



# Scrutinization of the relationship between organizational agility and the application of Information and Communication Technology in the Education Organization of Shirvan Township in the year 2015

**Soleiman Kamali<sup>1</sup>, Mahboubeh SoleimanpourOmran<sup>2\*</sup>**

<sup>1</sup>Graduated M.A. student in Educational Management, Department of Educational Management, Bojnourd Branch, Islamic Azad University, Iran

<sup>2</sup>Associate professor of the Department of Educational Management, Islamic Azad University, Bojnourd Branch, Bojnourd

## ARTICLE INFO

### Article history:

Received 17 Jun 2015

Received in revised form 21 Jul 2015

Accepted 12 Aug 2015

### Keywords:

*Application of Information Technology,  
Organization,  
Organizational Agility,  
Information Technology (IT)*

## ABSTRACT

**Objective:** Purpose of the present research is to scrutinize the relationship between organizational agility and the application of information and communication technology. The present research is an applied descriptive and survey research of correlational type. **Methodology:** The statistical universe of this research involves the whole staff of the education organization of Shirvan Township in the year 2015 who are one hundred individuals and due to the diminutiveness of the statistical universe the complete enumeration method has been used. To collect data the questionnaire of organizational agility of Sharifi and Zhang and the Information Technology survey Questionnaire of Rahmani were used. **Results:** Validity of the questionnaire was calculated by 0.8365 by means of Cronbach's Alpha coefficient for the Questionnaire of Information and Communication Technology and the validity of the Organizational Agility Questionnaire by 0.8076 which are indicative of the high validity of the questionnaire. To analyze the collected data descriptive statistical methods (frequency distribution, percentage and mean) and inferential statistics (Pearson correlation coefficient) besides making use of SPSS software package, 19<sup>th</sup> version. **Conclusion:** Results indicate that there is a meaningful relationship between the application of information and communication technology and the organizational agility with a correlation coefficient of 0.746 and its level of significance equals zero which is less than 0.01. Thus, the existence of a meaningful relationship between the information and communication technology and the organizational agility with %99 certainty has been approved.

## 1. Introduction

Acceptance of evolutions is the part and parcel of any organization and these evolutions are being perceived as stable and incessant phenomena. From among the evolutionary changes in the current world are the eruptive evolutions of technology which have a determining role and brings unprecedented responsibilities for the heads of organizations. This situation has caused that lots of organizations place their emphasis on compatibility with evolutions in the job area and responding to the evolution factors. Organizational agility is one of the modern ways of responding to the evolution factors (Jafarnejad et al., 2007). The cornerstone of an agile organization is the consolidation of information technology system, staff, commercial procedures and equipment within a homogeneous and flexible establishment for a fast response to the happenings and changes in the area. Due to this paying attention to the capabilities or potentialities of information technology (IT) can be a significant choice in achieving profitability and finally achieving the organizational goals. Considering that issuing subjects such as electronic organizations which introduces multiple electronic concepts in all areas such as Electronic city, E-government, E-citizen, E-banking, and E-Health, dependence of organizations, staff, and clients to the instrument of information technology has increased eminently (Sarrafizadeh and Aliasghar, 2007). Information Technology with potency and the potentiality of the function of the information technology systems enables the managers to establish better relations with an organization, area, and with each other. Participation in decision-making,

\* Corresponding author: [soleymanpour@bojnourdiau.ac.ir](mailto:soleymanpour@bojnourdiau.ac.ir)  
DOI: <https://doi.org/10.24200/jmas.vol3iss03pp31-36>

increase in the rate of decision-making, identification of issues, reduce the height of the organizational pyramid, improvement in the organizational harmony, and augmentation of professional staff are just some of the impacts which the information technology and acceptance of it leaves on organizations. Considering that the information technology as a product of these evolutions with indices such as production, processing, distribution, and the application of data have authenticated their presence in all aspects of life. Organizations in order to increase their efficiency and affectivity and achieving a competitive privilege have no choice but make use of this technology and the managers of organizations should always give some thoughts to set the stage for the application of information technology and the optimal way of exploiting it in the organization in order to confirm the existence of an organization and increase its efficiency. The conventional orientation necessitates appreciating the significance of the speed of supplying (Christopher, 2000). Information Technology supports the on time programs and cutting costs on the supporting organizations and offers a mechanism to save, getting access to, and distribute the data in an efficient manner and causes the organization to get enjoyment out of the flexibility of the value chain in the organization and as a result it leads to the agility and at last the augmentation of the competitive privilege of the organization. Foundation of an agile organization lies in the coherence of the information system, technology, individuals, commercial procedures, and the equipment in a harmonic organization to respond rapidly to the environmental events and changes. Agility expects an organization to merge the technology with the staff with a communicative cornerstone hasten to react to the variable needs of customers in the environment of the market which enjoys a constant and continuous change (Coronado et al., 2002). Due to this, an agile organization as a paradigm in the twenty first century has lots of adherents and has turned into a successful strategy in the competitive markets with fast evolutions in the requirements of customers (Mehryar et al., 2007). Scrutinization of the review of literature of the study has indicated that few studies have gone into scrutinize the influence of information technology on the organizational agility. The results of the researches indicate that the application of information technology has a positive relation with the organizational agility. Saford states that the organizational agility is capable of being actualized throughout an integration of the information technology and flexibility (Jin-Hai et al., 2003). and the acceptance of the information technology by staffs of an organization has the most influence on the agility of the organization. Information Technology is the improver of the activities of an organization in various aspects and its influence in the subject of agility branches out into three groups of acceleration of the activities, present automatic and smart decision-making processes, and carrying out distribution operation. Maskell (2001) and Ghanbari et al., (2014) in a study turned to scrutinize the assessment of the processual and substructure influence of science management on accelerating the organization. The results indicated that the agile actions are maximally impressionable to the substructure elements of science management in terms of entity of organization and are impressionable to the procedural elements of science in terms of transfer and application of science. Keivanlou (2013) in a research titled as "an analysis of the effects of applying the Information Technology on the organizational agility", indicated that the amount of applying the Information Technology has relation with the organizational agility. Khodadadhousseni et al. (2013) in a study scrutinized the designing of the model of customer agility with an approach towards the dynamic organizational capabilities, scrutinization of the role of IT efficiency, entrepreneurial intelligence, and the market intelligence. In this study the evolutionary model of the aspect of the customer agility based on the dynamic capabilities of IT efficiency, entrepreneurial intelligence, and the market intelligence in order to improve the aspects of the outputs of the organizational process in the Electronic industry of Iran has been offered and tested. Chen (2012), in a study titled as "the influence of commercial intelligence and the infrastructure flexibility on the competitive privilege: A prospect for organizational agility", got into the existing effects among variables. The results indicated that organizational agility to some extent influences the competitive privilege of organization due to the influences of the commercial intelligence and the flexibility of IT substructures. Rahmani (2010), in a study titled as "the influence of agile production on the function and the competitive privilege in Thailand", evaluated the influences as positive and considered the function and the competitive privilege to be dependent to the organizational agility and considered the agile production as a solution for survival in the competitive market. Bottani (2009), in a study got into scrutinizing the fuzzy approach in assessing the organizational agility and came to this conclusion that due to the fuzziness of the measurement of agility the fuzzy logic is the best method for assessing in this domain. Nwokah and Frannces (2009), in a study titled as "the competitive intelligence and its relation with the affectivity of the marketing in the grand companies in Nigeria" illustrates that there is a positive and meaningful relationship between the competitive intelligence and the affectivity of the marketing in the grand companies. They concluded from a research titled as "Information Technology competition, innovativeness, and the organizational agility and the effects of environmental factors on the intensity of their function", concluded that the application of Information and communication Technology has revolutionized the whole aspects of life such as education in its various forms. Developing the information and communication technologies in an educational system are being represented as effective steps that can lead to a qualitative evolution in the goals, programs, methods, approaches, and due to them the affectivity of the educational system but in the meantime the missing link is made up of the accuracy and speed and agility in the positive and negative applications of the information and communication technologies in the educational system. (Sarrafzadeh and Asghar, 2004) The public sector due to the multiplicity of the clients and also an extra need to meet the needs and requirements of them and in alignment with the eloquence and the excellence of the itself in various aspects of speed and quality and the most important of all in terms of costs is more than the private and the productive sector in need of agility. (Fathian and Shiekh, 2007), and the Information Technology is a facilitating factor in the business activities of organizations. Due to this application of the Information Technology is an organizational privilege which the success of the organization is to a large extent dependent to it and applying it has fueled a sea change in the administrative affairs and the information systems in a way that the possibility of electronically transferring of the data, documents, and various correspondence has been provided. Studies indicate that there is a positive interrelationship between investment in the Information Technology and the yield of the organizations and the efficiency of the human resource which causes an augmentation in the diversity of products and the improvement of the quality and satisfaction of the customer, facilitation of the administrative procedure, and an augmentation in the yield of human resource and the management and decentralization besides centralization. Thus, the present study is going to determine the relationship between the Information Technology and the agility capabilities of organizations and its present minor goals are as follows:

- 1-Scrutinization of the relationship between the responsibility of the organization and the application of Information Technology.
- 2-Scrutinization of the relationship between the flexibility of organization and the application of Information Technology.
- 3-Scrutinization of the relationship between the speed of the organization and the application of Information Technology.

## 4-Scrutinization of the relationship between the organizational competition and the application of Information Technology.

## 2. Materials and methods

The present research is a correlational and descriptive-survey research. The statistical universe of the research involves the whole staff of the Education Organization of Shirvan who were in service in the year 2015-2016 who are one hundred persons. Due to the smallness of the statistical universe of the research the complete enumeration method was utilized. The utilized instruments in this research are the documents and evidence and the standardized information technology questionnaire of Rahmani, a five-point Likert scale, and the five-point likert scale and the Organizational Agility Questionnaire by Sharifi and Zhang (1999) which involve the four aspects of power, competition, flexibility, and speed. Validity was calculated by means of Cronbach's Alpha coefficient for the questionnaire of the Information and communication technology by 0.8365, and 0.8076 for the questionnaire of organizational agility which is indicative of the high validity of the questionnaire. To analyze the collected data the descriptive statistical methods (frequency distribution, percentage, and mean) and the inferential statistics (Pearson correlation coefficient) has been used by means of the SPSS software package, 19th version.

## 3. Discussion and results

### 3.1 Second Lateral question test

Is there any relationship between the Information and communication Technology and the organizational agility in the Education Organization of the Township of Shirvan?

**Table 1. Correlation coefficient (relationship between the application of information & communication technology and the organizational agility)**

	Information and communication technology	Organizational agility
Correlation coefficient	1	0.746**
Level of significance	-	0
Number	100	100
Correlation coefficient	0.746**	1
Level of significance	0	-
Number	100	100

Considering the table No.1, the correlation coefficient between the application of Information and Communication Technology and the organizational agility equals 0.764 and its level of significance equals zero which are less than 0.01. Thus, with a certainty of %99 the existence of a meaningful relationship between the application of information and communication technology and the organizational agility will be approved and by considering the positiveness of the amount of correlation coefficient it can be concluded that staff who have a higher level of applying the Information and Communication Technology have a more organizational agility. The amount of the obtained P-Values equals zero that by considering the two-tailedness of the test it is compared with the number of 0.746 and since  $P < 0.746$  it can be concluded that there is a kind of relationship between the application of Information and Communication technology and the organizational agility and since the  $r = 0.746$  and  $0 < r < 1$  it is concluded that the correlation is a direct and incomplete one and this is interpreted in this manner that parallel to the increase in the application of Information Technology the amount of organizational agility increases as well.

Is there any relationship between the Information and Communication technology and the responsibility power in the Education Organization of the township of Shirvan?

**Table 2. Correlation coefficient (relationship between the information & communication technology and the responsibility power of the organization)**

	Information and Communication Technology	Responsibility Power of the Organization
Correlation coefficient	1	0.826**
Level of significance	-	0.001
Number	100	100
Correlation Coefficient	0.826**	1
Level of significance	0.001	-
Number	100	100

Considering the table No.2, the correlation coefficient between the application of Information and Communication Technology and the responsibility power of the organization equals 0.826 and its level of significance equals 0.001 which are less than 0.01. Thus, with a certainty of %99 the existence of a meaningful relationship between the application of Information and Communication Technology and the responsibility power of the organization will be approved and since  $r=0.826$   $0 < r < 1$  it is concluded that the correlation is a direct and incomplete one and this is interpreted in this manner that parallel to the increase in the application of Information Technology the responsibility power of the organization increase as well.

### 3.2 Second Lateral question test

Is there any relationship between the application of information and communication technology and the organizational agility in the Education Organization of the township of Shirvan?

**Table 3. Correlation coefficient (relationship between the application of information & communication technology and the organizational agility)**

	Information and communication Technology	Organizational flexibility
Correlation coefficient	1	0.764**
Level of significance	-	0
Number	100	100
Correlation coefficient	0.764**	1
Level of significance	0	-
Number	100	100

Considering the table No.3, the correlation coefficient between the application of the information and communication technology and the organizational flexibility equals 0.764 and its level of significance equals zero which is less than 0.01. Thus, with a certainty of %99 the existence of a meaningful relationship between the application of Information and communication Technology and the organizational flexibility will be approved and since  $r=0.764$  and  $0 < r < 1$  we conclude that the correlation is a direct and incomplete one and this is interpreted in this manner that parallel to the increase in the application of Information Technology the quality of their organizational flexibility increases as well?

**Table 4. Correlation coefficient (relationship between the application of information & communication technology and the speed of the organization)**

	Information and communication technology	Speed of the organization
Correlation coefficient	1	0.639**
Level of significance	-	0.002
Number	100	100
Correlation coefficient	0.639**	1
Level of significance	0.002	-
Number	100	100

Considering the table No.4, the correlation coefficient between the application of the information and communication technology and the speed of the organization equals 0.639 and its level of significance is 0.002 which is less than 0.01. Thus, with a certainty of %99 the existence of a meaningful relationship between the application of Information and communication Technology and the speed of the organization will be approved and since  $r=0.639$  and  $0 < r < 1$  we conclude that the correlation is a direct and incomplete one and this is interpreted in this manner that parallel to the increase in the application of Information Technology the speed of the organization increases as well.

## 4. Conclusion

According to the first hypothesis the Pearson coefficient between the application of the Information Technology and the organizational agility is 0.746 and since the amount of its level of significance is less than 0.01 thus with a certainty of %99 it can be said that there is a relationship between the application of information and communication technology and the organizational agility in the Education organization of the township of Shirvan. Results of the present research are compatible with the results of the research by Fathian and Shiekh (2011) and Keivanlou (2013) and Chen (2012). According to the second hypothesis the Pearson correlation coefficient between the application of information and communication Technology and the responsibility power of the organization is 0.826 and since its level of significance is less than 0.001 thus with a certainty of %99 it can be said that there is a relationship between the application of the information and communication technology and the responsibility power of the Education Organization of the township of Shirvan. Information and communication Technology throughout the establishment of an effective relationship between the inner and the outer environment throughout capability in achieving and distributing the proper management of science, facilitation of relationship with the commercial associates and the customers and the suppliers, facilitation of communication among the departments of the organization, capability of developing the level of knowledge, human resource, development of efficiency and the motivation of the human resource, rapid response to the environmental changes

and the equipment and the machinery and reducing the costs of exercising changes in the methods, equipment, and the machinery increases the responsibility in the organizations. Results of the present research are compatible with the results of the research by Fathian and Shiekh (2011) and Keivanlou (2013), and Chen (2012) and approves of their results. According to the third hypothesis the coefficient of Pearson correlation between the application of the information and communication technology and the organizational flexibility is 0.764 and since its level of significance is less than 0.001 thus it can be concluded with %99 certainty that there is a relationship between the application of information technology and the organizational agility in the Education Organization of the township of Shirvan. Information Technology increases the organizational flexibility. Information Technology offers a mechanism for the organizations to save, get access to, distribute, and analyze the data in an efficient manner. Information and the agile information systems are considered as key factors in achieving agility. (White et al.2005) Results of the present research are compatible with the results of the research by Fathian and Shiekh (2011) and Keivanlou (2013), and Chen (2012) and approves of their results. According to the fourth hypothesis the Pearson correlation coefficient between the application of Information and communication Technology and the speed of the organization is the amount of 0.639 and since its level of significance is less than 0.001 thus it can be concluded with %99 certainty that there is a relationship between the application of information technology and the organizational agility in the Education Organization of the township of Shirvan. Application of information technologies such as internet, E-mail, and also the pervasiveness of the use of computer have led to the appearance of new organizational shapes which are poles apart in terms of essence in comparison with the traditional, large, and bureaucratic organizations. The architecture of these organizations is in the shape of miniunits which are self-sufficient, flexible, which are equipped with fast and developed communication systems. (Ferdows and De Meyer, 1990) Results of the present research are compatible with the results of the researches by Fathian and Shiekh (2011), and Keivanlou (2013), and Chen (2012) and approves of their results. According to the fifth hypothesis the Pearson correlation coefficient between the application of Information and communication Technology and the organizational competitiveness is the amount of 0.634 and since its level of significance is less than 0.001 thus it can be concluded with %99 certainty that there is a relationship between the application of information and communication technology and the organizational competitiveness in the Education Organization of the township of Shirvan. Application of Information Technology to share the information among the customers and the suppliers is going to create virtual organizations, a network of independent rival firms which have gathered together to exploit the changing opportunities in the market and their aim is to cause the proper products to reach on time to the market. Information Technology is a vital factor in the development of the virtual organizations. Business associates by means of information and the communication technology become coherent. (Gunasekaran et al, 2004) Results of the present research are compatible with the results of the researches by Fathian and Shiekh (2011), and Keivanlou (2013), and Chen (2012) and approves of their results. In this manner the analysis of the correlation between the application of Information and Communication Technology and the organizational agility indicated that not only is there a positive and meaningful relationship between the application of Information and Communication Technology and the organizational agility but also among the components of organizational agility flexibility, responsibility power, and the organizational competition achieved the highest scores in the application of Information and Communication Technology. It seems that the application of Information and communication technology and its various factors such as internet, E-mail, portal, intranet, extranet, information management systems, web-based data, and so forth due to the augmentation of volume and the speed of transferring data, increase in the power of using services among the customers, and their awareness of the kind of services which are offered, equalization of the conditions of using the facilities for the whole customers, increase in the power of responsibility towards the needs of customers and dwarfing the organization and omitting a great deal of bureaucracies and red tape causes the acceleration of the organization that finally these issues were observed in the results of the analyses which were obtained from a research in the Education Organization in Shirvan. Results of the present research are compatible with the results of the researches by Fathian and Shiekh (2011), and Keivanlou (2013), and Chen (2012) and approves of their results. Also, among the components of the organizational agility responsibility, flexibility, and the speed of the organization achieved the highest correlation coefficient in terms of the application of Information and communication technology.

## REFERENCES

- Bottani, Eleonora. 2009. A fuzzy QFD approach to achieve agility. *International journal of production economics* Capabilities in the Order Fulfillment Process", *ICFAI Journal of Supply Chain Management*, 27-39, 2004.
- Chen, X. (2012). Impact of business intelligence and IT infrastructure flexibility on competitive advantage: An organizational agility perspective. Christopher, M., 2000 "The agile Supply Chain-Competing in Volatile Markets", *Industrial Marketing Management*, 29, 37-44.
- Coronado M, A., Sarhadi, M., Millar, C. 2002, "Defining Framework for Information System Requirements for Agile Manufacturing", *International Journal of Industrial Ergonomics*, 57-68.
- Fathian, M. and Shiekh, A. 2011. "Scrutinization of the influence of Information Technology on the organizational agility of the small-sized and the medium-sized companies." *Scientific and research Quarterly periodical of Management and Development*, No.50., 71-96.
- Ferdows, K; De Meyer, A. 1990. Lasting improvements in manufacturing performance: in search of a new theory, *Journal of Operations Management*, Vol. 9 No. 2, 168-83.
- Ghanbari, Sirus and Ardalan, Mohammadreza, and Beheshti rad, Roghayeh. 2014. "Evaluation of the processual and substructure effect of science management on the acceleration of organizations.", *Magazine of general management studies*, 7th year. No.23.27-52.
- Jafarnejad, A. & Shahayi, B. 2007. "Organizational oblivion, a significant struggle for the managers in the recent age." Tehran: Mehraban Publication, 18.
- Jin-Hai, L., Anderson, A. R., & Harrison, R. T. 2003. The evolution of agile manufacturing. *Business Process Management Journal*, 9(2), 170-189.
- Keivanlou, Madjid. 2013. "an analysis of the influences of the application of Information Technology on the agility level of the organization.", *Islamic Azad University, Shahroud Branch*.
- Khodadadhouseini, Seyyed Hamid and Khoddami, Soheila, and Moshabbaki, Asghar, and Azar, Adel. 2013. "Designing a model of customer agility with an approach toward the dynamic organizational capabilities: Scrutinization of the role of IT efficiency.", *University of Isfahan Journals System (uijs)*. No.2.

- Maskell, B. 2001. "The age of agile manufacturing, Supply Chain Management: An International Journal; Vol.6, No 1, 5-11.
- Mehryar, M. & Tarokh, MJ. 2007. "Agile supply chain Management: presentation of a conceptual framework based on the smart software factors. 1st International conference on the supply chain management and the information systems.", Tehran.
- Nwokah, N. G., & Ondukwu, F. E. 2009. Competitive intelligence and marketing effectiveness in corporate organizations in Nigeria. *African Journal of Marketing Management*, 1(1), 010-022.
- Rahmani, G. 2010. "Acceptance of Information Technology and the organizational agility from the viewpoint of high-level managers of state-run organizations in Hamedan. MA thesis proposal. Sanandaj University.
- Sarrafizadeh, Aliasghar. 2007. "Information Technology (IT) in the organization." 2nd edition. Mir Publication. Tehran.
- Sarrafizadeh, Asghar. 2004. "Information Technology (IT) in the organization. (Concepts and application). Mir Publication.
- Sharifi, H., & Zhang, Z. 1999. A methodology for achieving agility in manufacturing organisations: An introduction. *International journal of production economics*, 62(1-2), 7-22.

#### How to Cite this Article:

Kamali S., SoleimanpourOmran M., Scrutinization of the relationship between organizational agility and the application of Information and Communication Technology in the Education Organization of Shirvan Township in the year 2015, *Uct Journal of Management and Accounting Studies* 03 (2015) 31–36.