

# RELATIONSHIP BETWEEN ELECTRONIC LEARNING AND INTELLECTUAL CAPITAL

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**Abstract**— The main objective of the present study was to present the structural pattern of electronic learning and intellectual capital in the special economic zone of Abadan port. The study method was a descriptive one of regression type. The study population included all the managers, assistants, experts and employees in the special economic zone of Abadan port. According to the total counting 40 managers, and using simple random sampling 180 employees were selected as the study samples based on the sample size determining table of Morgan and Karajcy. The evaluation tools were Electronic learning questionnaires and the Benitez standard questionnaire of intellectual capital, and the reliability for the intellectual questionnaire and organizational learning questionnaire were evaluated 0.95 and 0.94 respectively. Results showed that there is a relationship between electronic learning and intellectual capital.

**Index Terms**— electronic learning, intellectual capital, special economic zone of Abadan port

## I. INTRODUCTION

The wide approach towards electronic learning and education shows this evidence that the system of E-learning and education has exclusive advantages and benefits for the people in the organization and educational centers. E-learning by applying the latest achievements and information and

technology has created a new approach and provided bright horizons in education. Nowadays,

every organization which is able to communicate faster with the work resources, costumers and their

agents, and make then aware of the latest changes and academic achievements is the winner of the competition and is ahead of its rivals (Yaghoubi, 2008)

In this research the relationship between E-learning and intellectual capital and its dimension is applied.

### A. Literature review

Learning is the main origin of competitive advantage. Learning is for changing; on the other word, in each organization should turn into evolution and positive evolution should also turn into habit. In this regard, successful organizations have given special points and strategies as their priorities in economic activities in order to achieve their goals, among which loyalty to the principle of customers' service and having the organizational culture with insight could be mentioned. Nowadays a correct management of human

resources is important to such an extent that other management items are put for next steps, and for training human resources creating conditions which grows the learning organization is necessary. The intangible aspect of economy is based on intellectual capital and its first and main material is knowledge and learning capability. In other words it can be said that management of intellectual capitals leads the organizations and institutions to more successes in the future horizons of competitive markets and credit reliability. In the present era intellectual capital is turned into a vital drive for the credit stability of a system in the present competitive environment [6]. On the other word, intellectual capital is a set of knowledge based assets which belongs to an organization and is considered as its properties and through adding values to the key stakeholders of the organization considerably improves the competitive situation of the organization [11].

Intellectual capital dimensions are:

Human capitals: human capitals are defined as the individual knowledge, skills, capabilities and experience of the staff of the organization to create value and solve the problems of the organization [13]. Most theorists who have set the human capital as their objective, have considered it at the individual level, and some what have seen it as a combination of knowledge, skills, intelligence and talent of the individual regardless of what is present in the organization. Intellectual capital of an organization is considered as the knowledge and skills of the experts of that organization in order to present professional services [15].

Structural capital: structural capital points to the existing structures and processes within an organization that the staffs use them and this way apply their knowledge and skills [15]. This capital includes the mechanisms and structures which its role is mainly on supporting the staff to achieve the optimum intellectual performance and on the other hand optimum performance in work and business. In fact this capital includes all inhuman knowledge reservoirs in an organization like data base, processes, strategies and organizational charts which gives the organization values above its physical assets [6].

Communicational capital (customer): the origin of communicational capital is known as the relationship between the members in a special group or class. While the communication between people is introduced as a key factor, the level of this communication is greatly different with the studies by the others. Paning has had a wider view and has

known it as the communication with different economic stakeholders, and in particular its potential customers. This kind of communication is formed in different paths, this capital is considered as part of the intellectual capital as the embedded and existing value in the marketing and communicational channels through which the organizations guide their work and business (Bounfer, 2003).

[14] believes: the reason behind the failure of the organizations in learning is that they have failed in relation to the continuous development of its staff and organizational learning. He presented a model to apply the real organizational learning in the organization and emphasized on the role of the assessors in redefining the organizational learning and also the experts in developing the human resources in the improvement and success of the organizational learning process. [16] studied and evaluated the effects of social, human, and structural capital on knowledge production and its effects on the diversity of the technical knowledge, which its results are: firstly it is probed that intellectual capital is a phenomenon resulted from the relationship, and secondly, it is proved that the diversity of technical knowledge is a phenomenon resulting from moderations. Eventually, all the dimensions of intellectual capital are positive and to a great extent are under the influence of knowledge production. [12] applies to this issue that: in the present knowledge-based economy, the assets have undergone deep changes and the pool of economy is full of intangible renewing assets which require a success that the organization could achieve and strengthen their existence. In the organization the spiritual capitals are in connection with the intellectual capitals; the element which is counted as the intangible assets and includes all the capitals which are structural, social, and human assets. Regarding the importance of the role of organizational assets, this research is a reflective and critical analysis on the importance of the intellectual capitals on the organizational performance and its reflection in the society. [10] has also applied to this issue that: management of the human capital has always attracted sympathetic researchers. Managers have invested long time to find the best way to make money from the human capital. In today's era of knowledge, identification and recognition of the intellectual capital vectors and frameworks related to organizational processing is necessary. [2] studied the role of organizational learning in the creation of intellectual capital in Estban Pars industrial company. In the knowledge-based economy, intellectual capital is used to create and enhance the organizational value and the success of the organization depends on its ability in managing these rare resources. Additionally, an important organizational capability which could help the organizations in knowledge creation and sharing and provide them stable advantages compared to the other organizations is organizational learning. Results of the present study showed that in this company there is a positive and significant relationship between organizational learning and their intellectual capital. On the other words, the higher the organizational learning, the higher is the intellectual capital in the human, structural, and communicational dimensions.

### B. Methodology

The present study is practical regarding its objectives, and is a correlational study regarding the descriptive methodology. To evaluate the intellectual capital management, the Benites standard questionnaire on intellectual capital was used including 52 questions regarding its human, structural, and communicational (customer) dimensions.

Results of the statistical calculations with the Cronbach's alpha method in order to assess the internal consistency coefficient of the questions showed that this questionnaire had an internal consistency coefficient of 0.95 which shows a very high internal consistency of the questions; and the assessing tool for electronic learning was the questionnaire used by [5] in their study which includes 26 questions which was modified by distributing 20 questionnaires and its reliability was 0.84.

### C. Results

**First hypothesis:** there is a relationship between electronic learning and intellectual capital

Table 1: Correlation coefficient between electronic learning and intellectual capital

Correlation coefficient	Intellectual capital	
	P	R
Electronic learning	0.000	0.46

According to table 1, the correlation coefficient between electronic learning and intellectual capital is significant at the level of  $p \leq 0.05$ ; therefore there is a relationship between electronic learning and intellectual capital.

**Second hypothesis:** there is a relationship between electronic learning and human capital

Table 2: Correlation coefficient between electronic learning and human capital

Correlation coefficient	HUMAN capital	
	P	R
Electronic learning	0.000	0.216

According to table 2, the correlation coefficient between electronic learning and human capital is significant at the level of  $p \leq 0.05$ ; therefore there is a relationship between electronic learning and human capital.

**Third hypothesis:** there is a relationship between information quality and effectiveness of electronic learning

Table 3: Correlation coefficient between electronic learning and structural capital

Correlation coefficient	Structural capital	
	P	R

Electronic learning	0.000	0.312
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According to table 3, the correlation coefficient between structural learning and intellectual capital is significant at the level of  $p \leq 0.05$ ; therefore there is a relationship between electronic learning and structural capital.

**Fourth hypothesis:** there is a relationship between the feedback from the learners and electronic learning

Table 4: Correlation coefficient between electronic learning and communicational capital

Correlation coefficient	communicational capital	
	P	R
Electronic learning	0.000	0.246

According to table 4, the correlation coefficient between electronic learning and communicational capital is significant at the level of  $p \leq 0.05$ ; therefore there is a relationship between electronic learning and communicational capital.

## II. CONCLUSION

Results of the present study showed that there is a relationship between electronic learning and the dimensions of intellectual capital. [1] stated that there is a positive and significant relationship between communicational capital (customer) and knowledge management. [4] also stated that: there is a significant relationship between communicational capital (customer) and organizational performance, and also between structural capital and organizational performance; Matrines (2009) confirms the results by [4]. [8] says that: knowledge management application in the light of organizational learning in the universities raises their performances. According to George Claudiu (2006) knows the challenges facing the organizations in a dynamic economy due to non-using the intangible assets and intellectual capitals. [10] expresses that in today's era of knowledge, identification and recognition of intellectual capital vectors and frameworks related to organizational technologies is necessary. The research by [1] is in consistency and aligned with the present study, which its results show that: organizational learning has a positive effect on the intellectual capital of the organizations. additionally, individual learning has a positive effect on human capital, group learning on communicational capital (customer), and organizational learning has effect on structural capital; which is exactly in conformity with the results of the present research and is confirming the path analytical model of the present research, and also all the mentioned researches are in conformity and consistent with the results of the present study.

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