive advantage depends on gaining and managing these capitals. In this article we reason that management of human capital as an important part of intellectual capital increases innovation in the companies by knowledge sharing. In other hand we want to answer this question that: how and how much do organization innovation improve by human capital and knowledge sharing?

Therefore in next part of this article we will discuss about explanation question and research importance, and then we'll review visionary basis of research and discuss about concepts organization innovation, human capital, innovation dimension and their necessity. Then measuring indicators of foresaid concepts will be drawn out on visionary basis of research. Continuously the method of research will be described and the results of research will be analysis, and at the last of this article discussion and deduction will be done.

2. Literature review
Organizational innovation
Innovation means "making something new". Some researchers believe that innovation can be presented as a set of technical, industrial and commercial operation. Other descriptions have known innovation as the introduction of "a unit of technological change". The purpose of technological change has been introduced as Shouchity's quotes "a product, service or use of new process" [2].

Innovation is alteration and exploitation of existing knowledge [3]. Somebody often knows innovation and creativity as one concept, while these are two distinct concepts. Creativity is the first appearance of an idea to make a product or process, while innovation is the attempt to carry out this idea [4]. Someone present innovation and invention as one concept [5]. But for innovation to happen something more than the invention is required. In addition to invention, innovation refers to gradual improvement too. This is the most widely used definition of innovation from organizational perspective: Innovation in

organization commonly is known as the introduction of a new thing or a new method. Innovation is combination of knowledge about product, services or new valuable relevant and innovative processes [6]. Innovation leads organization to create a long-term advantage and causes large shifts in the competitive position of the organization [7].

As noted, one of the forms of innovation is organizational innovation that is studied at the organizational level in the framework of organization's boundaries. The purpose studying about organizational innovation is to identify and present innovation and its application in the organization. Innovation at the organization level can be found in the process, methods, products and services of the organization [8]. Organizational innovation is divided in three categories as follows:

Product innovation: This type of innovation focuses on offering new products and services, amount of revenue gained from them, the success of new products and services and suitable speed in offering products [9] [10].

Process innovation: Process innovation points on using of new methods and new processes to facilitate the activities, success of methods and new processes in facilitating operations and suitable speed in improving procedures and processes [10] [11].

Management innovation: It includes the variables such as improvement of organizational structure by applying new structures, improvement of the company's strategy and improving company policies [10] [12] [13].

Human capital

Human capital represents the knowledge of an organization's employees [14]. Chen also discuss that human capital as the basis of intellectual capital refers to factors such as knowledge skill, capabilities and attitude of employees that lead company to improve performance and create profit [15]. Human capital causes organization to rely largely on their knowledge and skill to create revenue, growth and also improve efficiency and productivity [16]. According to Brooking's idea, human capital includes the skills, expertise, ability to problem solving and leadership styles [17]. Finally we can say that human capital involves variables such as establishing and maintaining relationships between working groups, established succession plan/succession in organizations, hiring the right people based on attract planning, upgrading staff skills continuously, having intelligent and creative employees, per capita education, appropriate professional qualifications of staff, proper attitude of employees of organization, employee safety, employee welfare, having an appropriate career path/possibility of professional growth for employees, empowering employees based on continuous plans of needed training [18] [19].

Knowledge sharing

Oneof the steps of knowledge management process is knowledge sharing that points out to cases such as super management's protection from disseminating knowledge in the organization, impact of different levels of organization to appropriate disseminating of knowledge/market information in the organization, presentation of encouraging to the employees for knowledge sharing/experiences, using tools such as video conferencing to disseminate information, job rotation in order to disseminate knowledge in the organization, use of electronic networks such as the intranet in the organization to sharing/dissemination of knowledge [20] [21].

3. Methodology

According to the methodology, this research is the type of descriptive and scaling research. This type of research is trying to present the model of human capital and its effect on organizational innovation within sharing managerial knowledge for Iran Transfo by checking visionary bases of research and studying experts' idea of the research history. The study population has been 1104 persons of managers and experts from 13 companies of Iran Transfo. 285 persons were selected from group companies classified, randomly based on determination of sample volume method at the error level of 5%. It should be noted that 271 of the 285 distributed questionnaires were confirmed, also questionnaire was used to collect the data and its validity is reviewed and approved by managers, Iran Transfo experts and some of the professors and also primary distribution of the questionnaire to some of the group employees and apply corrective feedbacks. Also divergent validity or first-order exploratory factor analysis and convergent validity or first-order confirmatory factor analysis were used to confirm the validity of the questionnaire's questions. After first-order exploratory factor analysis, a number of questions removed from the set of the questions because of the very low correlation with latent variable.

To assess of the stability, Cronbach's Alpha was used. Initially, 30 people were selected randomly from the population and for the first time questionnaires were distributed among the 30 people for the second time. The result showed a high correlation between people's response. Also in this study, the results of Cronbach's Alpha coefficient was separated as follows:

Table 1: results of cronbach's alpha coefficient

Dimensions	Level
human capital	%87.6
knowledge sharing	%87.7
Product innovation	%94.9
Process innovation	%96.0
Management innovation	%89.5

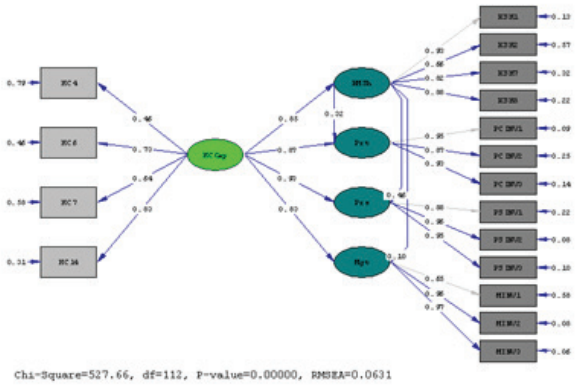
4. Findings

4-1. Demographic characteristic

In this study, ultimately, 271 questionnaires were approved and were used for data analysis. The results showed that from 271 respondents, 73% were men and 23% were women. 42.1% of respondents were between 31 to 40 years old and 37.6% of them were 30 and less than 30 years old. Also 20.3% of respondents were in the other age levels. According to education, 55.4% of respondents have MA degree and higher, 41% have bachelor's degree and 3.7% have associate degree. Based on the findings, 52.4% of respondents have 5 and less than 5 years experience in the firm, 17.3% were between 6 to 10 years, 7.7% between 11 to 15 years, 10.7% between 16 to 20 years and 11.8% have experience and duration over than 20 years. Also the results showed that, 1.1% of respondents were executive managers, 6.6% were assistant, 4.1% were general managers, 22.9% were boss, 3.3% were super wiser, 17.7% were MA and 39.9% were experts. Also 42.4% of the respondents were employed in the parent company or Zanjan Iran Transfo, 14.4% in the Zangan distribution company, 10.7% in the Ray Iran Transfo company and less than 50% of respondents were employed in 10 other companies.

4-2.Inferential analysis

The following chart shows the structural model of human capital, knowledge sharing and product, process and managerial innovation in the standard estimation mode. As can be seen human capital has impact on knowledge sharing, product innovation, process innovation and managerial innovation equivalent to 0.85, 0.87, 0.93 and 0.83, respectively. Also the impact of knowledge sharing on product innovation, process innovation and managerial innovation is equivalent to 0.32, 0.46 and 0.10, respectively. In addition, all paths were significant.



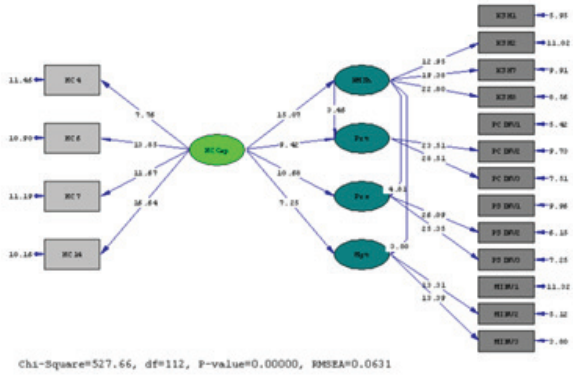
Shape 1: Structural model of human capital, knowledge sharing and product, process and managerial innovation

Fitting indicators of the mentioned model are shown in the following table. As can be seen, the fitting amounts of the model of standard estimation suggests the appropriateness of the model.

Table 2: fitting indicators of human capital model, knowledge sharing and product, process and managerial innovation

Index	Acceptable range	Model index
χ^2 /df	Less than 5	4.70
RMSEA	Less than 0.08	0.063
CFI	Close to 1	0.93
RFI	Close to 1	0.91
GFI	Close to 1	0.90
AGFI	Close to 1	0.88

Also the chart below shows the coefficients significant mode and parameters of the mentioned mode that all of the coefficients obtained are significant. Because the amount of their significance test are bigger than 2 and smaller than -2.



Shape 2: significance of the human capital model, knowledge sharing and product, process and managerial innovation

The next table shows values of the direct and indirect effects of model's variables. As can be seen in the table, upgrading path of process innovation has the greatest effect through human capital and knowledge sharing that is about 1.32

Table 3: direct and indirect effects of the human capital model on knowledge sharing and product, process and managerial innovation

independent variable	Mediator variable	Dependent variable	Direct effect	Indirect effect	Total effect
		Product innovation	0.87	0.85×0.32	1.142
human capital	knowledge sharing	Process innovation	0.93	0.85×0.46	1.321
		Management innovation	0.83	0.85×0.10	0.915

It should be noted that according to the next table human capital was known as the most important factor among variables and effective factors in the model of empowering factors of employees based on continuous training programs with an impact factor of 83% in the sharing of knowledge the support level of senior management of the dissemination of knowledge in the company and the use of formal methods such as meetings for the dissemination of knowledge by 93% and 88% are the priority. In the product innovation supply of products by 95% is the priority. In the process innovation the probability of success and recovery rate of methods by 96% and 95% are the priority. Also in the managerial innovation, improvement of policies and strategies have a greater impact.

Table4: the impact of factors and effective variables in the model of human capital, knowledge sharing and product, process and managerial innovation.

Component	Factor	Definition	Effect level
human capital	HC 4	Learning of the company employees by training each other's	%43
	HC 6	Presentation of new ideas in group meeting by staff	%73
	HC 7	The company has smart / creative staff	%64
	HC 14	Employees empowerment based on the continuous programs	%83
knowledge sharing	KSh 1	The sport level of top management from dissemination of knowledge in the company	%93
	KSh 2	The willingness of employees to appropriate dissemination of knowledge / information	%66
	KSh 7	Use of Electronic Network to disseminate knowledge	%82
	KSh 8	The use of formal methods such as meetings for dissemination of knowledge	%88
Product innovation	Prt 1	The supply level of company s new products	%95
	Prt 2	The supply level of company s new services	%87
	Prt 3	Speed of delivering products / new services	%93
Process innovation	Prs 1	The use of methods / new processes	%88
	Prs 2	The success of methods / new processes	%96
	Prs 3	Speed of improving methods / processes of the company	%95
Management Innovation	Ma 1	Improvement of organizational structure by using new structures	%65
	Ma 2	Improvement of company's strategy	%96
	Ma 3	Improvement of company' s policies	%97

5. Conclusions and Recommendations

In the present knowledge-based economy, human capitals and knowledge assets have an important role in the increasing organizational learning and then improvement of organization innovation. For this reason, in this research, we explained the model of innovation upgrading through human capital knowledge sharing.

Results of this research showed that in order to upgrading and improvement of the organizational innovation through human capital and knowledge sharing, respectively, the product innovation has the most effect with about 77% and then process innovation with about 72% and finally the managerial innovation has the lowest impact with 67%. The direct path of product innovation upgrading has the lowest effect through human capital and without the impact of intermediary variable. Also in terms of

direct impacts, the routes of managerial and process innovation occurred after that, respectively. Because managerial and process innovations are in the nature of organization and system, and they depend a little on creating and gaining humans knowledge. But without existenceof mechanisms of creating and gaining knowledge the possibility of product innovation will be low.

According to the other finding results from this research, it's suggested that the organizations do special attention in order to improve organizational innovation to empowering employees based on continuous training programs within effective factor of 83% as the most important factor of human capital. The top management support from the dissemination of knowledge in the company, the use of formal methods such as meeting for the dissemination of knowledge, use of the electronic networks in order to disseminating of knowledge are the most important variables of knowledge sharing with effective factor of 93%, 88% and 82%, respectively. Therefore the organizations should consider these variables in product innovation. Supply and speed of delivery are a priority. Likelihood of success, speed of methods improvement and company's processes are the most important variables of process innovation with import factor of 96% and 95%, respectively that should be considered. Also in order to improvement of managerial innovation, Improvement of policies and strategies has a greater impact. Previous studies had more attention to link the activities of human resources and organizational outputs such as productivity, flexibility and financial performance, and in any of them human capital, knowledge sharing and organizational innovation are not in a same model, in the same time.

Therefore one of the strengths of this research is considering on human capital management and knowledge sharing in the same time in order to expansion of perception for consisting organization innovation performance. In this direction, it's suggested to examine other aspects of knowledge management and intellectual capitals and their impact on organizational innovation, in the future researches.

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