

Study the Relationship between Intellectual Capital Management and Entrepreneurship in the Employees of Municipality District 10 Tehran

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ABSTRACT: The main goal of this research is to identify the relationship between Intellectual Capital Management in the municipality of district 10 of Tehran and its employees' entrepreneurship. Owing to the nature of the subject, the correlation type description has been employed. The statistical population of the research includes all personnel and managers of municipality district 10 Tehran, consisting 969 individuals. The Kergesy and Morgan table was used in selecting 274 individuals to serve as the population samples. Bontis Intellectual Capital Management (2004) and Beich entrepreneurship evaluation (2007) standard questionnaires were used in data collection in the present research. The analysis results showed significant and positive relationship between the Intellectual Capital and all its dimensions; that is, human capital, structural capital and communication capital (customer) with the entrepreneurship in municipality district 10 of Tehran. In addition, the results indicated significant differences between the entrepreneurship degrees found in the studied employees based on their age and education characteristics; nonetheless, no significant difference was found between the entrepreneurship in female and male personnel.

Keywords: Intellectual Capital management, Human capital, Structural capital, Communication capital, Entrepreneurship, Municipality in district 10 of Tehran.

INTRODUCTION

Today, organizations have moved into the knowledge-based economy realm (Gijo, 2010); in another word, they have attained the perspective in which, knowledge and intangible assets have been recognized as the most important factors in achieving production and competitive advantages (Masa and Testa, 2009) both serving also as the most important source of innovations for the organizations (Harris, 2013). The intangible assets are divided into two categories with Intellectual Capital playing the most important role in it. Intellectual Capital provides firm and new sources through which the organization finds strength to compete with its rivals. This capital motivates an increase in efforts in seeking and employing knowledge (final product) versus information (raw materials) (Bontis and Serenco, 2009).

Stewart (1997) defines Intellectual Capital in terms of organizational source as a kind of wealth creation through investment in knowledge, information, intellectual assets and experience. The organizational strategy theorists in recent years have established that organizations include the body of knowledge (Molas Galart, 2005). By moving from industrial era into information era, knowledge is definitely a key element in competitive advantages and organizations' success which could be extended even to the achievements reached by countries. Knowledge must be managed effectively to include both individuals and organizations to provide ground to allow creativity to emerge (Bohlen, 1994). The ability of knowledge management is considered as a fundamental skill. Therefore, knowledge is not merely an intangible source, it is rather an interesting capital for the organizations too and in fact, and Intellectual Capital is the same intangible capital for the organization which appears in the financial reports (Lee, 2005).

Many economists believe entrepreneurship serves as the economic drive force which plays numerous and various roles in the society and deserves to be considered as the basis of all changes and advancements achieved in human world. Benefitting from the productive forces associated with the potential to offer creative ways in problem solving capabilities, an entrepreneur is able to change the threats through risk taking and considerable endurance are able to change the threats and environmental straits in the society into opportunities with delicacy, smartness and acceleration; hence; in the face of harsh economic realities such as high unemployment rate, shortage of foreign currency, inflation, war, etc. entrepreneurship skill could explore new opportunities and take advantage of them in favor of both themselves and the society (Beheshti, 2011).

Statement of the problem

Knowledge-base business environment requires an approach to include new organizational intangible assets such as knowledge and merits of human resources, innovations, communication with customer, organizational culture, systems, organizational structures, etc. In this approach, the theory of Intellectual Capital has received increased anticipation by academic researchers and organizational authorities (Bontis, 1998).

Intellectual Capital is a new subject which has been discussed theoretically in the recent years; however, since it is considered as a valuable source for countries and organizations, the range of its growth and development has drastically changed it into appearing as an index in countries' development.

On the other hand, this intangible source has been discussed as one of the more value creating sources for companies as well as a key capital in the entrepreneurship growth. According to the researchers, Intellectual Capital is a concealed value which might not be being observed in financial statements and is a subject that directs organizations towards gaining a competitive advantage (Maditinus, 2011).

Today, the necessity of Intellectual capital development and direction has evolved into a serious requirements in macro national level as well as in the business arena ; thus, by moving towards knowledge-base economy, this concept has made changes in a paradigm in governing industrial economy in such an extent to make benefitting from Intellectual Capital and managing them as the golden secret in achieving success in a fast changing and challenging world businesses thrive today (Chen, 2004).

In knowledge-base economy, the Intellectual Capital conveys higher value and importance in the organizations and companies features than physical and financial capitals; thus, one could easily claim that Intellectual Capitals are discussed as an actual and tangible capital as well as being the most important assets in the organizations and companies in modern time.

In general, there is a consensus among researchers on Intellectual Capital field on three dimensions as: 1) human capital 2) structural capital and 3) communication capital. Human capital has been defined as individual knowledge, skills, capabilities and experiences which are found in the employees of an organization in creating values and solving organizational problems (Alvani, 2009). Structural capital discusses the existing structures and processes dwelling inside an organization which is used by their employees through their knowledge and skills; this capital; moreover, includes mechanisms and structures which role is to support employees in achieving optimized intellectual performance associated with optimized performance in business (Salajeghe, 2013). According to Penning, communication capital means corresponding to various economic beneficiaries, particularly potential customers. This type of communications takes it form through various paths; and is considered as an essential element of Intellectual Capital, consisting of the value incorporated which was already found in marketing. It also serves as communication channels through which the organization would direct its business scheme (Bunt, 2011).

In an intensive world of competition associated with uncertain environment for business as emerged in recent decades, accompanied by rapid changes and evolutions it is easy to find large organizations which resisted in making even trivial changes in their methods and structures that led them to face their doom in competing with small companies that showed higher flexibility, speed and innovation in their approaches. Today, organizations are in positions that inclinations towards benefitting from entrepreneurship activities has appeared to be a necessity for them to survive (Shepherd, 2008). Organizations must provide conditions to embrace entrepreneurship atmosphere and attitude and let this new air govern the whole organization and individuals which in turn, allow the enterprise to enjoy entrepreneurship activities both individually and in teams operations. Baygro (1994) defines entrepreneur as a person who detects the opportunity and establishes an organization to follow that track. Vesper (1993) defines opportunity as a gap between the current and future situations and entrepreneurs' activities build a bridge to fill that gap. From Schenkel's viewpoint (2005), entrepreneurship opportunities are any potential form the new enterprise adopts which proves desirable and possible in seeking earnings and profits through fulfilling the unnoticed demands recognized in the market. From Shin and Venkaterman (2000) and Raee (2007) viewpoint, detection of opportunity is considered as the major characteristics of any entrepreneurship without which, it can not be established. With respect to the importance of entrepreneurship aspect of the organizations in the intensive competitive world of today,

managers must try to move towards entrepreneurship and creativity while benefitting from the Intellectual Capitals available to them in the organization; hence, the major goal of the present research is to study the relationship between the Intellectual Capital management and entrepreneurship in the employees working at municipality of district 10 of Tehran. The researcher pursues discovering the relationship between these two important variables that provide approaches in improving the existing situation and gaining more benefits or earning to be exploited from the available capitals to promote the organization subject of study.

In sum; thus, the main goal of present research is to identify the relationship between management of Intellectual Capital in municipality district 10 of Tehran and its employees' entrepreneurship. In line with this, four secondary goals have also been defined for the project:

1. To identify the relationship between human capital management and employees' entrepreneurship
2. To identify the relationship between structural capital management and employees' entrepreneurship
3. To identify the relationship between communicational capital management and employees' entrepreneurship
4. Comparison between the entrepreneurship degree with respect to age, gender and education

Research hypothesis

Main hypothesis:

There is a significant relationship between Intellectual Capital management in municipality of district 10 of Tehran and its employees' entrepreneurship.

Secondary hypothesis:

1. There is a significant relationship between human capital management and the employees' entrepreneurship
2. There is a significant relationship between structural capital management and the employees' entrepreneurship
3. There is a significant relationship between communicational capital management and the employees' entrepreneurship
4. There is a relationship between the degree of employees' entrepreneurship with respect to their age, gender and education.

Literature review:

Salajeghe (2013) in a research studied the relationship between Intellectual Capital and organizational entrepreneurship in five factories located in Kerman Industrial Town. For this purpose, they chose 230 individuals as samples. The results showed positive and significant correlation between the organizational entrepreneurship, Intellectual Capital and its dimensions, namely, human capital, structural capital and customer capital; respectively. In addition, the results of Variance analysis showed there were no significant differences in demographical variables terms such as gender, education, work experiences and age in addressing the relationship with Intellectual Capital and organizational entrepreneurship.

Abolhassani Ranjbar (2012) in a research studied the relationship between Intellectual Capital and inside organization entrepreneurship among the employees of Economic and Finance Department of Tehran Province. The results of their research showed positive and significant relationship between Intellectual Capital and its dimensions with the intra organizational entrepreneurship manifested by the employees of economic and finance department in Tehran Province. This means that by making investments in the organization's Intellectual, human, structural capital as well as taking cognitive dimensions into account, there will be an improvement in the intra organizational entrepreneurship.

Taslami (2006) in a research studied the relationship between social capital and internal organizational entrepreneurship. Their research statistical population consisted of 151 managers in industrial companies, 89 of whom were selected as samples. The results of the research showed positive relationship between social capital and its dimensions; that is, cognitive and structural capital with inside organizational entrepreneurship. More specifically the research claimed that by increase in social capital, the internal organizational entrepreneurship showed improvement accordingly.

Chupani (2012) conducted a research titled, "Study the relationship between Intellectual Capital and organizational innovation (case study: Tosse Insurance Joint Stock Company)". In their study, they selected 98 of personnel, managers and deputies of Tosse Insurance Company as their statistics population. The results of Pierson's Correlation test showed positive and significant relationship between Intellectual Capital and organizational innovation. In addition, the results showed that all categories of Intellectual Capital (customer, human and structure) had positive and significant relationship with organizational innovation.

Ahmad Aldojayli (2012) in a research studied the effects of Intellectual Capital on organizational innovation among 32 employees of automobile and textile industries of Iraq. The results showed that human and structural capital had positive and significant effects on organizational innovation, while customer's capital did not show such significant effects on the organizational innovation.

Pasvat (2011) in a research titled, "Relationship between Intellectual Capital and performance" studied the role and effects of Intellectual Capital on organization's performance. The results of their research confirmed the existence of positive and significant effects of Intellectual Capital on organizational performance. In addition, their findings showed that Intellectual Capital affected all four performance indexes including output of stockholders' rights, capital return, income growth and productivity increase by the employees.

Zernler (2008) in a research studied the effects of Intellectual Capital on innovation performance. The findings of their research showed that three types of Intellectual Capital (employees, structural and customers) and innovation performance had positive and significant relationship with each other. The results of their research showed that high rate of industry's growth had positive and significant relationship with both the three types of Intellectual Capital and the innovation performance.

Kohn and Kaimanakis (2007) studied the relationship between Intellectual Capital and performance in mid-size knowledge-base enterprises. Their research findings showed that counter relations in different classes of intellectual assets in some extents differed in mid-size companies in comparison with large companies.

Hoang and Hyoe (2007) studied the relationship between Intellectual Capital and performance in Taiwanese consultant engineers. Their results showed positive correlation between the three elements of Intellectual Capital and the business performance. The highest correlation was related to the human capital, followed by customer capital (communication). In addition, there was positive correlation between the three parts of Intellectual Capital (human, structure and customer).

Hyton (2005) in a research titled, "The effects of Intellectual Capital on Organizational Entrepreneurship in Risky Business with High Technology" concluded that Intellectual Capital is a potential source for competitive advantage to be utilized by the organization that ultimately would lead to the organization's growth and development. By using source-base theory, he claimed that dimensions of Intellectual Capital facilitate entrepreneurship through lowering the risk and return rate by anticipating innovation. In addition, results showed that human capital in high management teams are the biggest decoration for the entrepreneurship performance inside an organization.

Agbo (2004) in a paper titled "Administration of knowledge and Intellectual Capitals for improving organizational innovation in construction industries: a critical study on success factors" studied and analyzed the role of knowledge management and Intellectual Capitals on organizational innovation. The findings of the research revealed positive and significant relationship between knowledge management and Intellectual Capital; on one hand and organizational innovation on the other hand; that is, the existing knowledge assessments in the organization promoted the innovative performance of the organization members through engaging new ideas and opinions of the organization members as well as showing attention to those ideas and opinions that in turn would leads to organizational innovation.

MATERIALS AND METHODS

With respect to the nature of the subject, the research methodology is descriptive in correlation type. The statistical population in this research included 969 individuals that worked as employees and managers in municipality district 10 of Tehran. In the present research, simple random sampling method was used and Kergency and Morgan table were used that led to selecting 274 individuals as samples to receive the questionnaires.

In this research, two standard questionnaires as follows were employed to collect data.

Intellectual Capital management questionnaire: This questionnaire was developed by Bontis (2004) and consisted of 52 questions with Lickert five-option spectrum (completely disagree, disagree, not agree not disagree, agree and fully agree) which were rated in scores 1 to 5. In this questionnaire, the questions 1 to 20 on human capital address the human capital, 21 to 36 inquires the customer capital and questions 37 to 52 relate to structural capital.

Questionnaire for evaluating the entrepreneurship of employees:

This questionnaire was designed by Baich (2007) and consisted of 22 questions with Lickert five-answer spectrum (completely disagree, disagree, not agree not disagree, agree and fully agreed) with 1 to 5 scores allocated to each.

To measure the validity of the questionnaire, the opinions of supervisor and other experts were used.

To evaluate the validity of the questionnaire, twenty questionnaires were distributed among the employees and managers in the municipality district 10 of Tehran. The reliability of the questionnaire was examined by Alfa Kronbach

test; yielding the following results: The value of the Alfa obtained for Intellectual Capital management questionnaire was 0.82 and in the questionnaire in collecting date on employees entrepreneurship, the value was 0.84, being higher than 0.70, the questionnaires proved to be reliable. The results of Kronbach Alfa test in different categories are listed in table 1.

Table 1. Cronbach Alfa Test in the questionnaire and its dimensions

No.	Factor	Cronbach Alfa Score
1	Human capital	0.79
2	Structural capital	0.83
3	Relationship capital	0.81
4	Intellectual Capital	0.82
5	entrepreneurship	0.84

To analyze the data, the descriptive statistics indexes such as frequency, percent, and table of frequency distribution, mean and criteria bias were used. In the inferential statistical section too; after testing the situation of normal data distribution by using Kolmogroph- Smirnov tests were employed. In order to evaluate the relationship between research variables, the Pierson correlation test; and for evaluating the difference between the amount of entrepreneurship of employees with respect to age and gender and education, the ANOVA test were used. SPSS software was used for analysis.

Data analysis

The results of data analysis showed that majority of respondents; that is, 63.70 percent, were male and 36.30 percent were female. In addition, 40.7 percent of respondents were in 25-29 years old range, 27.8 percent were in 30 to 34 year-age range, 15.6 percent were older than 40 years. 10.4 percent were 35 to 39 years old and only 5.6 percent were between 20 to 24 year old ranges. In addition, 71.5 percent of respondents had bachelor’s degree, 13.3 percent, master’s degree and higher, 8.9 percent had associate degree and only 6.3 percent had high school diploma.

Table 2. Results of descriptive analysis of Intellectual Capital management and entrepreneurship dimensions

No.	Factor	Mean	SD
1	Human capital	3.12	0.68
2	Structural capital	3.33	0.64
3	Relationship capital	3.16	0.91
4	Total Intellectual Capital	3.20	0.66
5	entrepreneurship	3.54	0.53

The analysis of questionnaire questions showed that the respondents evaluated the situation of Intellectual Capital and its different factors including human capital, structural capital and communication capital in the municipality of district 10 Tehran to be average and/or higher than average. In addition, they evaluated the entrepreneurship situation for themselves to be higher than average and close to “high” and “good” ranks.

To specify the type of the test used for accepting or rejecting the hypothesis introduced in the research, first, the normal or abnormal characteristics of the data related to hypothesis must be studied; then, by using the results of this test the suitable or unsuitable parametric or non-parametric statistical methods should be employed to test the hypothesis.

Observation distribution does not follow normal destruction: H_0

Observation distribution follows normal distribution: H_1

$P\text{-value (sig)} > \alpha = 0/05 \rightarrow H_0$ is approved

$P\text{-value (sig)} < \alpha = 0/05 \rightarrow H_1$ is approved

Table 3. Kolmogroph- Smirnov Test

Parameter	P-value	Error level (α)	Results of test
Human capital	0.097	0.05	Normal data
Structural capital	0.078	0.05	Normal data
Relationship capital	0.12	0.05	Normal data
Entrepreneurship	0.18	0.05	Normal data

As it could be seen in table 3, it is observed that in all cases, the P. value is higher than the bias or error level (0.05); in another word, the distribution of the data related to all items is normal; therefore, with respect to the normal

characteristics of data distribution and as the data is collected and arranged in ranking scale, Pierson correlation coefficient parametric tests, the “t” of independent groups along with ANOVA test were employed to examine the difference in the mean of entrepreneurship scores. The results of testing the research hypothesis are listed in following table:

Table 4. Results of testing research hypothesis

Hypothesis	Correlation Coef.	P	Test results
Main	0.228	0.000	Rejection of hypothesis H_0
First	0.185	0.003	Rejection of hypothesis H_0
second	0.129	0.037	Rejection of hypothesis H_0
third	0.241	0.000	Rejection of hypothesis H_0
Fourth	F/t	P	Results of tests
As per the age	7.355	0.000	Rejection of hypothesis H_0
As per gender	0.684	0.495	Approval of hypothesis H_0
As per education	9.999	0.000	Rejection of hypothesis H_0

As it could be seen in the table, with respect to the figures which are obtained, the significance level (P) in the main hypothesis; first, second and third, is smaller than its critical value; that is, 0.05 and the hypothesis of the research concerning relationship between Intellectual Capital management and its dimensions with the entrepreneurship shown by employees of district 10 is approved. In addition, the results of comparison between the amount of employees’ entrepreneurship and the different demographical characteristics showed significant differences between the degree of employees’ entrepreneurship with respect to their age and education; however, no difference was observed in the amount of entrepreneurship between male and female employees.

CONCLUSION

The results of the research showed relationship between Intellectual Capital management and employees’ entrepreneurship in municipality district 10 of Tehran. The findings of the present research were in agreement with the findings of researches conducted by Salajeghe (2013), Abolhassani (2012), Taslimi (2006), Zernler (2008) and Hyton (2005), for they too in their researches concluded that management of Intellectual Capital has positive effects on entrepreneurship and there is positive and significant relationship between those two. In addition, comparison between the findings of present research were in agreement with the findings of researches conducted by Chupani (2012), Ahmad Aldojayli (2012) and Zernler (2008) in some extent. In their researches, they concluded that Intellectual Capital management had positive and significant relationship with innovation and creativity in the organization. Based on the theoretical fundamentals mentioned in the first chapter of the research, if innovation and creativity are recognized as an introduction to entrepreneurship, the findings of those researches will support the findings of present research.

The results of testing first hypothesis introduced in the research showed positive and significant relationship between human capital management and entrepreneurship. The findings of the researches conducted by Salajeghe (2013), Abolhassani (2012), Taslimi (2006) and Hyton (2005) were in full agreement with the findings of present research. In their researches, they found positive and significant relationship between human capital management and entrepreneurship in the organizations and institutes subject of their study. Like previous hypothesis, the results of the research conducted by Chupani (2012), Ahmad Aldojayli (2012) and Zernler (2008) too, showed positive relationship between human capital management and innovation, which could be a reason on reinforcing the findings of present research.

The results of testing the second hypothesis of research showed positive and significant relationship between structural capital management and entrepreneurship. By comparing the findings of present research and similar researches mentioned in the second chapter, it could be seen that the findings of the researches by Salajeghe (2013), Abolhassani (2012), Taslimi (2006) and Hyton (2005) are in full agreement with the findings of present research; for, they too, in their researches found positive and significant relationship between structural capital management and entrepreneurship. On the other hand, the findings of researches conducted by Chupani (2012), Ahmad Aldojayli (2012) and Zernler (2008) showed positive relationship between structural capital management and innovation.

The results of testing the third hypothesis of the research showed positive and significant relationship between communication capital management and entrepreneurship. By comparing the findings of the present research and similar researches, it could be explained that the findings of researches conducted by Salajeghe (2013), Abolhassani (2012), Taslimi (2006) and Hyton (2005) are in agreement with the findings of the present research; for, they, too, in their researches found positive and significant relationship between communication capital management and entrepreneurship. On the other hand, the findings of researches conducted by Chupani (2012) and Zernler (2008)

showed positive relationship with structural capital management and innovation. A review on the findings of Ahmad Aldojayli (2012) research shows that researcher concluded that there was no relationship between communication capital and innovation and those findings could be considered to be in disagreement with the findings of present research in some extent.

In addition, the results of this research showed there were differences between the entrepreneurship degree in employees based on the characteristics of age and education; however, there was no significant difference between the entrepreneurship amount in female and male employees. In the first case, the findings of present research were not in agreement with the findings of the research conducted by Salajeghe (2013); for in their research, they concluded that there was no difference in the entrepreneurship amount manifested by employees based on age and education characteristics. However, in the second case; that is, no difference was found between entrepreneurship of female and male employees, the findings of their research too, were in agreement with the findings of present research. As the societies move from the industry era into information era, the importance of Intellectual Capitals become more intensive in the business world as well as in the organization's life. In the industrial era, it was the cost price of assets, plants, facilities and raw materials which proved necessary for the success of a business; however, today, it is the effective use of Intellectual Capitals which is usually important in the success or failure of an enterprise (Gah, 2005). Presently, knowledge and knowledge assets including the existing Intellectual Capitals in the organization have shown to be significantly important in sustaining the competitive advantages of the organization alongside the innovative and entrepreneurship of capabilities of the employees in the organization. In another word, intellectual capital's management and administration together with existing knowledge assets in the organization provide grounds for sharing and transferring this knowledge and information among the organization's member that in turn, lead to increase in the innovative and entrepreneurship performance in the organization by employees and managers (Chupani, 2012).

In sum, with respect to the findings of the present research and confirming the positive relationship between Intellectual Capital management and employees' entrepreneurship in municipality of district 10 of Tehran and confirmation of these findings with the findings of other researches, the municipality must make arrangements to offer special investment on the Intellectual Capital of its employees. They must show specific attention to the skills, specialty, knowledge and abilities of their employees in human capital dimension; in addition, in the structural capital dimension, the municipality should take basic steps and show serious will for suitable utilization of various environment and conditions through lowering the working time, improving the process of employees' performance, saving in time and expenses and furthermore, showing attention to new ideas in line with increasing the output and preventing capital loss. Nevertheless, the findings showed that in all dimensions addressed in Intellectual Capital in the organization subject of study; that is, municipality district 10 of Tehran the situation ranged between averages to high scores. In addition, in the area of communication capital or customer capital which is one of the approaches in maintaining organization in competitive environment, special attention must be paid to some issues such as relationship with customers, relevant organizations, other urban services suppliers, different associations and other public and private organizations, contractors, etc. In order to maintain its efficiency and survive in the today competitive and technologic world, the municipality must show specific attention to entrepreneurship potentials and encourage its employees to consider entrepreneurship and innovation in various methods. This could be done through specific attention to the Intellectual Capital management as the findings of present research and similar researches have confirmed this.

Recommendations for future researches

With respect to the study and testing the first hypothesis of the research, following researches are recommended for further studies:

1. Supporting group activities in the organization for increasing participation attitude
2. Providing conditions for the employees to continue their education in line with improving the knowledge level in the organization
3. Holding different educational workshops in the organization to improve employees' technical knowledge
4. Designing a systematic and efficient mechanism for recruiting specialist and qualified individuals
5. Supporting new ideas in the organization in various ways

With respect to the studies and testing the second hypothesis of the research, following suggestions are made:

1. Designing a system to reduce working hours in organizations
2. Supporting creative ideas to reduce time and costs of performing various duties in the organization
3. Anticipating creative ideas and supporting them to the execution level
4. Minimizing office bureaucracy and paper work through lowering additional

Stages in the process of work performance

5. Using mechanized systems for performing the tasks and replacing traditional Office paper work with paper free and digital system

With respect to the study and testing the third hypothesis of the research, followings are suggested:

1. Designing mechanisms for increasing inside and outside organizational relations such as holding camps, recreational tours for employees, visiting to relevant organizations, etc.
2. Designing the system of establishing relationship with citizens such as suggestion boxes, serious investigations and regular follow up of those comments
3. Public opinion survey of citizens to study their satisfaction with the organization with certain time intervals and reflecting their results to different sections of the organization

With respect to study and test of fourth hypothesis of research, following suggestions are presented:

1. Increasing the share of female employees in the organization and no discrimination between male and female employees
2. Attention to the education of people and recruiting people with respect to their education, field and specialties.
3. Employing young forces alongside experienced personnel for sharing knowledge and experiences in order to improve the performance of the organization.

Recommendations based on the researcher's experiences

The researcher presents following suggestions based on personal experiences and the subjects observed during research:

1. Relationship between universities and higher education institutes for holding on-the-job- or refreshment training for the employees to improve their scientific power and knowledge
2. Encouraging employees to present innovative plans and supporting those plans through paying research bonus and supporting them for due execution
3. Attention to the research section in the organization and employing specialized and efficient forces in this division.

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