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Study on Effect of Intellectual Capital on Knowledge Sharing (Case Study: Department of Housing Foundation Fars Province)

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Abstract: At meta-competitive age at organizations we face an environment prevailed with the feature of increase in complexity and globalization, thus the organizations face modern challenges for their continuity that exclusion from these challenges requires further attention to development of internal abilities and skills, so that, such thing comes to realize through basis of organizational knowledge, i.e., intellectual capital. Thus, the main aim of this research is to examine effect of intellectual capital on Market-oriented knowledge sharing. The present research is an applied study in sake of aim and a casual study in sake of nature and approach and a descriptive correlation in sake of data collection method and a quantitative study in sake of type of data. The statistical population consists of all the staffs working in Department of Housing Foundation Fars province. Morgan table was used to determine the sample size. The simple random sampling has been used as the sampling method. Since the total statistical population consists of 400 persons, 118 persons were selected as the sample size based on Morgan table. With regard to the research hypotheses, the collected data were analyzed using software SPSS. The results indicated that intellectual capital and their dimensions affect knowledge sharing.

Key words: Intellectual capital, structural capital, human capital, customer capital, knowledge sharing

INTRODUCTION

In recent years, increasing growth in attention to knowledge management and knowledge sharing by researchers and managers is witnessed in use of the best procedures in organizations worldwide. The main reason for attention to knowledge management lies on this fact that acquisition of competitive advantage and most of successes by organizations has rooted in use of knowledge from process of knowledge management, so that knowledge sharing activities in the context of personal and organizational learning are their main element (Alavi and Leidner, 2001; Nonaka, 1994). Intellectual capital refers to an organizational source which encompasses a part of the implicit and explicit knowledge of organization (Egbu, 2004) knowledge management deals with the process of knowledge distribution which is considered as organizational value (Choo and Bontis, 2002; Ariely, 2003). At current competitive world, the organizations should prepare themselves to face great developments. This readiness is not just technological readiness, the organizations should prepare the staffs who are their main human capitals (Ngah and Ibrahim, 2011). Increasing significance of knowledge which is considered as the determinant of success and competitiveness at organization causes formation of knowledge-based economy and conversion of knowledge management as the most fundamental task by organization (Dermott and Dell, 2001). By continuous staff's substitution, the most important asset of organization, i.e., knowledge will be jeopardized. If effective management does not prevail, a major part of knowledge which is created through such relationships will disappear. This risk to implicit knowledge is greater than explicit knowledge. Thus, the organizations put effort to convert to a learning organization by effective knowledge management and improvement in their activities and performance, under which the knowledge management has turned to one of the most important tasks by today's leading organizations. Intellectual knowledge and capital have been recognized as the sustainable strategies to gain and maintain competitive advantage at organizations. Intellectual capital is the asset of an organization which exists in a specific period of time in organization. Intellectual capital has been introduced as a series of knowledge-based assets which belong to an organization and lead to improvement in competitive status of organization through adding value to key beneficiaries of organization (Marr *et al*., 2004). Intellectual capital provides huge diversity of organizational value such as creation of interest, determination of strategy, innovation, customer loyalty,

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reduction of cost, improvement in productivity and so on for the companies (Sullivan, 2000). Management of intellectual capital for long-term success of a company has been recognized with a great significance. The companies which use the management of intellectual capital properly outperform their competitors. A majority of authors have considered the intellectual capital as a construct at personal level which examines the knowledge and skills provided for the individuals. It should say that the issue of intellectual capital is an interdisciplinary issue, encompassed a variety of sciences such as accounting, knowledge management, economy and human resource management and so on (Lin, 2007). Bontis (1998) has mentioned dimensions of intellectual capital included of the dimensions such as human capital, structural capital, customer capital; the human capital implies level of the personal knowledge owned by staffs of an organization which is an implicit knowledge. The structural capital implies all the non-human assets of organizational abilities used to meet needs of market. The relational capital implies all the knowledge put in relationship between the organization and the customers, suppliers and so on. Nature and mission of most of the organizations in country such as Department of Housing Foundation Fars province including complexity, extent of influence of their activities and employment of specialized staffs have converted them to knowledge-based organization that existing knowledge in their structure, processes and human resources puts a great impact on effective performance and acquisition of their considered vision. Thus, now a days, these organizations like many other organizations in public and private sector have put implementation of knowledge management at the top of their strategic programs and have pursued development of intellectual and intangible capitals as one of their strategic goals. In this regards, an attempt is made to link the organizational processes with the provisions of knowledge management and facilitate the process of creation, acquisition organization, application and facilitation of knowledge. Further, an attempt is made to inform the staffs about the advantages in use of knowledge management programs for organizational performance. Successful implementation of such precious project in these organizations requires the facilitating conditions. One of the most important infrastructures is to have the rich intellectual capital in these organizations, i.e. a concept which means integration of intangible asset of market, intellectual asset, human asset and infrastructural asset and enables the organization to make its activities. Alignment between goals and nature of intellectual capitals and knowledge management causes effective management and development of these capitals assist for improvement in success and facilitation of knowledge management provisions in organization. With regard to what mentioned above, the present research aims to examine effect of intellectual capital and its dimensions on knowledge sharing in Department of Housing Foundation Fars province.

Literature review

Intellectual capital: The earliest attention to concept of intellectual capital and issues related to it was paid by Machlup but the term "Intellectual capital" was proposed for the first time by John Kenneth Galbraith in 1969 (Hemmati *et al*., 2010). He believed that intellectual capital is an ideological process included of intellectual event but Stewart (1995) claimed that such issue has been proposed for the first time in 1958, when he and Itami had collaborated with each other on event of intellectual capital. To date, a variety of definitions have been proposed by different researchers on intellectual capital but all the researchers and scholars at the field of intellectual capital agree that intellectual capital is not a single-dimensional structure but includes a multifaceted structure which encompasses personal organizational, internal and external levels. This implies that intellectual capital does not just relate to the person's knowledge but includes the knowledge stored in organization, business processes, systems and communications in the organization (Chang, 2007). At the 1990s, famous researchers such as Stewart (1995), Edvinsson and Sullivan (1997), Brooking (1997), Bontis (1996) started to prepare a framework for intellectual capital so as cause better understanding of concept of intellectual capital and making better and easier future research. Dimensions of intellectual capital based on Bontis's Model. Bontis (1996) followed by his previous theories has known the intellectual capital consisted of three components of customer capital, structural capital and human capital.

Human capital: From point of view of Bontis, a major part of human capital consists of individual's implicit knowledge. This knowledge consists of the skills which cannot be mentioned in paragraphs. Bontis believes that human capital is of great importance because it is considered as the major source of innovation and creativity.

Structural capital: He has known structural capital included of the organizational mechanisms and structures which have supportive role in staff's access to the maximum performance. Bontis has known these components included of culture, current affairs and their efficiency.

Customer capital: From point of view of Bontis, customer capital includes detection of marketing channels and the customer relationship knowledge which both play a major role in an organization. In addition, he has mentioned other aspects such as relationship with competitors and suppliers among the major components of this capital (Brooking, 1997).

Knowledge sharing and distribution: Knowledge distribution refers to the process of sharing and extending knowledge which is performed in organizations currently. To have precious knowledge, it should be shared with others. Knowledge sharing can be passive or active. Knowledge can be transferred using the knowledge management tools in libraries, information centers or personal interaction. Thus with regard to the process of knowledge management, it requires sharing knowledge before using at organizational levels in organization. The interaction between technologies at organization, techniques and individuals can put a direct effect on knowledge distribution. For instance, the organizational structure regarding a traditional plot reduces the opportunities for knowledge distribution and interaction between technologies, techniques and individuals. In other words, horizontal organizational structure and the policy of open doors proliferate the process of knowledge among individuals and sectors. Use of email, internal network, bulletin and newsgroup assists for better distribution of knowledge inside organization through which the individuals can share their ideas from various aspects. Knowledge can be stored in a place called libraries in organizations, companies and so on and shared for user's use if required. In a research by Lin (2007), study on factors affecting knowledge sharing in organization and ability of innovation was made; the factors have been divided into three categories.

Personal: Effectiveness of shared knowledge and prosperity from helping others.

Organizational: Support by senior manager and organizational rewards.

Technology: The used information and communication technology.

With regard to the research by Yang and Chen (2007), knowledge sharing takes place at organizational and personal levels. Organizational culture organizational structure, use of information technology at organizational level are proposed at organizational level; the member's social trust on each other, doing group task among individuals and social relationships are considered as personal factors. Transfer of knowledge takes place at various levels of an organization: among individuals, from individuals to tangible resources from individuals to groups, among groups, among groups and from group to organization. Therefore, a major process of knowledge management at organizational environments is the transfer of knowledge to the required places for using it (Ghleich, 2009). The methods for knowledge sharing relate to distinctive features of any organization, culture of organization or the system undergoing the organization which affects the productivity of organization. Amin Bidokhti in their research entitled "Effect of intellectual capital on knowledge sharing with review on mediation role of organizational learning" concluded that there is a positive significant relationship between intellectual capital and knowledge sharing.

Danaei and Salehi in a research entitled "Study on role of knowledge sharing in relationship between components of intellectual capitals and innovative behavior" deduced that intellectual capital does not put a direct effect on innovative behavior but this relationship is strengthened by intervention of knowledge sharing. Further, there is not a significant relationship between intellectual capital in the organizations under study and knowledge sharing but the individual's tendencies and staff's mental norms put their intention to knowledge sharing, helping for improvement in the relationship between components of intellectual capital. Nikukar *et al.* (2014) studied the role of intellectual capital in facilitation of provisions to knowledge sharing by managers and staffs at one of the southern provinces. For this, effect of three major aspects of intellectual capital on knowledge sharing was examined. The results indicate that all components of intellectual capital put a positive significant effect on knowledge sharing.

Ngah and Ibrahim (2011) in a study entitled "Effect of intellectual capital on knowledge sharing in small and medium size companies" concluded that relational capital puts a positive effect on knowledge sharing and human capital and structural capital put a negative effect on knowledge sharing. Wu and Tsai (2005) in a research entitled "Effect of social capital and functional states of jobs in intellectual capital and knowledge management" concluded that intellectual capital puts a positive effect on effectiveness of knowledge management. Huss in his research entitled "Forms of Knowledge Management, Integration of Intellectual Capital, Intangible Capital and Knowledge Sharing" concluded that if the intellectual capital is used properly, it can improve the organization's ability in making knowledge management practices. In addition, components of intellectual capital are considered a major process for

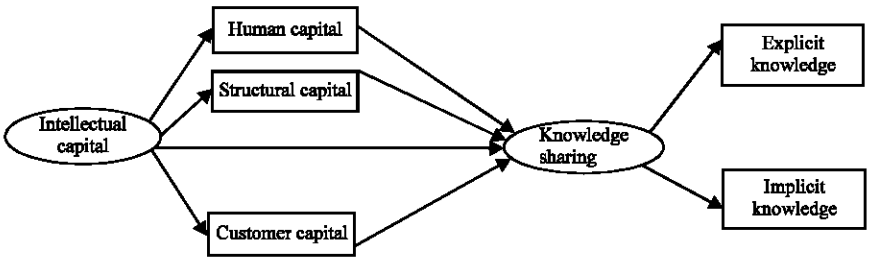

Fig. 1: The conceptual model of research

knowledge sharing in organization. Riahi-Belkaoui (2003) examined effect of intellectual capital on performance of American multinational companies. By selecting the requests for protection from trademarks as the agent for measuring the intellectual capital and ration of added value to total assets as the criterion to company's performance, he deduced that there is a positive significant relationship between performance of American multinational companies and company's intellectual capital.

Machlup (1962) in an article entitled "Knowledge management and intellectual capitals to improve organizational innovation at construction industries: a critical review of success factors to examine and analyze role of knowledge management and intellectual capitals in organizational innovation" stated that there is a positive significant relationship between knowledge management, intellectual capital and organizational innovation. This is in this way that the existing knowledge assets in organization improve the innovative performance of members at organization by involving the new ideas and beliefs of members at organization and giving significance to these ideas and beliefs, resulting in organizational innovation. Cohen and Kaimenakis (2007) examined the relationship between intellectual capital and performance in knowledge-based companies. Findings of research indicated that intellectual assets in medium sized companies differ from the large sized companies from various aspects. Further experimental data indicated that certain classes of intellectual capital put a positive effect on performance of company. Examined the relationship between intellectual capital and performance at Taiwan engineering consulting companies. The results indicated that there is a positive correlation between three components of intellectual capital and business performance. The highest correlation relates to human capital and then relates to customer capital. Further there is a positive correlation between three components of intellectual capital (human, structural, customer capitals).

The conceptual model of research: The conceptual model or framework refers to a model through which the researchers theorize about the interrelationships which have been recognized with great importance in rise of problem (Khaki, 2010). In conceptual model, it should differentiate between structural parts and model measurement parts. The conceptual model of this study is gained by studying the literature review and combining them with the theoretical background of intellectual capital and staff's knowledge sharing. In design of research model, Bontis's model for variable of intellectual capital and Bak for variable of knowledge sharing have been used. The conceptual model of research has been proposed as follow (Fig. 1).

MATERIALS AND METHODS

The present research is a field study which is an applied study in sake of aim. The present research has a descriptive nature in sake of method, considered as casual research. The statistical population consists of the staffs working in Department of Housing Foundation Fars province, that Morgan table is used to determine sample size. The simple random sampling has been used as the sampling method. Since the statistical population consists of 400 persons, 118 persons were selected as the sample size. Questionnaire has been considered as the data collection instrument. The questionnaire consists of 47 items that 42 items relate to intellectual capital and 5 items relate to knowledge sharing. About 5-point Likret scale has been used to measure responses. The details on research instruments can be observed in Table 1.

In the present research, Cronbach's alpha has been used to obtain validity of questionnaire. Cronbach's alpha has been developed based on measurement of internal consistency. To confirm reliability of considered questionnaire, firstly the questionnaire was distributed among 30 persons among staffs and collected. Then, Cronbach's alpha was obtained <0.7 for the related to intellectual capital and knowledge sharing, indicating proper reliability to continue research. Table 2 displays Cronbach's alpha for each of factors.

Table 1: Information on questionnaire

Variable/index	Questions	Sources
Intellectual capital		
Human	1-15	Bontis (1998)
Structural	16-28	
Customer	29-42	
Knowledge sharing		
Implicit	43-44	Bak *et al.* (2005)
Explicit	45-47	

Table 2: Cronbach's alpha for variables

Variables	Cronbach's alpha
Intellectual capital	0.972
Knowledge sharing	0.867
Human	0.918
Structural	0.935
Customer	0.916
Implicit	0.835
Explicit	0.862

Table 3: Descriptive statistics

Variables	Frequency	Percent
Genders		
Male	114	96.6
Female	4	3.4
Age group (years)		
30-20	19	16.1
40-31	25	21.2
50-41	47	39.8
Above 50 year old	27	22.9
Education level		
Associate degree	23	19.5
Bachelor degree	75	63.6
Master degree	20	16.9
Experience (years)		
5-1	21	17.8
10-6	28	23.7
15-11	42	35.6
20-16	16	13.6
Above 20 year old	11	9.3

Further, Cronbach's alpha was obtained equal to 0.976 for the total questionnaire. Validity of questionnaires in addition to other measurement methods was revised by specialized professors and they stated their view on questions Table 3.

RESULTS AND DISCUSSION

Descriptive statistics

Inferential statistics: To examine hypotheses, the correlation coefficient, Durbin-Watson coefficient and regression coefficient have been used, shown the results in Table 4.

Table 4: Inferential statistics

Hypothesis	Standard regression coefficient	Sig.	Result of hypothesis
Intellectual capital puts a positive significant effect on knowledge sharing	0.890	000	Confirmed
Human capital puts a positive significant effect on knowledge facilitation	0.823	000	Confirmed
Structural capital puts a positive significant effect on knowledge facilitation	0.821	000	Confirmed
Customer capital puts a positive significant effect on knowledge facilitation	0.859	000	Confirmed

With regard to the major hypothesis testing, the intellectual capital affects knowledge sharing and transfer; since the intellectual capital is a knowledge-based process included of customer relationship and professional skills, it is suggested to provide more flexible structures and suitable management systems based on different research groups for transfer of intellectual capital, knowledge, information, intellectual asset, experience and a series of collective mental abilities. Further, creation of coordination among units of organization is suggested to create a balanced level of competition among individuals, groups and units so far as the staffs share their knowledge and skills with more enthusiasm and ensure development of their goals. With regard to the first secondary hypothesis, it is suggested to measure the staff's competence level, professional knowledge, leadership abilities and the staff's problem resolving abilities which are a sub-set of human capital so far as more attention is paid to the staff's implicit knowledge which is in their mind and the staffs who have high experience and skill are maintained in organization. To confirm the third secondary hypothesis, it was specified that structural capital puts a positive significant effect on knowledge sharing.

CONCLUSION

The present research is an applied study in sake of aim and a casual study in sake of nature and approach and a descriptive correlation in sake of data collection method and a quantitative study in sake of type of data. The statistical population consists of all the staffs working in Department of Housing Foundation Fars province. Morgan table was used to determine the sample size. The simple random sampling has been used as the sampling method. Since the total statistical population consists of 400 persons, 118 persons were selected as the sample size based on Morgan table. With regard to the research hypotheses, the collected data were analyzed using Software SPSS.

SUGGESTIONS

Thus, it is suggested to make actions on detection of value-based activities for organization so as to strengthen the structural capital, to create supportive culture through design of incentive systems to strengthen creativity and innovation in individuals. Use of information systems of

companies is in a way that free access to information for individuals in organization has been facilitated so as to make knowledge sharing in internal components by maintaining the rights of intellectual assets of each of individuals. With regard to the third hypothesis testing, it is suggested to managers to make relationship with clients and invoke to the trainings on customer orientation in organization so as to create a suitable incentive in staffs to make relationship with clients and collect useful information for facilitating them. With regard to the present research and results from it, the suggestions for future studies include:

- It is suggested to future researchers to conduct the present study in various cities and organizations
- Study on effect of other capitals such as psychological and spiritual capitals on knowledge sharing
- Use of mediation variables such as organizational learning and job satisfaction in effect of intellectual capital on knowledge facilitation
- Testing effects of intellectual capital and knowledge facilitation on other variables such as innovation and entrepreneurship

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