Recognizing The Role of Managerial-Educational Factors on Improvement of Innovation Management at Tehran's Municipality

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ABSTRACT

This research examines the effective factors on innovation management by analyzing their roles. This is applied research and its methodology is descriptive-correlation. Statistical society of this research is all experts of Tehran's municipality that by using Cochran formula total number of 182 persons were elected. Results showed that 4.9% managerial factor, 4.8% educational and propagation factor describe improvement of innovation management at parks and green space organization of Tehran's municipality. In addition, there is difference between education and development of innovation among diverse experts.

KEYWORDS: Managerial Factors, Educational Factors, Innovation Management, Improvement

INTRODUCTION

Innovation management in fact is a process that through merging and integrating different elements of knowledge, establishes modern issues. In this way, application of implied knowledge as basis for success of innovation process, has significant influence on effectiveness of firms. In this age, many attempts are performed for reconstructing the structures and processes, reducing costs for obtaining profit by most of the firms. Now it's the time to revise products through application of innovation (Hung et al 2011). Successful managers, find out the future problems of organization and attempt to solve them i.e. not only solving organizational problems requires systematic follow up of problem solving stage; but also it depends on ability, cooperation and creativity of employees and establishing innovative frames in organization (Alguezaui & Filieri 2012). Improving innovation effectively requires application of more modern methods and benefiting scientific tools and having qualified manager being responsible against innovation (Angelo 2012). The topic of innovation capacity and necessity of its measurement is a crucial important issue in the literature of innovation; since, innovation capacity is the required condition for obtaining to innovation in an economic enterprise i.e. without having capacity of innovation (innovation in products, services or process) may be impossible (Soltani Tirani 2008). Organizational factors (organizational structure, learning, leadership, strategy, organizational culture, bonus system and partnership of employees) have the highest influence on improvement of innovation in organization. Therefore, recruiting creative experts and managers following innovation methods is of necessities of organization (Sadeghi et al 2011). Each of the innovation motives have positive significant influence on creation and increase of innovation at enterprises and among these variables, the IT management and knowledge management has the highest share i.e. they have the highest influence on establishment of innovation and increasing capacity of important motives among enterprises (Senobar et al 2011). On the other hand, establishment of social and communication networks with coworkers may have long term influence on comment of individual on innovation (Boring & Herzog 2008).

General Objectives: Finding out role of managerial-educational factors on improvement of innovation management at Tehran's municipality

Specific Objectives:
1) Examining the individual properties of experts at Tehran's municipality
2) Effective managerial factors on improvement of innovation management in municipality
3) Effective educational factors on improvement of innovation management in municipality
4) There is significant relationship between education of experts and improvement of innovation management
5) There is significant relationship between service record of experts and improvement of innovation management
6) There is significant relationship between monthly income of experts and improvement of innovation management

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MATERIALS & METHODS

The methodology of this research is descriptive-correlation by benefiting from theoretical studies, qualitative research by documentary method, quantitative research by benefiting from field method and completing questionnaire. Results of Alpha Cronbach showed that educational factor with 0.87%, managerial factor by 0.80 influence on improvement of innovation management. Sampling method is proportion. Statistical society of this research is 360 experts of green space organization of Tehran's municipality and by using Cochran formula the volume sample obtained as 182. In order to describe research variables it was benefit from statistical indices including: frequency distribution, cumulative frequency, average, standard deviation, change coefficient, minimum and maximum.

RESULTS

Individual properties of agricultural experts

There are 91 female and 91male respondents, 48.9% of experts have service record between 10 to 20 years at parks and green space organization of Tehran's municipality. The highest frequency is related to monthly salary of 1 million to 1.5million Tomans (40.1%) and the lowest monthly salary is 500,000 Toman (2.2%). In addition, 8.1% of experts have low and very low level of knowledge about innovation management at parks and green space organization.

Influence of managerial factors on improvement of innovation management

Third Hypothesis Test: Managerial factor is effective on improvement of innovation management at parks and green space organization of Tehran's municipality. In order to perform hypothesis test, it was benefit from simple regression by direct method that is results are offered. Level of r2 (change coefficient of regression) is 0.049; therefore, level of r2 describes 4.9% changes of dependent variable by managerial factors on improvement of innovation management.

Table 1-1: ANOVA

Model	Sum of squares	Df	Mean square	F	Sig
Regression	0.009	1	9.009	9.262	.003b
Residual	175.084	180	.973		
Total	184.093	181			

A) Dependent variable: q
B) Predictors: Constant, moderate

Table 1-1- shows sig level of regression and linear relationship between variables and the obtained sig level of sig= 0.003 confirms significance at the level of 99%

Table 1-2: Coefficients

Model	Non- standardized coefficients		standardized coefficients	1	Sig
	B	Std Error	Beta		
Constant	1.157	.247		4.692	.000
Moderate	.052	.017	.221	3.043	.003

A) Dependent variable: q

Results of regression are offered in table 1-2. On this basis, level of column B for regression linear equation is written as:

Y'= a +bx

Y'= 1.157 + 0.052 moderate

Level of Beta in the aforesaid table shows one unit change at managerial factors that lead to changing dependent variable of innovation management as 0.221

Influence of educational factor on improvement of innovation management

Fourth Hypothesis Test:

Educational- propagation factor is effective on improvement of innovation management at parks and green space organization of Tehran's municipality. In order to perform hypothesis test, it was benefit from simple regression by direct method that is results are offered. Level of r2 (change coefficient of regression) is 0.048;

therefore, level of r2 describes 4.8% changes of dependent variable by educational-propagation factors on improvement of innovation management

Table 1-1: ANOVA

Model	Sum of squares	Df	Mean square	F	Sig
Regression	8.886	1	8.886	9.129	.003b
Residual	175.208	180	.973		
Total	184.093	181			

A) Dependent variable: q
B) Predictors: Constant, Educational
B) Predictors: Constant, moderate

Table 1-3- shows sig level of regression and linear relationship between variables and the obtained sig level of sig= 0.003 confirms significance at the level of 99%

Table 1-3: Coefficients

Model	Non- standardized coefficients		standardized coefficients	1	Sig
	B	Std Error	Beta		
Constant	1.131	.257		4.408	.000
Moderate	.069	.023	.220	3.021	.003

A) Dependent variable: q
On this basis, level of column B for regression linear equation is written as:
Y'= a +bx
Y'= 1.131 + 0.069 amozeshi
Level of Beta in the aforesaid table shows one unit change at independent variable (educational and propagation) that lead to changing dependent variable of innovation management as 0.220
Studying relationship between educational of statistical society and improvement of management by Kruskal–Wallis test
Hypothesis H0: There is significant difference between education of statistical society and improvement of innovation management
Hypothesis H1: There is no significant difference between education of statistical society and improvement of innovation management

Table 1-4: Test statistics

	q
Chi-square	3.325
Df	2
Asymp sig	.190

A) Kruskal–Wallis test
B) Grouping variable: Education

Table 1-4 shows level of chi-square with 2 degree of freedom and also sig level of 0.190 that shows rejection of H0 hypothesis. Final result shows different type of improvement of innovation management among different groups with respect to educational status of experts (Associate Degree, Bachelor's Degree, Master's Degree and PhD)
Studying relationship between service record of experts and improvement of management by Kruskal–Wallis test
Hypothesis H0: There is significant difference between service record of experts and improvement of innovation management
Hypothesis H1: There is no significant difference between service record of experts and improvement of innovation management

Table 1-5: Test statistics

	q
Chi-square	5.155
Df	2
Asymp sig	.076

A) Kruskal–Wallis test
B) Grouping variable: Experiment

Table 1-5 shows level of chi-square with 2 degree of freedom and also sig level of 0.076 that shows rejection of H0 hypothesis. Final result shows different type of improvement of innovation management among different groups with respect to service record of experts is different

Studying relationship between income of experts and improvement of management by Kruskal–Wallis test

Hypothesis H0: There is significant difference between income of experts and improvement of innovation management

Hypothesis H1: There is no significant difference between income of experts and improvement of innovation management

Table 1-6: Test statistics

	q
Chi-square	7.183
Df	4
Asymp sig	.127

A) Kruskal–Wallis test
B) Grouping variable: Income

Table 1-6 shows level of chi-square with 2 degree of freedom and also sig level of 0.127 that shows rejection of H0 hypothesis. Therefore, improvement of innovation management among different groups with respect to status of income of experts is different

Conclusion

Results of studying frequency of age of respondents show that the highest frequency is related to respondents aged 31-40 years with frequency of 42.3%. The maximum research sample i.e. 65.9% have Bachelor's Degree. There are 91female and 91male. 48.9% of experts have service record of 10-20 years at parks and green space organization of Tehran's municipality. The highest frequency is monthly salary of 1million Toman and 1.5million Toman (40.1%) and the minimum monthly salary is less than 500,000 Toman (2.2%). In addition, 8.1% of experts have low or very low level of knowledge in relation to innovation management at parks and green space organization of Tehran's municipality. Results showed that managerial factor as 4.9% and educational-propagation factor as 4.8% describe improvement of innovation management at parks and green space organization of Tehran's municipality. In addition, there is significant difference between education and improvement of innovation management among experts. Results of Kruskal–Wallis test shows that there is difference between service record and innovation management among experts of municipality and also this difference is also available among income of experts and improvement of innovation management.

Recommendations:

1) Holding educational courses in relation to innovation management and application of innovative methods at municipality is among necessities

2) Recruiting experts with higher education in order to facilitate execution of process of innovation management in organization is very important

3) Applying managers having education in the field of innovation management

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