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Exploring the Effective Factors on Innovation Capacity among Managers in Kharkiv Municipality Management of Fruit and Vegetable Organization

B. Pavlichenko [1*], A. Hryhoriev[2], M. Kryvenko [3]

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Abstract

The objective of the present study was to explore the influential factors on innovation capacity among managers in Kharkiv Municipality Management of Fruit and Vegetable Organization. This study is an applied survey using a descriptive correlational method. The population included all managers in the Kharkiv Municipality Management of Fruit and Vegetable Organization (200 people). Based on Cochran's sample size formula, 125 people were selected as the study's sample using simple random sampling. Two researcher-made questionnaires were used for data collection. The questionnaire for evaluating innovation included 62 items. The questionnaire on influential factors on innovation capacity included sections on economic factors (8 items), educational factors (9 items), policy-making factors (9 items), sociocultural factors (16 items), and managerial factors (20 items). Face and content validity were confirmed based on the experts' opinions, and Cronbach's alpha for research variables was estimated at more than 0.7. Correlation coefficient, multiple regression, Kruskal–Wallis test, and Mann-Whitney U test were used for data analysis through SPSS software. The findings indicated that policy-making factors (0.723), sociocultural factors (0.494), educational factors (0.462), managerial factors (0.191), and age (0.179) have a significantly positive relationship with innovation capacity from the perspective of managers in Kharkiv Municipality Management of Fruit and Vegetable Organization at the level of 0.99. There was a significant difference between managers' innovation capacity with different positions, gender, attendance in in-service training courses, and employment method in terms of innovation capacity at the error level of 5 percent.

Keywords: Educational factors, Innovation capacity, Kharkiv Municipality Management of Fruit and Vegetable Organization Policymaking factors, Sociocultural factors.

Introduction

According to the available literature on innovation, innovation includes the dimensions of product, process, and strategy. It can be mentioned that innovation is the ideas for new products, successful presentation of new products and services, the use of new processes, the use of creative new strategies, and also consideration of modern technologies (Alegre et al., 2005). This process leads to the increased net benefit of the institutes, the growth of the national economy, and increased employment and competition. Innovation capacity is the potential capacity of an institute for doing innovative activities such as introducing and offering new products and services, new procedures and processes, or new ideas

[1] Kharkiv national agrarian university named after V.V. Dokuchaev, “Dokuchaevske - 2”, Kharkiv region, Kharkiv district, 62483, Ukrain
[2] Kharkiv national agrarian university named after V.V. Dokuchaev, “Dokuchaevske - 2”, Kharkiv region, Kharkiv district, 62483, Ukraine
[3] National University of Life and Environmental Sciences, 15 HeroivOborony St., Kyiv, 03041, Ukraine

related to the organization (Koc & Ceylan, 2007). Many organizations are under a lot of pressure to increase their capacity for innovation. Even in today's difficult economic times, innovation tops the list of managers' activities although not everyone expects innovation from just labs. They raised themselves. An organization does not rely solely on its innovative resources for new technology, product, or product development process; rather, the organization needs critical inputs to innovate from external sources (orris Michael et al., 2008).

According to (Morel & Boly, 2006), the capability of individuals, the capability of the organization in the process of implementing innovation (creation of a new product or technology), the capability of the organization in the implementation process of innovation projects, and finally the macro capability of the firm in the field of innovation should be examined while exploring the organizational capability and capacity.

(Tidd et al., 2005), introduced the criteria for recognizing the organizational success as output criteria (inventions, products, new technologies, and articles), process and operational criteria (workflow improvement), and strategic success criteria (improved overall company performance, profit from innovation, increased revenue and market share). According to the above and in a combined approach, the components of innovation development include output, process, and strategic success. The outputs of a technological research organization mainly include various kinds of products, technologies, and articles. Moreover, the existence of optimal process operations is a sign of a suitable environment for the development of innovation in the organization. The creation of new and efficient processes is also considered as an output of innovation. The agriculture sector is considered one of the essential sectors for human survival. Fundamental changes in agricultural development and related sectors, as well as the tendency to create innovation systems, have been because agricultural markets have shifted to development-oriented type and mere production regardless of the needs of acceptable customers. Knowledge, information, and technology are increasingly produced and continuously provided to farmers and beneficiaries through the private sector. Besides, the structure of knowledge in the agriculture sector has changed significantly in many countries. Agricultural development faces a global business-competitive environment. As a result, innovation in agriculture is typically combined with technical, institutional, and organizational changes to achieve the desired demands of farmers (Rajalahi et al., 2008).

Innovation capacity in agriculture is a complex set of diverse components of learning systems, actors, roles and patterns of interaction between them, incentives, habits, and practices that affect learning, interaction, and innovation. It coordinates investment mechanisms, political environment, and market processes (Ranjita & Azage, 2008).

This capacity should include the following characteristics: it should establish the potential scientific knowledge and skills of an agribusiness organization, and lead the innovation management of its operations to

be effective. Beneficiaries, partners, and networks connected to different sources of knowledge and various social and economic activities should also include the optimal development of these sectors and the development of its innovation capacity. To create innovation, it must act through policy-making and creating a culture of innovation in agricultural organizations. Continuous learning of new agricultural knowledge and skills should strive to enhance the potential of farmers in the current situation (Hall et al., 2008). Two important points need to be considered to strengthen the capacity for innovation in agriculture. Farmers should first be able to learn and innovate in changing the environment; this means that they need to increase their capacity to adapt to successive changes in environmental conditions. Second, capacity adaptation is often associated with local institutions and the appropriate process of organizing beneficiaries and their technical capacities (Hall et al., 2008).

"Fruit and vegetables" is considered as one of the sections of agriculture. Statistics indicate that per capita consumption of fruit and vegetables for a Ukrainian person is about 260 kg per year and in total this amount is 18 million and 200 tons of various kinds of fruit and vegetables per year. This per capita consumption is at the global average and is lower than the developing and developed countries. Hence, it is necessary to explore the effective factors.

Black soil or chernozyme covers a large part of the Ukrainian soil. It has one of the richest agricultural lands in the former Soviet Union and the region, and cultivates wheat, sugar beet, potatoes, sunflower, cotton, tobacco, soybeans, fodder, rubber, turpentine and a variety of fruits and vegetables. Also, about 8.9 million cubic meters of wood is obtained annually from its forests. The former Ukrainian yen was known as the European silage for its mass production of grain. Today, about 40 million tons of grain is harvested annually in Auxin. The growth of agricultural production is 9.9%, grain production is 39.7 million tons (25.7% increase compared to the previous year) and wheat production is 21.3 million tons.

Kharkiv Municipality Management of Fruit and Vegetable Organization is a subordinate to Kharkiv Municipality and has been formed to procure and distribute fruits and vegetables and agricultural products consumed by the people, as well as stopping the intermediaries by establishing a direct relationship between producers and consumers. One of the most important challenges of managers in Kharkiv Municipality Management of Fruit and Vegetable Organization is insufficient use of intellectual resources, mental capacity, and potential capacities of human resources. The capabilities of employees are not used optimally and managers are not able to use their potential. In other words, although employees can be more creative, innovative, and active, these capabilities are not used properly in the organizational environment for some reasons. Therefore, to continue its life in today's changing world, the Management of Fruit and Vegetable Organization must turn to innovation and, while recognizing the changes and developments in the surrounding environment, look for innovative and new

answers to face them and enhance the innovation process in the competitive environment created within organizations. Accordingly, the main question of the present study is what are the effective factors on innovation capacity among managers in Kharkiv Municipality Management of Fruit and Vegetable Organization?

Empirical background

(Rejeb et al., 2018), conducted a study titled "Measuring Innovation Best Practices: Improvement of an Innovation Index Integrating Threshold and Synergy Effects". They concluded that economic factors, educational-promotional factors, and policy-making factors have a positive relationship with the promotion of innovation capacity in rural women's cooperatives. It is suggested to consider all aforementioned components in a complementary manner with a comprehensive approach while adopting the policies and strategies of innovation capacity promotion system in rural women's cooperatives.

(Walters & Rain Bird, 2017) conducted a study titled "Cooperative Innovation: a value chain approach". The results showed that 5 factors affect the successful transfer of technology in small and medium enterprises; they include cultural factors, technical factors, technology, human capabilities, the capability of financial research and development.

(Turro et al., 2013), conducted a study titled "Culture and innovation: The moderating effect of cultural values on corporate entrepreneurship". It was indicated that organizational factors (the components of organizational structure, learning, leadership, strategy, organizational culture, reward system, and employee participation) had the highest impact on innovation development in such organizations; besides that, group factors (the components of communications, combination, integrity, and group size) and individual factors (the components of individual skill and ability, personality traits, and stimulation) are effective on innovation development in research and technology organizations, respectively.

(Prajogo & Ahmed, 2006) conducted a study titled "Relationships between Innovation Stimulus, Innovation Capacity, and Innovation Performance". It was mentioned that innovation is a tool for developing entrepreneurship and it is used as the economic development motor for the culture of cooperatives. The results showed that, from managers' perspective, providing financial and investment support, creating an innovative organizational culture, reforming policy rules and regulations that are compatible with the conditions of entrepreneurial innovators, and drafting a national document for innovation development are the most important factors in strengthening the innovation of agricultural cooperatives.

(Ugochukwu et al., 2014) conducted a study on the impact of entrepreneurship training on students in achieving the awareness of business development and profitability skills in Nigeria. It was indicated that awareness of business development and skills has been achieved to some extent by many students in the higher education institutes in Nigeria as a result of entrepreneurship training.

(Turro et al., 2013) indicated that being in a suitable and competitive atmosphere, access to financial resources, and development of innovation and entrepreneurship by government policies can be effective in spreading and creating entrepreneurial spirit.

(Jenssen & Nybakk, 2009) conducted a study titled "Inter-organizational innovation promoters insmall and knowledge intensive firms". They concluded that psychological factors, economic factors, personality traits, policy-making factors, educational factors, and cultural factors have the highest impact on entrepreneurship, respectively.

(Ommani, 2011) conducted a study evaluating the farmers' knowledge concerning innovation management in agricultural cooperatives in Shooshtar County. The results showed that farmers' knowledge concerning innovation management is average. Moreover, regression analysis indicated that access to communication channels, educational level, income, crop production, farm size, social participation, and level of participation in promotional classes have affected farmers' knowledge about agricultural management. The sample size included 150 farmers from Shooshtar that were selected through random sampling.

(Ragasa et al., 2010) conducted a study titled "Strengthening Innovation capacity of Nigerian Agriculture Research organization. Eastern and southern Africa Regional office". A survey was done on 43 organizations and 366 employees in the agriculture research organization of Nigeria. The research findings indicated that the innovation capacity status in Nigeria shows general weakness at the participatory and regulatory level for the use, influence, and impact of existing technologies in their reflection. Test for evaluation of capacity in organizations shows that organizational culture and workplace are of high significance in the induction of innovative practices and innovation capacity. Furthermore, it was suggested to enhance the scientific and technical skills of the researchers which are important from the perspective of the innovation system.

(Jenssen & Nybakk, 2009) conducted a study on "Inter-organizational innovation promoters in small and knowledge intensive firms". It was shown that the internal environment of the company including internal culture, social networks, and communications such as group participation in activities, interactions with other companies, participation in training courses, conferences, and scientific networks, and cooperation in accessing references have a positive impact on entrepreneurship process in the companies.

(Walters & Rain Bird, 2017) conducted a study titled "Cooperative Innovation: a value chain approach". They mentioned that increasing innovation in cooperatives demands the combination of elements such as product innovation management, innovation management in the structure of communications network, and customer relationship management. This study presented a model for facilitating the evaluation of efficiency in innovative cooperatives.

The conceptual model of the research

Using the theoretical literature and empirical background, the conceptual model of the research was drawn as (Figure 1).

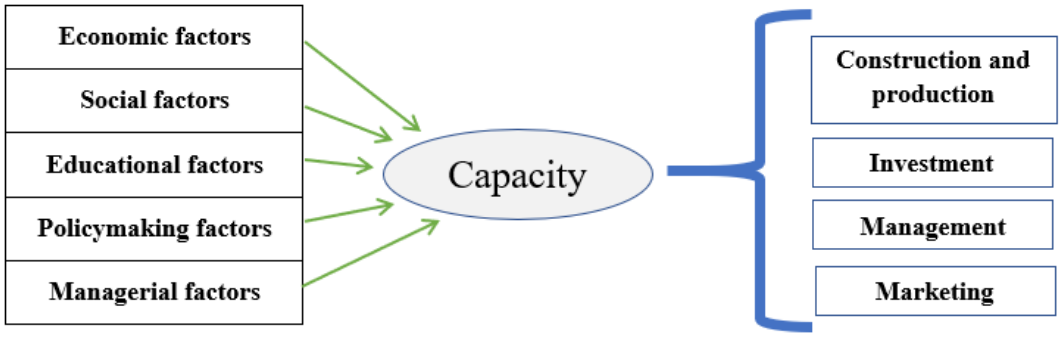

Figure 1. The conceptual model of the research

Method and Methodology

This is an applied survey using a descriptive correlational design. The population included all managers in Kharkiv Municipality Management of Fruit and Vegetable Organization (200 people). To calculate the sample size, 30 questionnaires were distributed in the pretest and the standard deviation of the dependent variable (innovation capacity) was calculated (S=0.32) concerning the permitted error of d=0.05; 125 people were selected as the sample size through simple random sampling.

$$n = \frac{N(ts)^2}{Nd^2 + (ts)^2} \qquad n = \frac{N(ts)^2}{Nd^2 + (ts)^2}$$

Two researcher-made questionnaires were used for data collection. The questionnaire of evaluating innovation capacity in Kharkiv Municipality Management of Fruit and Vegetable Organization included 62 items. The questionnaire of effective factors on innovation capacity in Kharkiv Municipality Management of Fruit and Vegetable Organization included the sections of economic factors (8 items), educational factors (9 items), policy-making factors (9 items), sociocultural factors (16 items), and managerial factors (20 items). The items were presented in the form of Likert's 5-point scale (1=very low, 2=low, 3=medium, 4=high, 5=very high). To evaluate the validity, the questionnaires were given to the supervisor and advisor professors as well as the experts. After necessary exploration and collecting their opinion, the required modifications were implemented and the validity was confirmed. The Cronbach's alpha for research variables was estimated at more than 0.7, indicating the internal consistency of items and confirmation of reliability. Correlation coefficient, multiple regression, Kruskal–Wallis test, and Mann-Whitney U test were used for data analysis through SPSS software.

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Findings

Testing hypothesis 1: The economic factors affect innovation capacity from the perspective of managers in Kharkiv Municipality Management of Fruit and Vegetable Organization. Research findings indicated that there is not a significantly positive relationship between economic factors and innovation capacity from the perspective of managers in Kharkiv Municipality Management of Fruit and Vegetable Organization (sig=0.225) and its value is r=0.109 (Table 1).

Table 1. The correlation between economic factors and innovation capacity

Independent variable	Dependent variable	r	p
Economic factors	Innovation capacity	0.109	0.225

Testing hypothesis 2: The policy-making factors affect innovation capacity from the perspective of managers in Kharkiv Municipality Management of Fruit and Vegetable Organization. Research findings indicated that there is a significantly positive relationship between policy-making factors and innovation capacity from the perspective of managers in Kharkiv Municipality Management of Fruit and Vegetable Organization at the level of 0.99 (sig=0.000) and its value is r=0.723 (Table 2).

Table 2. The correlation between policy-making factors and innovation capacity

Independent variable	Dependent variable	r	p
Policy making factors	Innovation capacity	0.723**	0.000

*=significance at the level of 0.95 **= significance at the level of 0.99

Testing hypothesis 3: The sociocultural factors affect innovation capacity from the perspective of managers in Kharkiv Municipality Management of Fruit and Vegetable Organization. Research findings indicated that there is a significantly positive relationship between sociocultural factors and innovation capacity from the perspective of managers in Kharkiv Municipality Management of Fruit and Vegetable Organization at the level of 0.99 (sig=0.000) and its value is r=0.494 (Table 3).

Table 3. The correlation between sociocultural factors and innovation capacity

Independent variable	Dependent variable	r	p
Sociocultural factors	Innovation capacity	0.723**	0.000

Testing hypothesis 4: The educational factors affect innovation capacity from the perspective of managers in Kharkiv Municipality Management of Fruit and Vegetable Organization. Research findings indicated that there is a significantly positive relationship between educational factors and innovation capacity from the perspective of managers in Kharkiv Municipality Management of Fruit and

Vegetable Organization at the level of 0.99 (sig=0.000) and its value is r=0.462 (Table 4).

Table 4. The correlation between educational factors and innovation capacity

Independent variable	Dependent variable	r	p
Educational factors	Innovation capacity	0.462**	0.000

Testing hypothesis 5: The managerial factors affect innovation capacity from the perspective of managers in Kharkiv Municipality Management of Fruit and Vegetable Organization. Research findings indicated that there is a significantly positive relationship between managerial factors and innovation capacity from the perspective of managers in Kharkiv Municipality Management of Fruit and Vegetable Organization at the level of 0.95 (sig=0.033) and its value is r=0.191 (Table 5).

Table 5. The correlation between managerial factors and innovation capacity

Independent variable	Dependent variable	r	p
Managerial factors	Innovation capacity	0.191*	0.033

Testing hypothesis 6: Personal characteristics (age, educational level, management experience) affect innovation capacity from the perspective of managers in Kharkiv Municipality Management of Fruit and Vegetable Organization. Research findings indicated that there is a significantly positive relationship between age and innovation capacity of managers in Kharkiv Municipality Management of Fruit and Vegetable Organization at the level of 0.95 (sig=0.046) and its value is r=0.179 (Table 6).

Table 6. The correlation between age and innovation capacity

Independent variable	Dependent variable	r	p
Age	Innovation capacity	0.179*	0.046

Research findings indicated that there is not a significantly positive relationship between educational level and innovation capacity of the managers in Kharkiv Municipality Management of Fruit and Vegetable Organization (sig=0.246) and its value is r=0.106 (Table 7).

Table 7. The correlation between educational level and innovation capacity

Independent variable	Dependent variable	r	p
Educational level	Innovation capacity	0.106	0.246

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Research findings indicated that there is not a significantly positive relationship between management experience and innovation capacity of the managers in Kharkiv Municipality Management of Fruit and Vegetable Organization (sig=0.589) and its value is r=0.051 (Table 8).

Table 8. The correlation between management experience and innovation capacity

Independent variable	Dependent variable	r	p
Management experience	Innovation capacity	0.051	0.589

Testing hypothesis 7: There is a significant difference between innovation capacity and educational major of managers in Kharkiv Municipality Management of Fruit and Vegetable Organization (Table 9).

Table 9. The results of Kruskal–Wallis test for the average difference of innovation capacity in terms of educational major

Dependent variable	Independent variable	Sig	Chi-square	df
Innovation capacity	Educational major	0.19	4.69	3

Comparing the values of X^2=4.69 and *p*=0.19, obtained from table 9, it is clarified that the obtained value is not significant. Therefore, it can be stated that there is not a significant difference between innovation capacity and different educational majors.

Testing hypothesis 8: There is a significant difference between innovation capacity and organizational position of managers in Kharkiv Municipality Management of Fruit and Vegetable Organization (Table 10).

Table 10. The results of Kruskal–Wallis test for the average difference of innovation capacity in terms of organizational position

Dependent variable	Independent variable	Sig	Chi-square	df
Innovation capacity	Organizational position	0.00	24.71	3

Comparing the values of X^2=24.71 and *p*=0.00, obtained from table 10, it is clarified that the obtained value is significant at the confidence level of 99 percent. Therefore, it can be stated that there is a significant difference between innovation capacity and different organizational positions.

Testing hypothesis 9: There is a significant difference between male and female managers in Kharkiv Municipality Management of Fruit and Vegetable Organization in terms of innovation capacity (Table 11).

Table 11. The results of the average difference of innovation capacity in terms of gender

Dependent variable	Mean of two groups	Sig	Z	U
Innovation capacity	Male: 55.29 Female: 80.30	0.001	-3.464	881

Comparing the average innovation capacity between male and female managers and also comparing (Z=-3.464 and U=881) at the significance level of 0.001, it can be stated that there is a significant difference between male and female managers in terms of innovation capacity at the error level of 1 percent. Accordingly, there is a significant difference between male and female managers in terms of innovation capacity.

Testing hypothesis 10: There is a significant difference between managers who attended the in-service training courses and those who did not in terms of innovation capacity (Table 12).

Table 12. The results of the average difference of innovation capacity in terms of attendance in in-service training courses

Dependent variable	Mean of two groups	Sig	Z	U
Innovation capacity	Yes: 55 No: 75.50	0.002	-3.039	1134

Comparing the average innovation capacity between managers who attended the in-service training courses and those who did not and also comparing (Z=-3.039 and U=1134) at the significance level of 0.002, it can be stated that there is a significant difference between managers who attended the in-service training courses and those who did not in terms of innovation capacity at the error level of 1 percent.

Testing hypothesis 11: There is a significant difference between managers who enjoy permanent employment and those who have been employed contractually in terms of innovation capacity (Table 13).

Table 13. The results of the average difference of innovation capacity in terms of the type of employment

Dependent variable	Mean of two groups	Sig	Z	U
Innovation capacity	Permanent: 56.63 Contractual: 74.86	0.025	-2.248	740

Comparing the average innovation capacity between managers who enjoy permanent employment and those who have been employed contractually and also comparing (Z=-2.248 and U=740) at the significance level of 0.025, it can be stated that there is a significant difference between managers who enjoy permanent employment and those who have been employed contractually in terms of innovation capacity at the error level of 5 percent.

Determining the effective factors on innovation capacity by using stepwise multivariate regression

First step: The F value obtained from variance analysis is F=141.286 and its significance level is *p*=0.000; it is significant at the level of lower than one-thousandth. According to the determination coefficient, the policy-making factors have affected innovation capacity by 52 percent.

Second step: The F value obtained from variance analysis is F=90.924 and its significance level is *p*=0.000; it is significant at the level of lower than one-thousandth. According to the determination coefficient, the policy-making factors and educational factors together predict 58 percent of the changes in innovation capacity.

Third step: The F value obtained from variance analysis is F=64.245 and its significance level is *p*=0.000; it is significant at the level of lower than one-thousandth. According to the determination coefficient, the policy-making factors, educational factors, and sociocultural factors together predict 60 percent of the changes in innovation capacity.

Overall, R^2 shows that about 60% of variance changes in innovation capacity are related to three variables (policy-making factors, educational factors, sociocultural factors) and the rest (40%) depend on other factors (Table 14) and (Table 15).

Table 14. Different steps of entering independent variables into regression analysis

Steps	Variable	R	R^2	Adj R^2	Std
1	Economic factors (x_1)	0.723	0.523	0.519	0.742
2	Educational factors (x_5)	0.766	0.587	0.580	0.693
3	Sociocultural factors (x_3)	0.776	0.603	0.598	0.682

Table 15. The coefficients of variables entered the regression equation

Variable	B	Standard error of B	Beta	T	Sig.
Economic factors (x_1)	0.728	0.054	0.781	13.582	0.000
Educational factors (x_5)	0.205	0.043	0.266	4.707	0.000
Sociocultural factors (x_3)	0.242	0.107	0.129	2.255	0.026
Fixed number	0.408	0.259	-	-	-

Therefore, the linear regression equation is as follows based on B and β:

$Y=0.408+0.728x_1+0.205x_5+0.242x_3$

$Y=0.781x_1+0.266x_5+0.129x_3$

Discussion

According to the results, there was not a significantly positive relationship between economic factors and innovation capacity from the perspective of the managers in Kharkiv Municipality Management of Fruit and Vegetable Organization. However, (Rejeb et al., 2018) and (Prajogo & Ahmed, 2006) achieved a significant relationship in this regard.

Based on the results, there was a significantly positive relationship between policy-making

factors and innovation capacity from the perspective of the managers in Kharkiv Municipality Management of Fruit and Vegetable Organization. This result is in line with the results of (Rejeb et al., 2018) and (Turro et al., 2013).

According to the results, there was a significantly positive relationship between sociocultural factors and innovation capacity from the perspective of the managers in Kharkiv Municipality Management of Fruit and Vegetable Organization. This result is in line with the results of (Ragasa et al., 2010), and (Osborne, 1998).

Based on the results, there was a significantly positive relationship between educational factors and innovation capacity from the perspective of the managers in Kharkiv Municipality Management of Fruit and Vegetable Organization. This result is in line with the results of (Rejeb et al., 2018) and (Jenssen & Nybakk, 2009).

According to the results, there was a significantly positive relationship between managerial factors and innovation capacity from the perspective of the managers in Kharkiv Municipality Management of Fruit and Vegetable Organization. This result is in line with the results of (Osborne, 1998).

Based on the results, there was a significantly positive relationship between age and innovation capacity of managers in Kharkiv Municipality Management of Fruit and Vegetable Organization. This result is in line with the results of (Turro et al., 2013).

According to the results, there was not a significantly positive relationship between educational level and innovation capacity of managers in Kharkiv Municipality Management of Fruit and Vegetable Organization. However, (Turro et al., 2013) achieved a significant relationship in this regard.

Based on the results, there was not a significantly positive relationship between management experience and innovation capacity of managers in Kharkiv Municipality Management of Fruit and Vegetable Organization. However, (Turro et al., 2013) achieved a significant relationship in this regard.

The results of stepwise regression indicated that in the first step, the first variable that entered the equation, i.e. policy-making factors, created 52% of changes in dependent variable by itself. In the second step, the educational factors entered the equation that, according to the findings, the two aforementioned variables created 58% of the changes in the dependent variable. In the third step, after the policy-making and educational factors, the sociocultural factors entered the equation that, according to the findings, the three aforementioned variables created 60% of the changes in the dependent variable. The studies conducted by (Rejeb et al., 2018), (Jenssen & Nybakk, 2009), (Ragasa et al., 2010), and (Osborne, 1998) have confirmed the above findings.

Conclusion

Moreover, there was not a significant difference between innovation capacity and different educational majors; however, there was a significant difference between innovation capacity and different organizational positions. The results indicated that there is a significant difference

between male and female managers in terms of innovation capacity. Besides, there was a significant difference between managers who enjoy permanent employment and those who have been employed contractually.

Recommendations

According to the findings, some recommendations are provided below:
Based on the results obtained from prioritizing innovation capacity levels:

- ✓ Levels of investment in the areas of innovation, research and development substructures, according to the total investment, employment and training of technical specialists and investment in the purchase of new technology and equipment should be increased and the aforementioned points should be taken into consideration by managers and planners in Kharkiv Municipality Management of Fruit and Vegetable Organization to a greater extent.
- ✓ Manufacturing levels in the areas of innovation and minor changes in previous products, the number of new products, the rate of innovation and minor changes in previous processes and the design of new processes and applying them in Fruit and Vegetable Organization should be increased and taken into account to a greater extent.
- ✓ Marketing levels regarding the cost of advertising compared to sales, identifying new markets, using new marketing methods, and using competitive strategies in the market should be taken into consideration by the Fruit and Vegetable Organization.
- ✓ Management levels in the Fruit and Vegetable Organization in the areas of designing innovative incentive systems, efficiency and effectiveness of management in the innovation process, the quality of the selected innovation strategy according to environmental changes, and management's access to information necessary to create innovation need to be increased and taken into account by managers and officials to a greater extent.

According to the results of correlation analysis that there is a positive relationship between policy-making, educational, sociocultural, and managerial factors and innovation capacity in Kharkiv Municipality Management of Fruit and Vegetable Organization, it is suggested to consider all the mentioned components in a complementary and related way so that it can be used and implemented in the adoption of policies and strategies of innovation capacity increase system in Kharkiv Municipality Management of Fruit and Vegetable Organization with a comprehensive point of view.

References

- Alegre J. & Chiva R. & Lapiedra R. (2005). A Literature-based Innovation Output Analysis: Implications for Innovation Capacity. International Journal of Innovation Management, 9(4): 385-399.
- Koc T. & Ceylan C. (2007), Factors Impacting the Innovative Capacity in Large Scale Companies. Technovation, 27(1): 105–114.
- Morris Michael H. & Kuratko Donald F. & Covin, Jeffrey G. (2008). Corporate Entrepreneurship & Innovation. 2nd Edition South-Western, Cengage Learning, 13-26.
- Morel L. & Boly V. (2006), Innovation process evaluation: From self-assessment to detailed technological audit. Technology Research and Development, 12(3): 23-34.
- Tidd J. & Bessant J. & Pavitt K. (2005), Managing innovation: integrating technological, market and organizational change. John Wiley & Sons, Ltd., 6(3): 51-60.
- Rajalahi R. & Janssen W. & Pehu E. (2008), Agricultural Innovation systems: from Diagnostic toward operational practices. Agricultural and Rural Development Discussion, 3(8): 32-40.
- Ranjita DH. & Azage T. (2008), Exploring Innovation capacity in Ethiopian Dairy systems. International live stock Research Institute, Addis Ababa, Ethiopia, 1: 25-34.
- Hall A. & Sulaiman R. & Dhamankar M. & Bezkorowajnyj P. & Prasad L. (2008), Reforming technical change: Livestock fodder scracity revisited as innovation capacity scarcity. United Nations University, Maastrich Economic, social Research and Training center on Innovation and Technology, 1: 21-29.
- Rejeb HB. & Morel L. & Boly V. & Assielou NG. (2018), Measuring Innovation Best Practices: Improvement of an Innovation Index Integrating Threshold and Synergy Effects. Technovation, 28(12): 838-854.
- Walters D. & Rain Bird M. (2017), Cooperative Innovation: a value chain approach. Journal of enter prize information Management, 20(5): 595-607.
- Turro AD. & Urbano M. & Peris O. (2013). Culture and innovation: The moderating effect of cultural values on corporate entrepreneurship. Journal of the industry, 5(3): 211-245.
- Prajogo DI. & Ahmed PK. (2006), Relationships between Innovation Stimulus, Innovation Capacity, and Innovation Performance. R&D Management, 36(5): 499-515.
- Ugochukwu CO. & Elom EN. & Ituma A. & Opara PN. & Ukwa NJ. & Inyiagu EE. & Ndem J. (2014), Influence of Entrepreneurship Education on Students Attaining Business Development Awareness and Skills Acquisition in Nigeria. Journal of Research & Method in Education, 4(3): 37-44.
- Jenssen, JI. & Nybakk E. (2009), Inter-organizational innovation promoters insmall and knowledge intensive firms. International Journal of Innovation Management, 13(1): 441-466.
- Ommani A. (2011), Assessment of Farmers Knowledge Regarding Innovation Management in Farming cooperatives shoustar Town ship. Journal of American science, 7(1): 321-324.
- Ragasa C. & Babu S. & Abdullahi A. & Abubakar BY. (2010), Strengthening Innovation capacity of Nigerian Agriculture Research organization. Eastern and southern Africa Regional office. International Food Policy Research Institute, 14(1): 26-37.
- Osborne SP. (1998), Defining and classifying service innovations in social policy. Human Relations, 51(9): 1133-1154.