

# Investigating the Effect of Social Intelligence on Innovative Performance (Case study: Moghan Agro-Industrial & Livestock Co.)

Hossein Rahimi Kolor <sup>1\*</sup>, Naser Seifollahi <sup>2</sup>

<sup>1</sup> Assistant Professor, Department of Management and Economic, University of Mohaghegh Ardabili, Ardabil, IRAN

<sup>2</sup> Assistant Professor, Department of Management and Economic, University of Mohaghegh Ardabili, Ardabil, IRAN

\* CORRESPONDENCE: ✉ [hrk6809@gmail.com](mailto:hrk6809@gmail.com)

## ABSTRACT

Today, organizations are faced with many environmental changes. The changes occur so rapidly that if organizations are not prepared for dealing with them, their survival will endanger. One of the new tools that help organizations in today's dynamic environment to have an appropriate situation is the use of social intelligence. Present study aimed to evaluate effect of business intelligence on innovative performance of employees of Moghan Agro-Industrial & Livestock Company (MAILC) during 2014. The research's population included 450 employees from MAILC, which according to the Morgan table, 205 employees were selected. In this study, two standard questionnaires of social intelligence and innovative performance were used and their reliability was confirmed by Cronbach's alpha test. The analysis of data was conducted using SPSS. Before testing the hypotheses, first we used Kolmogorov test to check the normality of data, which according to the results their normality was approved. The results of linear regression test showed that social intelligence has significant effect on innovative performance. The results of testing sub-hypotheses showed that all the four dimensions of social intelligence, i.e. social skills, social awareness, data processing and social desirability, have significant effects on innovative performance. Finally, some suggestions are presented based on results obtained from testing the hypotheses.

**Keywords:** social intelligence, innovative performance, Moghan Agro-Industrial & Livestock Company

## INTRODUCTION

Today, organizations to change their business environment and to maintain their competitiveness do many efforts (Nasiri et al., 2014). Innovation is known as a new way for creating value and can be resembled to the blood in the vessels of organizations attempting for their growth and survival as well as development of their products and services. Innovation has critical role in acquiring competitive advantage and long-term success of companies (Seresht, Hashemi, & Kamal, 2012). Countries around the world relying on innovation attempt to increase the productivity and improve their economic situation. One of its main reasons is growing competition between communities. Flexibility and rapid response to the changing environment, better use of human resources and their knowledge as well as taking better business decisions are among the achievements of management for today's organizations (Mirfakhruddini, Nasab, Hassan, Taleifar, & Kanjavfar, 2010). Innovation is accepting a new mentality or approach that for being effective must be distributed in all parts

**Article History:** Received 4 November 2017 ♦ Revised 22 January 2018 ♦ Accepted 16 February 2018

© 2018 The Author(s). Open Access terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>) apply. The license permits unrestricted use, distribution, and reproduction in any medium, on the condition that users give exact credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if they made any changes.

of company so that everyone could use it. One of the important characteristics of innovation in 21st century is that it is less related to a company. For many reasons, innovation is a multiplayer game that its players in organizations with different shapes and sizes work together in networks. They may be local groups, supply chain of partners of product development or strategic unions, which help competitors and customers in temporary cooperation in an attempt to use new technology (Bigliardi & Ivo Dormio, 2009; Davoudi et al., 2018). The personalities of individuals in life take form based on hidden emotional talent and not IQ. What we know for sure about great and successful leaders of organizations is that they are not necessarily the smartest person in organization in terms of IQ, but rather they have higher emotional intelligence than others do, and this way move people towards the way they want. It should be noted that the secret of their influence on people is the same thing (Marjani, 2013; Fartash et al., 2018).

Leadership and management of organization for adapting with changes and for the growth and survival in new environments need special features, which managers generally have many problems in responding to them. One of the main features that could help leaders and managers in responding to these changes is social intelligence. Social Intelligence is a factor affecting people's satisfaction (Mokhtaripoor & Siyadat, 2005; Tastan & Davoudi, 2015a).

It is certain that success of organizations and managers always depends on a number of key factors and identification and promotion of these factors result in further success of organizations. Managers in any organization seek to coordinate and increase the efficiency of organization's employees and achieve organizational goals. It is clear that the way that managers handle the organization and their performance determine the recession or social development of the organization (Rezai & Khalilzadeh, 2009). People do not act similarly in the same social situations. These individual differences in psychological literature refer to the concept of social intelligence (Rezai, 2010). For a strong and effective relationship with others, those having high social intelligence should be able to use the full power of their brain and body (Rezai & Khalilzadeh, 2009). Carl Albert defines the social intelligence simply as the ability of unanimity with others and encouraging them to work with us (Beikzadeh, Beigzadeh, & Sultan Dadashi, 2010; Tastan & Davoudi, 2015b). Business intelligence as kind of intelligence, which first proposed by Thorndike, has been considered largely in recent years. It shows individual capabilities that lead to better agreement with people and social relationships (Ebrahimi, 2008). Intelligence is the cause of our success in social relationships and it can be grown during childhood and even in adulthood (Hajizadeh, 2008; Tastan & Davoudi, 2017). Innovation is a critical factor in organizations for creating value and sustainable competitive advantage in today's complex and changing environment.

Those organizations having more innovation in responding to the changing environments and in developing new capabilities, which provide them with better performance, are more successful. Innovation in social initiatives is considerably dependent to the expertise and intelligence of staff (Boroomand & Ranjbar, 2009). In this study, we seek to answer the following questions: Is social intelligence effective on innovative performance in MAILC or not? If yes, to what extent and intensity is of the impact?

## METHODOLOGY

- A. Methodology: The research in terms of purpose is applied and in terms of methodology is descriptive-survey and of the correlation type.
- B. Population: The research's population included all managers, experts and employees that have a degree of Diploma or higher and were working in MAILC, which included to 450 individual is 2014, as is shown in the table below.
- C. Sample size and sampling: to determine the sample size, the Morgan Table was used. According to the table, the sample size was equal to 205 persons.
- D. Measurement and data collection tools: the field data were collected by using the following two questionnaires:

Social Intelligence questionnaire: to measure this variable the standard questionnaire proposed by Silvera et al. (2001), including 29 questions, was used. The questionnaire has four aspects including information processing, social skills, social awareness and social desirability and it has a Likert scale (Silvera et al., 2001).

**Table 1.** The variance analysis of the regression model for variables social intelligence and innovative performance

R		Coefficient of determination (R <sup>2</sup> )	Adjusted coefficient of determination	Durbin-Watson		
0.856		0.733	0.732	1.84		
Source of variations	Degrees of freedom	Sum of squares	Average of squares	F	Confidence level	Significance level
Regression	1	437.386	437.386	556.804	0.95	0.000
Residual	203	1581.327	7.79		Test result:	
Total	204	5918.712	---		Rejection of H <sub>0</sub>	

**Table 2.** Parameter coefficients of the main hypothesis for the variable of Social Intelligence

Variable	$\beta$	t-test	Significance level	Test result
Intercept	-0.196	-0.125	0.901	Acceptance of H <sub>0</sub>
Social Intelligence	0.353	23.597	0.000	Rejection of H <sub>0</sub>

Innovative performance questionnaire: to measure this variable, a standard questionnaire with 10 questions and three dimensions of innovation in production, innovation in process and administrative was used (Jimenez et al., 2008).

- E.** Validity and reliability: validity checks whether the measurement tool is able to measure the intended characteristic and feature or not. To determine the content validity of the questionnaire, it was given to a number of experts and professors of Management and Behavioral Sciences and their opinions about the questions and hypotheses were requested, which resulted in the confirmation of the questionnaire's validity. To examine the reliability of the questionnaire, Cronbach's alpha coefficient was calculated for the dependent and each of the independent variables of the study, which was greater than 0.70 for all of them.
- F.** Data analysis method: in this study, SPSS was used for the extraction of information and the analysis of data.

## FINDINGS

To investigate the effect of social intelligence on innovative performance, the linear regression analysis was used, which its results are represented in the following tables.

As shown in **Table 1**, the significance level of the test is equal to 0.000, thus, it can be argued that the above test with a confidence level of 0.95 is significant. Therefore, the alternative hypothesis is confirmed and the null hypothesis is rejected. The coefficient of determination, i.e. R<sup>2</sup>, which is the ratio of the explained changes by variable x to the total changes, is equal to 0.733. Therefore, it can be said that 73% of changes in innovative performance is explained by changes in social intelligence.

According to **Table 2**, the mathematical relationship of the impact of social intelligence on innovative performance is as follows:

$$Y = 0.353 X$$

It can be said that one unit increase in social intelligence causes 0.353 unit increase in innovative performance of employees of MAILC. Therefore, it can be concluded that the regression model of the test is statistically significant.

To evaluate the effect of social skills on innovative performance, the linear regression test was used and its results are presented in the following tables.

As shown in **Table 3**, the significance level of the test is equal to 0.000, thus, it can be argued that the above test with a confidence level of 0.95 is significant. Therefore, the alternative hypothesis is confirmed and the null hypothesis is rejected. The coefficient of determination, i.e. R<sup>2</sup>, which is the ratio of the explained changes by variable x to the total changes, is equal to 0.636. Therefore, it can be said that 63% of changes in innovative performance is explained by changes in social skills.

**Table 3.** The variance analysis of the regression model for variables social skills and innovative performance

R		Coefficient of determination (R <sup>2</sup> )	Adjusted coefficient of determination	Durbin-Watson		
0.798		0.636	0.635	2.005		
Source of variations	Degrees of freedom	Sum of squares	Average of squares	F	Confidence level	Significance level
Regression	1	Sum of squares	3766.433	355.245	0.95	0.000
Residual	203	3766.433	10.602		Test result:	
Total	204	2152.279	---		Rejection of H <sub>0</sub>	

**Table 4.** Parameter coefficients of the first sub-hypothesis for the variable of social skills

Variable	$\beta$	t-test	Significance level	Test result
Intercept	19.754	21.6	0.000	Rejection of H <sub>0</sub>
Social skills	0.831	18.848	0.000	Rejection of H <sub>0</sub>

**Table 5.** The variance analysis of the regression model for variables social awareness and innovative performance

R		Coefficient of determination (R <sup>2</sup> )	Adjusted coefficient of determination	Durbin-Watson		
0.76		0.578	0.576	1.53		
Source of variations	Degrees of freedom	Sum of squares	Average of squares	F	Confidence level	Significance level
Regression	1	3422.796	3422.796	278.386	0.95	0.000
Residual	203	2495.916	12.295		Test result:	
Total	204	5918.712	---		Rejection of H <sub>0</sub>	

**Table 6.** Parameter coefficients of the second sub-hypothesis for the variable of social awareness

Variable	$\beta$	t-test	Significance level	Test result
Intercept	1.802	0.507	0.613	Acceptance of H <sub>0</sub>
Social awareness	1.319	16.685	0.000	Rejection of H <sub>0</sub>

According to **Table 4**, the mathematical relationship of the impact of social skills on innovative performance is as follows:

$$Y = 0.831 X + 19.754$$

It can be said that one unit increase in social skills causes 0.831 unit increase in innovative performance of employees of MAILC. Therefore, it can be concluded that the regression model of the test is statistically significant.

To evaluate the effect of social awareness on innovative performance, the linear regression test was used, which its results are presented in the following tables.

As shown in **Table 5**, the significance level of the test is equal to 0.000, thus, it can be argued that the above test with a confidence level of 0.95 is significant. Therefore, the alternative hypothesis is confirmed and the null hypothesis is rejected. The coefficient of determination, i.e. R<sup>2</sup>, which is the ratio of the explained changes by variable x to the total changes, is equal to 0.578. Therefore, it can be said that 57% of changes in innovative performance is explained by changes in social awareness.

According to **Table 6**, the mathematical relationship of the impact of social awareness on innovative performance is as follows:

$$Y = 1.319 X$$

It can be said that one unit increase in social awareness causes 1.319 units increase in innovative performance of employees of MAILC. Therefore, it can be concluded that the regression model of the test is statistically significant.

To evaluate the effect of data processing on innovative performance, the linear regression test was used, which its results are presented in the following tables.

**Table 7.** The variance analysis of the regression model for variables data processing and innovative performance

<b>R</b>		<b>Coefficient of determination (R<sup>2</sup>)</b>	<b>Adjusted coefficient of determination</b>	<b>Durbin-Watson</b>		
0.78		0.609	0.607	1.99		
Source of variations	Degrees of freedom	Sum of squares	Average of squares	F	Confidence level	Significance level
Regression	1	3605.088	3605.088	316.314	0.95	0.000
Residual	203	2313.624	1.397		Test result:	
Total	204	5918.712	---		Rejection of H <sub>0</sub>	

**Table 8.** Parameter coefficients of the third hypothesis for the variable of data processing

<b>Variable</b>	<b>β</b>	<b>t-test</b>	<b>Significance level</b>	<b>Test result</b>
Intercept	9.161	5.902	0.000	Rejection of H <sub>0</sub>
Data processing	1.107	17.785	0.000	Rejection of H <sub>0</sub>

**Table 9.** The variance analysis of the regression model for variables social desirability and innovative performance

<b>R</b>		<b>Coefficient of determination (R<sup>2</sup>)</b>	<b>Adjusted coefficient of determination</b>	<b>Durbin-Watson</b>		
0.428		0.183	0.179	1.637		
Source of variations	Degrees of freedom	Sum of squares	Average of squares	F	Confidence level	Significance level
Regression	1	1084.602	1084.602	45.564	0.95	0.000
Residual	203	4834.11	23.813		Test result:	
Total	204	5918.712	---		Rejection of H <sub>0</sub>	

**Table 10.** Parameter coefficients of the fourth sub-hypothesis for the variable of social desirability

<b>Variable</b>	<b>β</b>	<b>t-test</b>	<b>Significance level</b>	<b>Test result</b>
Intercept	17.979	6.519	0.000	Rejection of H <sub>0</sub>
Social desirability	0.575	6.749	0.000	Rejection of H <sub>0</sub>

As shown in **Table 7**, the significance level of the test is equal to 0.000, thus, it can be argued that the above test with a confidence level of 0.95 is significant. Therefore, the alternative hypothesis is confirmed and the null hypothesis is rejected. The coefficient of determination, i.e. R<sup>2</sup>, which is the ratio of the explained changes by variable x to the total changes, is equal to 0.609. Therefore, it can be said that 60% of changes in innovative performance is explained by changes in data processing.

According to **Table 8**, the mathematical relationship of the impact of data processing on innovative performance is as follows:

$$Y = 1.107 X + 9.161$$

It can be said that one unit increase in data processing causes 1.107 units increase in innovative performance of employees of MAILC. Therefore, it can be concluded that the regression model of the test is statistically significant.

To evaluate the effect of social desirability on innovative performance, the linear regression test was used, which its results are presented in the following tables.

As shown in **Table 9**, the significance level of the test is equal to 0.000, thus, it can be argued that the above test with a confidence level of 0.95 is significant. Therefore, the alternative hypothesis is confirmed and the null hypothesis is rejected. The coefficient of determination, i.e. R<sup>2</sup>, which is the ratio of the explained changes by variable x to the total changes, is equal to 0.183. Therefore, it can be said that 18% of changes in innovative performance is explained by changes in social desirability.

According to **Table 10**, the mathematical relationship of the impact of social desirability on innovative performance is as follows:

$$Y = 0.575 X + 17.979$$

It can be said that one unit increase in social desirability causes 0.575 unit increase in innovative performance of employees of MAILC. Therefore, it can be concluded that the regression model of the test is statistically significant.

## DISCUSSION AND CONCLUSIONS

Since organizations increasingly become larger and emerge in new forms, consideration of interpersonal social intelligence is of great importance, because it increases the efficiency of organization. Today, there are many evidences showing that some organizations such as the mass media, education organizations and the like organizations lack appropriate performance and face many problems because of the lack of attention to these issues. With the economic development of countries, the possibility of equal access to the global markets, rapid trend of technological changes, shortening of the life cycle of production and in general the growth of knowledge importance, the ability of innovation is being considered as an essential determinant factor in international competition. In developed countries, the competitive advantage stems from factors such as sustainable ability in the creation of innovation and commercialization of production as well as new processes. Gradually, the ability of innovation was issued as vital prerequisite for the development of enterprises, entrepreneurship and concepts such as innovation policy and system, which widely has attracted the attention of policy makers throughout the world. The results of our study is consistent with that of Solgi and Alipoor (2012) that had estimated social intelligence among students at a high level, similar to our study that showed relatively high average for social intelligence among employees of MAILC. Our results are also consistent with results of Rasooli (2009) that found a significant correlation between emotional intelligence and innovative performance. Overall, it can be concluded that the social intelligence of people increases the innovative performance.

### Research Suggestions

1. Managers must attempt to understand the strength and weakness points of their social relationships to strengthen their strengths, resolve their weaknesses, gain enough popularity and finally strengthen innovative performance among staff.
2. Attempt for establishing intimate relationships with co-workers and finding ways to improve communication techniques
3. Enterprise to maintain itself in the competitive environment and society must turn itself from a follower company to a leading company that provides higher customer satisfaction and better meeting the needs.
4. Advising people to keep their calm and avoiding violence in the face with other staffs.
5. Avoiding undesirable behaviors in the workplace
6. Promoting the spirit of collective instead of individualism and the creation and strengthening the common identity among employees
7. Intimate relationship with strangers in the workplace
8. Giving more importance to the workforce in company
9. Increasing new tools in company's environment

## REFERENCES

- Beikzadeh J., Beigzadeh, J., & Sultan Dadashi, M. (2010). The relationship between social intelligence of managers, their philosophical mentality and organizational health of schools in three educational stages of Bonab city. *Journal of cultural Management*, 5(7), 69-84.
- Boroomand, M., & Ranjbar, M. (2009). Strategic measures of human resource management and innovation performance: with an emphasis on the role of knowledge management. *Two Monthly Journal of Police Human Resource Development*, 6(24).
- Davoudi, S. M. M., Fartash, K., Zakirova, V. G., Belyalova, A. M., Kurbanov, R. A., Boiarchuk, A. V., & Sizova, Z. M. (2018). Testing the Mediating Role of Open Innovation on the Relationship between Intellectual Property Rights and Organizational Performance: A Case of Science and Technology Park. *EURASIA Journal of Mathematics Science and Technology Education*, 14(4), 1359-1369. <https://doi.org/10.29333/ejmste/83651>

- Fartash K., Davoudi, S. M. M., Baklashova, T. A., Svechnikova, N. V., Nikolaeva, Y. V., & Grimalskaya, S. A. (2018). The Impact of Technology Acquisition & Exploitation on Organizational Innovation and Organizational Performance in Knowledge-Intensive Organizations. *EURASIA Journal of Mathematics Science and Technology Education*, 14(4), 1497-1507. <https://doi.org/10.29333/ejmste/84835>
- Hajizadeh, M. (2008). *Validation of social intelligence scale and its relationship with happiness and aggression among students of Islamic Azad University, Branch of Ahvaz* (MA thesis in Public Psychology), Supervised by Dr. Farah Naderi, Islamic Azad University, Branch of Ahvaz.
- Jimenez, D., & Valle, R. S. (2011). Innovation, Organizational learning, and Performance. *Journal of Business Research*, 64, 408-417. <https://doi.org/10.1016/j.jbusres.2010.09.010>
- Marjani, A. B. (2013). *Management and leadership by emotional intelligence* (Master Thesis in Management), Islamic Azad University, Central Tehran Branch.
- Mirfakhrudini, S. H., Nasab, H., Hassan, S., Taleifar, R., & Kanjavfar, A. R. (2010). Knowledge management, knowledge innovation and innovation performance in the small and medium companies. *Business Management Vision*, 2, 103-118.
- Mokhtaripoor, M., & Siadat, S. A. (2005). Management and leadership by emotional intelligence. *Journal of Tadbir*, 165, 18-21.
- Rezai, A. (2010). Social intelligence scale of Tromso: Factor and Reliability Structures, the Persian version of scale in student's community. *Journal of Psychology, University of Tabriz*, 5, 20-32.
- Rezai, A., & Khalilzadeh, A. (2009). The relationship between social intelligence of managers and job satisfaction of teachers. *Training Sciences, II(VII)*, 121-144.
- Seresht, R., Hashemi, H., & Kamal, S. (2012). Influential factors on innovation management in the construction companies of Iran. *Strategic Business Management*, 2, 73-86.
- Tastan, S. B., & Davoudi, S. M. M. (2015a). An Examination of the Relationship between Leader-Member Exchange and Innovative Work Behavior with the Moderating Role of Trust in Leader: A Study in the Turkish Context. *Procedia social and behavioral sciences, Elsevier*, 181, 23-32.
- Tastan, S. B., & Davoudi, S. M. M. (2015b). An empirical research on the examination of the relationship between perceived workplace incivility and job involvement: the moderating role of collaborative climate. *International Journal of Work Organisation and Emotion, Inderscience Publishers*, 7(1), 35-62. <https://doi.org/10.1504/IJWOE.2015.073124>
- Tastan, S. B., & Davoudi, S. M. M. (2017). The Relationship between Organisational Climate and Organizational Innovativeness: Testing the Moderating Effect of Individual Values of Power and Achievement. *International Journal of Business Innovation and Research, Inderscience Publishers*, 12(4), 465-483.

