E3 Journal of Business Management and Economics Vol. 3(6). pp. 242-257, June, 2012
Available online http://www.e3journals.org
ISSN 2141-7482 © E3 Journals 2012

Full Length Research

Organizational memory impact on Intellectual capital: Case study - Gaza power generating company

Wasim Ismail Al-Habil[1*] and Ala'Edein Koraz[2]

[1]College of Commerce, The Islamic University of Gaza, Gaza, Palestine
[2]Gaza Power Generating Company, Gaza, Palestine

Accepted 20 April, 2012

This study aimed to highlight the concepts of organizational memory and intellectual capital and to investigate the impact of organizational memory on intellectual capital by the staff of Gaza Power Generating Company. Using the qualitative analytical approach, the study used an adaptable model generated to represent the organizational memory through the experiences, data archiving systems, standard operating procedures, organization's policies and the learning facilities to investigate the impact of these elements on the intellectual capital through its main components; human capital and structural capital. A questionnaire was developed and tested by a pilot study and then distributed to a sample consisting of 106 employees where a 92% response rate was achieved. The collected data was analyzed by statistical methods and manipulated through the SPSS software. The results showed that organizational memory and policies influence the intellectual capital. The study recommended the necessity of creating the awareness of the organizational memory at the organizations and it's great role in the development of the intellectual capital and to setup structured and organized systems for its elements.

Key words: organizational memory; intellectual capital; Gaza Power Generating Company

INTRODUCTION

Performance improvement at most organizations is not depending only on the successful deployment of tangible assets and natural resources but also on the effectiveness of the intellectual resources which almost became the most important assets that the organization may gain (Conklin, 2001). So the economic value became largely based on the intangible resources and capabilities presented by the intellectual resources which gain its importance from being the key resource of value creation in the recent knowledge economy, where the Intellectual Capital (IC) framework consists of Human Capital (HC), Structural Capital (SC), and Relational Capital (RC) (Choong, 2008).

*Corresponding author. E-mail: walahabil@iugaza.edu.ps

On the other hand, learning processes are imbedded in the organizational culture that allows and encourages learning at the individual, group and organizational levels, allow learning to be transferred between these levels, and examine how organizations learn and thus increase their competitive advantage, innovativeness, and effectiveness (Abel, 2008). It can be regarded as the explicit and persistent representation of knowledge and information in an organization in order to "facilitate access and reuse by members of the organization for their tasks" (Abel, 2008). OM is sometimes called institutional or corporate memory and defined as the accumulated body of data, information, and knowledge created in the course of an individual organization's existence (Guerrero and Pino, 1999). "OM is a branch of collective memory studies tied to instrumental action which seeks to enhance the organization's IC by aiding

organization in using both routines, practices and imbedded information to anticipate and solve problems" (Wexler, 2002, p.393). It should include direct experiences and observations of individuals in a suitable format that matches individuals cognitive orientation and value systems (Lin and Lin, 2000).In Palestine, the Gaza Power Generating Company (GPGC) uses many tools that can be categorized as the accumulated body of knowledge, information, and data such as individual's experiences, data archiving systems, Standard Operating Procedure's (SOP's), the organization's policies, the learning facilities and others which all together form the OM of the organization. The study aims to investigate the influence of OM on IC resources, so the research problem can be summarized by answering the following question:"What is the impact of the organizational memory on the intellectual capital at Gaza Power Generating Company?"

Research objectives

The research pursues to achieve the following objectives:Identify, highlight, and characterize the concepts of OM and IC.Create the awareness of the importance of OM and IC at organizations.
Investigate and study the OM elements at Gaza Power Generating Company.

Research hypotheses

To examine the impact of the organization memory on the intellectual capital, the following hypotheses are formulated:

There is a statistical significant effect of the organizational memory on the intellectual capital.

And hence the sub-hypotheses are generated as fellows: There is a statistical significant effect of the organizational memory (Experience) on the intellectual capital (Human Capital).There is a statistical significant effect of the organizational memory (Experience) on the intellectual capital (Structure Capital).There is a statistical significant effect of the organizational memory (Data archiving systems) on the intellectual capital (Human Capital).There is a statistical significant effect of the organizational memory (Standards operation procedures) on the intellectual capital (Human Capital).There is a statistical significant effect of the organizational memory (Organization's policies) on the intellectual capital (Human Capital).There is a statistical significant effect of the organizational memory (Organization's policies) onthe intellectual capital (Structure Capital).

There is a statistical significant effect of the organizational memory (Learning) on the intellectual capital (Human Capital.There is a statistical significant effect of the organizational memory (Learning) on the intellectual capital (Structure Capital).There are significant differences among the respondents' answers regarding the impact of organizational memory on intellectual capital due to the individual characteristics.

Organization memory: It is defined as "the means by which knowledge from the past is brought to bear on present activities, thus resulting in higher or lower levels of organizational effectiveness" (Jennex, 2002). OM is sometimes called institutional or corporate memory and defined as the accumulated body of data, information, and knowledge created in the course of an individual organization's existence (Guerrero, 1999).

Organizational memory components: Knowledge is the core of OM. Internal organizational knowledge and external knowledge are sources of organizational knowledge. Organizational knowledge embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms (Li, 2004).

Intellectual capital: It is the total of all intangible assets (intangibles) in an organization (Hofmann, 2008). It's falling into three forms, human, structure and relational capital (Wexler, 2002). HC represents the individual tacit knowledge embedded in the mind of the employees, SC deals with the system and structure of an enterprise, RC, an essential part of IC and it's the value embedded in the marketing channels and relationships that an enterprise develops by conducting business (Amiri, 2010).

Classifications of Intellectual Capital
The IC has been classified by researchers into three main parts, HC, structural capital (SC) and Relational capital (RC) (Cheng, 2001).

Human capital: The organization's members possess individual tacit knowledge. In order to illustrate the degree to which tacit knowledge characterizes the HC of an organization, it is useful to conceive of the organization as a productive process that receives tangible and informational inputs from the environment, produces tangible and informational outputs that enter the environment, and is characterized internally by a series of flows among a network of nodes and ties or links (Bontis, 1998).

Structural capital: The organization itself embodies structural tacit knowledge, which exists in the myriads of relationships that enable the organization to function in a coordinated way, but are reasonably understood by at most the participants in the relationship, this means that, the organization is accomplishing its aims by following rules that are not known as such to most of the participants in the organization (Bontis, 1998).

Relational capital:Increasingly fierce competition and demanding customers make it necessary to include as many participants from the value added chain into the process of planning and production as possible. This way information and knowledge can be exchanged, value creation efficiency increased and survival in the market ensured. Many companies still do not realize how important the high quality multilateral relationships are and therefore they miss the benefits of the synergy effects, which are of great relevance (Zagreb, 2007).

Organizational memory variables

Experience: Experience is the accumulated knowledge, skills, observations, capabilities and qualifications gained by the employee through his work life (IAQG, 2008).

Archiving: Archiving provides a store of data and enables the enterprise to provide a level of structure to growing volumes of unstructured data. It does this by providing a systematic and automated approach to storing, managing and searching for files, e-mails, instant messages, event, transactions and other applications.

Standards operation procedures (SOPs): SOPs describes a set of procedures to perform a given operation or evolution or in reaction to a certain events during the operation processes. It's a set of written instructions that document a routine or repetitive activity followed by an organization (US Office of Environmental, 2007).

Organization's policies: They are the principles or rules to guide decisions and achieve rational outcomes, it can be considered as a "Statement of Intent" or a "Commitment" so policies are mechanisms arranged to reach explicit goals. These are directly derived from corporate goals and thus embody aspects of strategic business management rather than aspects of technology oriented management (Toulouse, 1994, Berl, 2005).

Learning: Learning is any act or experience that has a formative effect on the mind, character or physical ability of an individual. In its technical sense, learning is the process by which society deliberately transmits its accumulated knowledge, skills and values. It's a product of interaction (Tanya, 2011).

Gaza power generating company

Gaza Power Generating Company (GPGC) is a Palestinian company located at the middle of Gaza strip providing the electricity power generation service to its unique and sole customer; PENRA, where PENRA redistribute and resell the generated power to the public through Gaza Electricity Distribution Company (GEDCO). The company, established in 1999, owns and operated the first Palestinian power generating company in Palestine. The company with the $150 million value is a public owned company whereby the public shareholders are represent 33% and the Palestinian private shareholders represents 67% (Company annual report, 2007). The company has been privileged to have a team of dedicated employees who view this project as the development of their own dream. The company management's determination in employing local staff has been successful and GPGC have reached complete recruitment with 100% of the staff from Palestinian origin. GPGC currently employs 169 workers consisting of administration and management staff, technical staff, engineers, power plant technicians and security workers. The company staff consists of 169 employees, 20 are working in the management and commercial fields where 149 are working in operation, maintenance and technical supports.

LITERATURE REVIEW

Arabic studies: "The training and its effect on the intellectual capital development at the national Palestinian authority"

Hamada (2010) showed that a study at the National Palestinian Authority, which highlighting the impact of training on development of the IC and its indicators; capabilities and qualifications, knowledge, behaviors and orientation. The findings reveal that the training has a positive and effective impact on IC through the knowledge improvement, capabilities and qualification improvement, individuals' behaviors and orientations.

Relationship between intellectual capital and value creation

The study aimed to highlighting the role of IC and how it's important to create the organization's value. The study also concluded that IC can't be established by the investment volume, but through the intangible value of

the organization since this value is coming from the employees' mind toward innovation and that requires suitable organization climate to provide the main requirements for strong and healthy relations between the management and the workforce (Al Fadel 2009). .

The intellectual capital and knowledge management: Relation and effect"

The study investigates the impact of IC on the KM in the governmental banking sector at El-Dywania in Iraq and studies if the governmental banks' systems have the IC that allow the organizations to implement the full utilization of its experiences. The study found that the IC is affecting KM through the knowledge; both types tacit and explicit, where the actual present of the tacit knowledge is proportional according to the management support (Atteiah 2008).

Impact of intellectual capital on innovation

The research aimed to highlight the effects of IC dimensions; HC, SC and RC on the innovation in the public electric industrial company and to examine these relations. The study concluded that there is no significant effect between HC and innovation at the company and no significant effect between RC and innovation. However, there is a significant effect between SC and innovation at the company (Kazem, Abdallah 2008).

Relation between intellectual capital and value creation

The research is a theoretical, critical analytical study for IC and its components, parts, measurement procedures, and the basis followed in its evaluation. It's also a criticizing study to analyze the models used in evaluating IC at business firms. The study provided that IC became occupying 90% from the investment in the business sector while it's controlled and governed by policies, strategies, and rules (Yousef and Abdel 2005).

Foreign studies

Competitive advantage: Mediator of intellectual capital and performance

The paper aimed to examine the mediating effect of competitive advantage in the relationship between IC and financial performance in Uganda's microfinance institutions. The findings indicate that mediating effect of competitive advantage on the relationship between IC and firm performance satisfies the conditions of mediation. The study argues this is true because the uniqueness of intellectual assets that reside in an organization can put it in a better competitive position (Kamukama et al., 2011).

OL, knowledge management and intellectual capital: An integration conceptual model"

The purpose of this theoretical paper is to provide a conceptual model that integrates OL, KM, and IC and establishes a theoretical link between these constructs and performance. A framework of the integration of OL, KM and IC and their link to performance is offered. The study concluded that to clear up the conceptual confusion in the learning field it is necessary to provide synthesis and integrate the three closely together (Vera and Crossan 2011).

Intellectual capital and knowledge productivity: The taiwan biotech industry

The purpose of this paper is to examine and test the effects of HC, SC, and social capital (RC) on knowledge productivity and the interactive effects between IC and knowledge productivity. This study proves that IC is a phenomenon of interactions. All dimensions of IC positively and significantly influence knowledge productivity. The study proves there are interactive effects between the components of IC and provides evidence of the critical role that IC plays in explaining knowledge productivity (Huang and Wu 2010).

Understanding organizational memory

The paper presented a review of some OM models as well as some systems intended to manage part of the information stored in it. It argues that the OM models and definitions can be found in the literature and most models are complex or too general to directly build a system to manage them and to capture significant information, organize it and make it available to people who need it (Guerrero and Pino 2010).

Increasing the intellectual capital in organization: Examining the role of organization learning

The purpose of the study is to investigate empirically the relation between the OL and IC components in industrial businesses in Iran. The results of the research indicated that OL has positive and important effects on IC in general and also on each of IC elements; HC, SC and RC (Amiri et al., 2010).

How intellectual capital and learning organization can foster organizational competitiveness

This paper is a theoretical study aiming to review the IC concept among organizations and employees generally, it looks for the IC concept in management sphere since the IC can be regarded as the hidden value of an organization. The study discussed IC and states burgeoning field of IC as an exciting area for both researchers and practitioners, the importance of IC in recognizing changes in the worth of their business and ultimately in balance sheets comes. The study concluded that IC is a firm's source of competitive advantage to become knowledge driven, companies must learn how to recognize changes in IC in the worth of their business and ultimately in their balance sheets (Vargas and Noruzi 2010).

Organizational memory: an approach from knowledge management and quality management of organizational learning perspectives

The study presented three main categories; (1) the contributions to a coherent point of view regarding the OM from the perspective of the principles of quality management of services associated to OL and based upon KM, (2) the analysis of the main quality models that may be employed in OL related services and (3) the perception of successful organizational factors in the field of KM based training services amongst Romanian companies and institutions. The research revealed a possibility that many organizations have not implemented a quality management system (Vrinciannu et al., 2009).

Intellectual capital and innovation performance: Empirical evidence in the Turkish automotive supplier

The study aimed to investigate the influence of IC of Turkish automotive supplier industry upon their innovation performance. This study examined three elements of IC; HC, SC and RC and the researchers looked to detect the relationship between IC elements and innovation performance. The results indicated that the higher the growth rate of an industry, the stronger were the positive relationships between three types of IC and innovation performance (Zerenler et al., 2008).

Core competence and core rigidity: Organizational memory perspective

This theoretical study aims to explain the core competence and core rigidity from OM perspective. The study stated that organizations, in a hypercompetitive environment, continuously learn,accumulate, and store knowledge to build organizational capability, and to sustain competitive advantage. However, they do face the paradox of core capability and core rigidity, which causes structure inertia and resistance to change. The study concluded that OM perspective provides insight to expand existing knowledge of core capability and core rigidity (Tsai et al., 2007).

RESEARCH METHODOLOGY

The research adopted the analytical descriptive technique to sustain quantitative and qualitative measurement and analysis.

Population and sample

The target population of this study is the employees at GPGC who are working in the major operating functions, while excluding the general supporting works employees such as general services and security and uneducated ones. The total number of employees is 169, while the target population was represented by 106 employees. A total of 106 questionnaires were distributed and the researchers received 98 questionnaires forming a response rate of 92%.

Research instruments

The research main instrument is a survey questionnaire consisted mainly from two parts; first the socio-demographic data about the respondents such as the age, years of experience, vacancy level and the education level, the second part was consisting from 8 divisions, each is to detect the impact of one of OM elements on one of IC branches; HC or SC. In this research, numerical scale 1-10 is used where “1” indicate the lowest acceptance (absolute disagreement), while “10” indicate the highest acceptance (absolute agreement). The questionnaire was formulated in Arabic and then back translated to English after it has been refereed by the experts and academic team.

Data validity and reliability test

The questionnaire validity has been examined and measured by two methods

The experts validation: The questionnaire was evaluated by number of academic experts and the company itself and the final questionnaire has been modified as per the experts’ recommendations.

Pilot study: A pilot study was conducted to assess reliability of the questionnaire. Therefore, the

Table 1: Test of Normality

Field	Kolmogorov-Smirnov	
	Statistic	**P-value**
Experience - Human capital	0.743	0.638
Experience - Structure capital	0.739	0.646
Data archiving systems - Human capital	0.8	0.543
Standards operation procedures - Human capital	0.501	0.963
Organization's policies - Human capital	0.577	0.894
Organization's policies - Structure capital	0.721	0.676
Learning - Human capital	0.406	0.996
Learning - Structure capital	0.724	0.671
All paragraphs of the questionnaire	0.756	0.618

Table 2: Cronbach's Alpha for each filed of the questionnaire and the entire questionnaire

Field	Cronbach's Alpha
Experience - Human capital	0.778
Experience - Structure capital	0.9
Data archiving systems - Human capital	0.93
Standards operation procedures - Human capital	0.884
Organization's policies - Human capital	0.916
Organization's policies - Structure capital	0.934
Learning - Human capital	0.86
Learning - Structure capital	0.906
All paragraphs of the questionnaire	0.977

	Split Half Method	
Field	**Correlation Coefficient**	**Spearman-Brown Correlation Coefficient**
Experience - Human capital	0.737	0.849
Experience - Structure capital	0.864	0.928
Data archiving systems - Human capital	0.919	0.958
Standards operation procedures - Human capital	0.888	0.941
Organization's policies - Human capital	0.805	0.893
Organization's policies - Structure capital	0.938	0.968
Learning - Human capital	0.864	0.928
Learning - Structure capital	0.784	0.88
All paragraphs of the questionnaire	0.968	0.984

questionnaire was distributed on a random sample consisting of 30 respondents from the study population. It provides a trial run for the questionnaire, which involves testing the wordings of question, identifying ambiguous questions, testing the techniques that used to collect data, and measuring the effectiveness of standard invitation to respondents.

Test of normality: Table 1 shows the results for Kolmogorov-Smirnov test of normality. The p-value for each field is greater than 0.05 level of significance, then the distribution for each field is normally distributed.

Reliability of the research: Table 2 shows the values of Cronbach's Alpha for each filed of the questionnaire

Table 3: distribution of participants' age, education, positions, and experiences

Age	Frequency	Percent	Education	Frequency	Percent	Position	Frequency	Percent	Experience	Frequency	Percent
Less than 30	5	5.1	Secondary Certificate or less	8	8.2	Technician or less	24	24.5	Less than 5	10	10.2
30 – Less than 40	46	46.9	Diploma	21	21.4	Engineer / Admin	45	45.9	5 – Less than 10	17	17.3
40–Less than 50	28	28.6	Bachelor	66	67.3	Supervisor	19	19.4	10–Less than 20	38	38.8
More than 50	19	19.4	Higher education	3	3.1	Deputy manager or higher	10	10.2	More than 20	33	33.7
Total	**98**	**100**	**Total**	**98**	**100**	**Total**	**98**	**100**	**Total**	**98**	**100**

and the entire questionnaire. For the fields, values of Cronbach's Alpha were in the range from 0.778 and 0.934. This range is considered high; the result ensures the reliability of each field of the questionnaire. Cronbach's Alpha equals 0.977 for the entire questionnaire which indicates an excellent reliability of the entire questionnaire.

Personal traits: Table 3 is showing the age, education, positions, experience distribution among the sample participants.

Analyzing the dimensions of the questionnaire

The main hypothesis stated that, there is a statistical significant effect of the organizational memory on the intellectual capital at 0.05 level. It was divided into the following sub hypotheses (Dimensions).

There is a statistical significant effect of the organizational memory (experience) on the intellectual capital (Human Capital) at 0.05 level: Table 4 shows that the mean of paragraph #8 "Leadership and responsibility" equals (81.9%), Test-value = 14.9, and P-value = 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this paragraph is significantly greater than the hypothesized value 6. We conclude that the respondents agreed to this paragraph.The analysis results shows 77.6% of the GPGC staff agreed for the presence of the impact of the experience on HC, this reveals that, the experience is an effective tool to represent OM and it has a direct effect on improving HC and hence IC. Improving the staff's experience will prevent the organizations' data, information and history form lost and retain it for future reuse. As a result the experience will contribute in raising the organization's value.

The findings are consistent with study of Hamada (2010) which shows the importance of training and how it affects IC through improving the experiences. This result agrees with the study of Kazem (2008) which found the effect of innovation as a direct output of experience on IC. In addition, this agrees with the study of Yousef (2005) which shows how value creation is generated and affected by the experience and affecting IC. Moreover, the current study agrees with the study of Zerenler (2008) which found the effect of innovation performance that has an indirect effect of experience on IC. Finally, the result agrees with the study of Wexler (2002) which concluded that the impact of OM including the experience has an effect on IC.

There is a statistical significant effect of the organizational memory (experience) on the intellectual capital (Structural Capital) at 0.05 level: Table 5 shows 78.3% of the GPGC staff agreed for the presence of the impact of the experience on SC, this reveals that, the experience is an effective tool to represent OM and it has a direct effect on improving SC and hence IC. Improving the staff's experience will prevent the organizations' data, information and history form lost and retain it for future reuse. As a result the experience will contribute in raising the organization's value.

The findings are consistent with Hamada (2010) which shows the importance of training and how it affects IC through improving the experiences. The result agrees with the study of Yousef (2005) which shows how value

Table 4: Means and Test values for "Experience - Human Capital"

Field	Mean	Proportional mean	Test value	P-value (Sig.)	Rank
Personal skills	8.09	80.9	14.1	0.000*	2
Performance efficiency	8	80	12.6	0.000*	4
Knowledge	8.03	80.3	14.5	0.000*	3
Innovation	7.73	77.3	11.8	0.000*	6
Satisfaction and Loyalty	7.21	72.1	7	0.000*	7
Self-learning skills	7.78	77.8	16.9	0.000*	5
Values and Believes	7.09	70.9	7.4	0.000*	8
Leadership and responsibility	8.19	81.9	14.9	0.000*	1
All paragraphs of the filed" Experience - Human capital"	7.76	77.6	18.1	0.000*	

* The mean is significantly different from 6

Table 5: Means and Test values for "Experience - Structure Capital"

Field	Mean	Proportional mean	Test value	P-value (Sig.)	Rank
Quality Management	8.58	85.8	19.5	0.000*	1
Competitive Advantages	8.08	80.8	13.8	0.000*	4
Investors' Trustee & Organization Reputation	8.21	82.1	15	0.000*	3
Organization's Structure	7.6	76	10.4	0.000*	6
Employee's Behavior	7.23	72.3	8.1	0.000*	9
Knowledge Management	7.47	74.7	11.2	0.000*	7
Cooperation and Teamwork	7.69	76.9	10.6	0.000*	5
Organizational Culture	7.35	73.5	8.1	0.000*	8
Risk Avoidance	8.22	82.2	14	0.000*	2
All paragraphs of the filed " Experience - Structure capital"	7.83	78.3	16.7	0.000*	

* The mean is significantly different from 6

creation are generated through the experience and it's mutually affecting IC. Vera (2011) in his study agreed with the study findings where he concluded the impact of KM is compatible and integral with OM on IC. Also the finding is consistent with Vrinciannu (2009) who demonstrated the impact of KM on IC. In addition, Abel (2008) found the effect of competencies management which has an indirect effect of the experience on IC. Also, the finding is consistent with the study of Tasi (2007) which proved the effect of competencies on IC. Moreover, the current study is consistent with the study of Jennex (2002) which emphasized on the effect of productivity that has an indirect effect of the experience on IC. Finally, the study agrees with Wexler (2002) who found the impact of the experience on IC.

There is a statistical significant effect of the organizational memory (Data archiving systems) on the intellectual capital (Human Capital) at 0.05 level: Table 6 shows 71.2% of the GPGC staff agreed for the presence of the impact of the data archiving systems on HC, this reveals that, the data archiving systems is an

Table 6: Means and Test values for "Data archiving systems - Human Capital"

Field	Mean	Proportional mean	Test value	P-value (Sig.)	Rank
Practical Experience	7.88	78.8	12	0.000*	1
Personal skills	7.57	75.7	10.8	0.000*	2
Performance efficiency	7.47	74.7	10	0.000*	3
Knowledge	7.38	73.8	9	0.000*	4
Innovation	7.14	71.4	7.2	0.000*	5
Satisfaction and Loyalty	6.29	62.9	1.7	0.048*	9
Self-learning skills	7.13	71.3	7.1	0.000*	6
Values and Believes	6.33	63.3	1.9	0.034*	8
Leadership and responsibility	6.94	69.4	5.1	0.000*	7
All paragraphs of the filed "Data archiving systems - Human capital"	7.12	71.2	9.3	0.000*	

* The mean is significantly different from 6

Table 7: Means and Test values for "Standards operation procedures"

Field	Mean	Proportional mean	Test value	P-value (Sig.)	Rank
Practical Experience	7.99	79.9	16.7	0.000*	1
Personal skills	7.65	76.5	11.7	0.000*	3
Performance efficiency	7.86	78.6	15.2	0.000*	2
Knowledge	7.4	74	10.7	0.000*	4
Innovation	7.01	70.1	6.9	0.000*	7
Satisfaction and Loyalty	6.65	66.5	3.6	0.000*	9
Self-learning skills	7.16	71.6	8	0.000*	6
Values and Believes	6.76	67.6	4.7	0.000*	8
Leadership and responsibility	7.38	73.8	8	0.000*	5
All paragraphs of the filed " Standards operation procedures"	7.32	73.2	13.2	0.000*	

* The mean is significantly different from 6

effective tool to represent OM and it has a direct effect on improving HC and hence IC. Improving the organization's data archiving systems will prevent the organizations' data, information and history form lose and retain it for future reuse. As a result the data archiving systems will contribute in raising the organization's value.

The findings are consistent with Kazem (2008) who found the effect of innovation which has an indirect output of data archiving systems on IC. The findings also are consistent with the study of Zerenler (2008) which proved the impact of innovation performance on IC and the dependency of the innovation performance on the present of a prober data archiving system. Finally, the study agrees with the study of Wexler (2002) which showed the impact of OM including the data archiving systems on IC.

There is a statistical significant effect of the organizational memory (Standards operation procedures) on the intellectual capital (Human Capital) at 0.05 level: Table 7 shows 73.2% of the GPGC staff agreed for the presence of the impact of the SOP's on HC, this reveals that, SOP's is an effective tool to represent OM and it has a direct effect on improving HC and hence IC. Improving the organization's SOP's will prevent the organizations' data, information and history form lost and retain it for future reuse. As a result, SOP's will contribute in raising the organization's value.The findings are consistent with Kazem (2008) who found the effect of innovation is an indirect output of SOP's and has an effect on IC. The findings also are consistent with the study of Zerenler (2008) which demonstrated the impact of innovation performance on IC and the dependency of

Table 8: Means and Test Values for "Organization's Policies - Human Capital"

Field	Mean	Proportional mean	Test value	P-value (Sig.)	Rank
Practical Experience	8.34	83.4	17	0.000*	3
Personal skills	8.22	82.2	14.8	0.000*	5
Performance efficiency	8.4	84	16	0.000*	2
Knowledge	7.91	79.1	12.2	0.000*	6
Innovation	7.88	78.8	11.9	0.000*	7
Satisfaction and Loyalty	8.45	84.5	15.8	0.000*	1
Self-learning skills	7.82	78.2	14.7	0.000*	8
Values and Believes	7.63	76.3	10	0.000*	9
Leadership and responsibility	8.3	83	15.4	0.000*	4
All paragraphs of the filed "Organization's policies - Human capital:"	8.1	81	19.1	0.000*	

* The mean is significantly different from 6

the innovation performance on the present of a prober SOP's. Finally, the study agrees with the study of Wexler (2002) which proved the impact of OM including SOP's on IC.

There is a statistical significant effect of the organizational memory (Organization's policies) on the intellectual capital (Human Capital) at 0.05 level: Table (8) shows 81.0% of the GPGC staff agreed for the strong presence of the impact of the organization's policies on HC, this reveals that, the organization's policies is an effective tool to represent OM and it has a direct effect on improving HC and hence IC. Improving the organization's policies will prevent the organizations' data, information and history form lost and retain it for future reuse. As a result, the experience will contribute in raising the organization's value.The findings are consistent with Kazem (2008) who found the effect of innovation, which is an indirect output of organization's policies, on IC. The result also agrees with the study of Yousef (2005) which shows how value creation is generated by the organization's policies and how it's mutually affecting IC. The findings agree with the conclusions found in the study of Kamukama (2011) which emphasized on the competitive advantages for the knowledge productivity that is affected by the organization's policies and IC. In addition, the findings are consistent with Zerenler (2008) who found the effect of innovation performance has a direct effect of organization's policies on IC. Finally, the study agrees with Wexler (2002) who showed the impact of OM including the organization's policies on IC.

There is a statistical significant effect of the organizational memory (Organization's policies) on the intellectual capital (Structure Capital) at 0.05 level: Table 9 shows 81.0% of the GPGC staff agreed for the strong presence of the impact of the organization's policies on SC, this reveals that, the organization's policies is an effective tool to represent OM and it has a direct effect on improving SC and hence IC. Improving the organization's policies will prevent the organizations' data, information and history form lost and retain it for future reuse. As a result, the organization's policies will contribute in raising the organization's value. The findings are consistent with Attia (2008) who concluded the impact of KM is compatible with OM and it's a main result of the organization's policies on IC. The result also agrees with the study of Yousef (2005) which shows how value creation is generated by the organization's policies and how it's mutually affecting IC. The finding agrees with the conclusions found in the studies of Abel (2008) and Tasi (2007) which found the effect of competencies management is a result of the organization's policies on IC. Moreover, the finding of the study agreed with the study of Jennex (2002) which found the impact of the productivity on IC. Finally, the study agrees with Wexler (2002) who concluded the impact of OM including the organization's policies on IC.

There is a statistical significant effect of the organizational memory (Learning) on the intellectual capital (Human Capital) at 0.05 level: Table 10 shows 76.7.0% of the GPGC staff agreed for the presence of the impact of the learning on HC, this reveals that, the

Table 9: Means and Test Values for "Organization's Policies – Structure Capital"

Field	Mean	Proportional mean	Test value	P-value (Sig.)	Rank
Quality Management	8.32	83.2	13.8	0.000*	3
Competitive Advantages	8.34	83.4	14.4	0.000*	2
Investors' Trustee & Organization Reputation	8.42	84.2	15.9	0.000*	1
Organization's Structure	8.14	81.4	15	0.000*	5
Employee's Behavior	7.73	77.3	11.6	0.000*	8
Knowledge Management	7.69	76.9	11.6	0.000*	9
Cooperation and Teamwork	8.31	83.1	18.1	0.000*	4
Organizational Culture	7.99	79.9	13.4	0.000*	6
Risk Avoidance	7.96	79.6	13.1	0.000*	7
All paragraphs of the filed " Organization's policies - Structure capital"	8.1	81	17.8	0.000*	

* The mean is significantly different from 6

Table 10: Means and Test Values for "Learning - Human Capital"

Field	Mean	Proportional mean	Test value	P-value (Sig.)	Rank
Practical Experience	8.33	83.3	20.6	0.000*	1
Personal skills	8.07	80.7	15.4	0.000*	2
Performance efficiency	8.06	80.6	16.4	0.000*	3
Knowledge	7.76	77.6	13	0.000*	4
Innovation	7.68	76.8	11.6	0.000*	5
Satisfaction and Loyalty	7.14	71.4	7.7	0.000*	8
Self-learning skills	7.51	75.1	10.6	0.000*	7
Values and Believes	6.92	69.2	5.4	0.000*	9
Leadership and responsibility	7.6	76	10.4	0.000*	6
All paragraphs of the filed " Learning - Human capital"	7.67	76.7	17.5	0.000*	

* The mean is significantly different from 6

learning tools are an effective tools to represent OM and it has a direct effect on improving HC and hence IC. Improving the learning will prevent the organizations' data, information and history form lost and retain it for future reuse. As a result, the learning will contribute in raising the organization's value. The finding is consistent with Kazem (2008) who found the effect of innovation is a result of learning through IC. The findings agreed also with Huang (2010) who concluded the impact of Knowledge productivity is resulted from learning on IC. In addition, Amiri (2010) agreed with the findings of the study where he concluded the integration between OL and IC.

The findings are consistent also with Vergas (2010) who shows that OL is directly affecting IC. Moreover, Olsevicova (2003) agreed with the findings of the current study since he concluded the integration between learning management and IC is clear. Finally, the study agrees with Wexler (2002) who concluded there is an impact of OM including the learning on IC.

There is a statistical significant effect of the organizational memory (Learning) on the intellectual capital (Structural Capital) at 0.05 level: Table 11 shows 75.3% of the GPGC staff agreed for the presence of the impact of the learning on SC, this reveals that, the learning tools are an effective tools to represent OM and it has a direct effect on improving SC and hence IC. Improving the learning will prevent the organizations' data, information and history form lost and retain it for future reuse. As a result, the learning will contribute in raising the organization's value.The findings are consistent with Vera (2011) who concluded the impact of KM is compatible with OM and consequently on the

Table 11: Means and Test Values for "Learning - Structure Capital"

Field	Mean	Proportional mean	Test value	P-value (Sig.)	Rank
Quality Management	7.97	79.7	14.9	0.000*	1
Competitive Advantages	7.83	78.3	14.6	0.000*	2
Investors' Trustee & Organization Reputation	7.66	76.6	11.5	0.000*	3
Organization's Structure	7.37	73.7	10.2	0.000*	7
Employee's Behavior	7.02	70.2	7.1	0.000*	9
Knowledge Management	7.37	73.7	9.3	0.000*	7
Cooperation and Teamwork	7.58	75.8	10.5	0.000*	5
Organizational Culture	7.39	73.9	9.5	0.000*	6
Risk Avoidance	7.59	75.9	10.7	0.000*	4
All paragraphs of the filed " Learning - Structure capital"	7.53	75.3	15	0.000*	

* The mean is significantly different from 6

Table 12: Means and Test Values for "All Paragraphs of the Questionnaire"

field	Mean	Proportional mean %	Test value	P-value (Sig.)
All paragraphs of the questionnaire " organizational memory"	7.68	76.8	19.8	0.000*

* The mean is significantly different from 6

learning of IC. The finding also is consistent with Huang (2010) who proved the impact of Knowledge productivity is affected by the learning of IC. In addition, Amiri (2010) agreed with this findings where he demonstrated the integration between OL and IC. The finding is consistent also with the study of Vergas (2010) which shows OL is affecting IC. Moreover, Vrinciannu (2009) concluded the impact of KM is compatible with the learning of IC. The finding is consistent also with Tasi (2007) who found the effect of competencies as a direct result of the learning on IC.

The finding of the current study agrees with Jennex (2002) who shows the effect of productivity is resulted from the learning on IC. Finally, the study agrees with Wexler (2002) who proved the impact of OM including the learning on IC.

There is a statistical significant effect of the organizational memory on the intellectual capital at 0.05 level: Table 12 shows that the mean of all paragraphs of the questionnaire equals (76.8%), Test-value =19.8, and P-value=0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of all paragraphs of the questionnaire is significantly greater than the hypothesized value 6. We conclude that the respondents agreed to all paragraphs of the questionnaire.The finding is consistent with the study of Attia (2008) where he concluded the impact of KM is compatible with OM on IC. The finding of the study also is consistent with Kamukama (2011) since he improved the immediate competitive advantages for the knowledge productivity reflects the effect of OM and IC. The outputs of the study agreed with the study of Vera (2011) which concluded the impact of KM is a compatible concept with OM and IC. In addition, Huang (2010) concluded the impact of Knowledge productivity is affected by OM and IC. The finding is consistent also with the findings of Vrinciannu (2009) who shows the impact of KM on IC. Moreover, Curado's findings (2003) show the impact of KM on IC. Finally, Zhou (2003) and Wexler (2002) demonstrated the impact of KM on IC.

There are no significant statistical differences at significant level (α=0.05) among the respondents' answers regarding the Impact of Organizational Memory on Intellectual Capital Case Study – Gaza Power Generating Company due to the individual characteristics (Age, Education, Position and Years of Experience):

Age: Table 13 shows that the p-value (Sig.) is smaller than the level of significance α = 0.05 for the fields "Experience - Human Capital, Standards operation procedures, Organization's policies - Structure Capital, and all paragraphs of the questionnaire together", then there is significant difference among respondents' answers toward these fields due to Age. The study

Table 13: ANOVA Test of the Fields and Their p-values for “Age"

Field	Test Value	Sig.
Experience - Human capital	3.228	0.044*
Experience - Structure capital	2.969	0.056
Data archiving systems - Human capital	2.367	0.099
Standards operation procedures - Human capital	5.362	0.006*
Organization’s policies - Human capital	2.391	0.097
Organization’s policies - Structure capital	3.265	0.043*
Learning - Human capital	1.984	0.143
Learning - Structure capital	0.948	0.391
All paragraphs of the questionnaire	3.564	0.032*

* The mean difference is significant a 0.05 level

Table 14: ANOVA Test of the Fields and heir p-values for Education

Field	Test Value	Sig.
Experience - Human capital	1.122	0.33
Experience - Structure capital	1.517	0.225
Data archiving systems - Human capital	1.389	0.254
Standards operation procedures - Human capital	0.488	0.615
Organization’s policies - Human capital	1.146	0.322
Organization’s policies - Structure capital	2.526	0.085
Learning - Human capital	1.129	0.328
Learning - Structure capital	0.978	0.38
All paragraphs of the questionnaire	1.892	0.156

concluded that the personal trait age has an effect on these fields.

Education: There are no significant statistical differences at significant level (α=0.05) among the respondents'answers regarding the Impact of Organizational Memory on Intellectual Capital Case Study – Gaza Power Generating Company due to Education.

Table 14 shows that the personal trait Education has no effect on these fields. That means that all the employees believe with effectiveness of OM on IC regardless the education level.

Position: There are no significant statistical differences at significant level (α=0.05) among the respondents' answers regarding the Impact of Organizational Memory on Intellectual Capital Case Study – Gaza Power Generating Company due to position. Table 15 shows conclude that the personal trait Position has no effect on these fields.

Experience: There are no significant statistical differences at significant level (α=0.05) among the respondents' answers regarding the Impact of Organizational Memory on Intellectual Capital Case Study – Gaza Power Generating Company due to Years of experience. Table 16 concludes that the personal trait Years of Experience has an effect on these fields.

Conclusions

This research investigates the impact of OM on IC through an empirical study of the employees at GPGC. Five elements of OM (experience, data archiving

Table 15: ANOVA Test of the Fields and their p-values for Position

Field	Test Value	Sig.
Experience - Human capital	0.124	0.946
Experience - Structure capital	0.621	0.603
Data archiving systems - Human capital	0.224	0.88
Standards operation procedures - Human capital	0.219	0.883
Organization's policies - Human capital	1.079	0.362
Organization's policies - Structure capital	1.094	0.356
Learning - Human capital	1.019	0.388
Learning - Structure capital	0.379	0.768
All paragraphs of the questionnaire	0.484	0.694

Table 17: ANOVA Test of the Fields and their p-values for Years of Experience

Field	Test Value	Sig.
Experience - Human capital	3.137	0.029*
Experience - Structure capital	3.677	0.015*
Data archiving systems - Human capital	1.843	0.145
Standards operation procedures - Human capital	3.263	0.025*
Organization's policies - Human capital	2.643	0.054
Organization's policies - Structure capital	1.261	0.292
Learning - Human capital	0.646	0.587
Learning - Structure capital	1.092	0.356
All paragraphs of the questionnaire	2.281	0.084

* The mean difference is significant a 0.05 level

systems, SOP's, organization's policies and learning) are considered to represent the impact of OM on IC through its main branches HC and SC. In light of the findings that were presented in the previous chapter, the most notable conclusions were:77.6% of GPGC respondents agreed that there is a statistical significant effect of OM (experience) on IC (HC) at 0.05 level, the findings shows that, the experience is strongly affecting the leadership, responsibility, personal skills and knowledge, but it has less impact on values, believes, satisfaction, loyalty and innovation.78.3% of GPGC respondents agreed that there is a statistical significant effect of OM (experience) on IC (SC) at 0.05 level, the findings shows that, the experience is strongly affecting the quality management, risk avoidance, investors' trustee and organization reputation and competitive advantages, but it has less impact on employee's behavior, organizational culture, KM and competitive advantages.71.2% of GPGC respondents agreed that there is a statistical significant effect of OM (data archiving systems) on IC (HC) at 0.05 level, the findings shows that, the data archiving systems is strongly affecting the practical experience, knowledge, performance efficiency and personal skills, but it has less impact on satisfaction and loyalty, values and believes, leadership and responsibility and self-learning skills.73.2% of GPGC respondents agreed that there is a statistical significant effect of OM (SOP's) on IC (HC) at 0.05 level, the findings shows that, SOP's is strongly affecting the practical experience, performance efficiency, personal skills, and knowledge, but it has less impact on satisfaction and loyalty, values and believes, innovation and self-learning skills.81.0% of GPGC respondents agreed that there is a statistical significant effect of OM (organization's policies) on IC (HC) at 0.05 level, the findings shows that, the organization's policies is strongly affecting the satisfaction and loyalty, performance efficiency, personal skills and knowledge, but it has less impact on values and believes, self-learning skills, innovation and knowledge.81.0% of GPGC respondents agreed that there is a statistical significant effect of OM (organization's policies) on IC (SC) at 0.05 level, the findings shows that, the organization's policies is strongly

affecting the investors' trustee and organization, reputation, competitive advantages, quality management and cooperation and teamwork, but it has less impact on knowledge management, employee's behavior, risk avoidance and organizational culture.76.7% of GPGC respondents agreed that there is a statistical significant effect of OM (learning) on IC (HC) at 0.05 level, the findings shows that, the learning is strongly affecting the practical experience, personal skills, performance efficiency and knowledge, but it has less impact on values and believes, satisfaction and loyalty, self-learning skills and leadership and responsibility.75.3% of GPGC respondents agreed that there is a statistical significant effect of OM (learning) on IC (SC) at 0.05 level, the findings shows that, the learning is strongly affecting the quality management, competitive advantages, investors' trustee and organization reputation and risk avoidance, but it has less impact on employee's behavior, organization's structure, KM and organizational culture.

In general 76.8% of GPGC respondents agreed that there is a statistical significant effect of OM on IC at 0.05 significant level. The findings shows that, the organization's policies and experience are affecting IC much than the effect of data archiving systems and SOP's. Moreover, the results indicates that, the impact of OM on the practical experience, performance efficiency, personal skills and knowledge is more than its impact on the employees' satisfaction and loyalty, values and believes, self-learning skills, leadership and responsibility. Also the impact of OM on the investors' trustee and organization reputation, competitive advantages and quality management is more than the impact of OM on employee's behavior, knowledge management, organizational culture and cooperation and teamwork from SC indicators.There were no significant statistical differences at significant level (α=0.05) among the respondents' answers regarding the Impact of OM on IC due to the individual characteristics (age, education, position and years of experience). That result excluded the effect of the age on the respondents' answers on the fields (experience - HC, SOP's - HC and organization's policies – SC). Also the result excluded the effect of the years of experience on the respondents' answers on the fields (experience – HC, experience - SC and SOP's – HC).

Recommendations

In order to enhance the concepts of OM and IC in the organizations and in light of the aforementioned results, the following recommendations are formulated. The recommendations weren't suggested to match only the need of the case study (GPGC), but also they are acceptable and useful to other organizations and institutes.To increase the awareness of the organizations' management and staff about OM and its importance and its great role in retaining and maintaining the organizations' history, data, events, information's and experiences. To increase the awareness of the organizations' management and staff about IC and to understand its role in maximizing the organization's value and stability.

Also to create the awareness of every employee about IC components and the importance of understanding their dimensions and great effects to the organization and to the employee herself/himself. To reinforce the commitment of the organizations' management and staff toward OM improvement and the right management to enhance the meaning of the strength of IC and consequently the organization's value.To reinforce the commitment of the organizations' management and staff toward IC development and implement plans to raise the performance and efficiency of IC components.To set up plans and strategies to build a strong and solid experiences among the employees and to manage the mutual knowledge transfer between the organizations' members in a systematical approach for gaining structured experiences constructed on solid bases.To care more about designing, organizing, implementing and retaining data archiving systems and implement a structured training for the concerned employees about how to handle with, archiving and using them in optimum way in analysis, diagnoses and problem tracing and solving cases. To set a structured SOP's for each operation process that illustrate the procedures to be followed in operation's duties and prepare an orientation handbook that illustrate the importance, benefits and the structure of these SOP's.To set a clear and achievable goals, policies and strategies and to distribute through a written handbook to all the employees and to ensure the understood and the follow from each person in the organization. It may be preferable to share the staff in setting these goals and hence to believe and adapt the organization's policies which will guide to these goals.To build the awareness of the learning and the importance of OL for the management and the employees and to understand the core of learning and its impact on IC especially and on all the organization's activities in general. Also to distinguish between the learning as knowledge collection, organizing and distribution in systematic and organized processes and the training or education in standalone form and finally to set and implement learning programs.

Suggestions for future studies

As per the researchers knowledge, this is the first Arabic study conducted on the impact of OM on IC. This field of research deserves more exploration and because of the importance on this topic.

The researchers suggests the following research areas for further studies:The intellectual capital management effectiveness at the Palestinian organizations.The impact of intellectual capital management on performance at the Palestinian organizations.The role of intellectual capital in maximizing the organization's market value applied on GPGC.Comparative study between the cost and benefits from building structured organizational memory systems at a Palestinian organization.Organizational memory systems role in E-learning programs at the Palestinian universities and institutes.

References

Abel M (2008). Competencies management and learning organizational memory. J. Knowl. Manage., 12(6): 15-30.

Al-Ali N (2003). Comprehensive Intellectual Capital Management. John Wiley and Sons, Inc., Hoboken, New Jersey.

Amiri A, Alvani S (2010). Increasing the Intellectual capital in organization: Examining the Role of Organizational Learning. Eur. J. Soc. Sci. 14(1): 98-108.

Attia l (2008). Intellectual Capital and Knowledge Management:Relation and Effects. J. Alqadesia for Manage. Econom. Sci, 10(3)**: 98-108.**

Berl SW (2005). Organizational Policies and Procedures establish policy, Asheville, NC.

Bontis N (1998). Intellectual Capital: An Exploratory Study that Develops Measures and Models. J. Manage. Decis. 36(2): 63-76.

Chen Jin, Zhu Z, Xie H (2004). Measuring Intellectual Capital: a New Model and Empirical Study. J. Intellect. Capital, 5(1): 195-212.

Cheng M-Y (2010). Invested Resources, Competitive Intellectual Capital and Corporate Performance. J. Intellect Capital, 11(4): 433-450.

Cheng S (2004). Intellectual Capital Evaluation with Soft Computing Methods. J. E-Commerce Studies, 2(1): 95-114.

Choong, K (2008). Intellectual Capital: Definitions, Categorization and Reporting Models. J. Intellect. Capital., 9(4): 609 – 638.

ConKlin J (2001). Designing Organizational Memory: Preserving Intellectual Assets in Knowledge Economy. CogNexus Institute.

Curado C (2003). Perception of Knowledge management and Intellectual capital in the Banking Industry. Technical University of Lisbon, Portugal.

Guerrero L, Pino J (1999). Understanding Organizational learning. DID University of De Chile No. 1-015-99.

Hamada, A (2010). Training and its Impact on Intellectual Capital at the National Palestinian Authority. Master Thesis, Islamic University of Gaza.

Hofmann J, Schneider S (2008). How Intellectual Capital Creates Value. Deutsche Bank Research, Frankfurt am Main, Germany; online @ www.dbresearch.com

Huang Y-C, Wu Y-C (2010). Intellectual Capital and Knowledge Productivity: The Taiwan Biotech Industry. J. Manage. Decis. 48(4): 580-599.

Jennex M, Olfman L (2002). Organizational Memory Effects on Productivity. 35Th Annual Hawaii International conference on systems science.

Kamukama N, Ahiauzu A (2011). Competitive Advantages of Intellectual Capital and Performance. J. Intellect. Capital, 12(1): 152-164.

Lin F, Lin S (2000). Conceptual Model of Virtual Learning Organization. National Sun Yat-Sen University, pp. 849-863.

Palestinian Electricity Company (2009). Annual report. Available @ www.pec.ps

Swart J (2006). Intellectual Capital: Disentangling an Enigmatic Concept. J. Intellect. Capital., 7(2): 136-159.

Tanya E (2011). learning Analytics: Definition, Processes and Potential., http://learninganalytics.net/LearningAnalyticsDefinitionsProcessesPotential.pdf

Tasi C-Y, Lin S (2005). Core Capability and Core Rigidity: Organizational Memory Perspective. Shou University, China.

Toulouse F (1994). Policy Definition and classification: Aspects, Criteria, and Examples. IFIP/IEEE International Workshop on Distributed Systems: Operations and Management.

Vargas J (2010). How Intellectual Capital and Learning organization Can Foster Organizational Competitiveness. Intl. J. Bus. Manage, 5 (4): 183-193**.**

Wexler M (2002). Organizational memory and intellectual capital. J. Intellect. Capital., 3(4): 393-413.

Yousef A (2005). Study and Evolutes the Intellectual capital in Business Enterprises. AlZaytoona University, Amman.

Zerenler M (2008). Intellectual Capital and Innovation Performance: Empirical Evidence in the Turkish Automotive Supplier. J. Technol. Manage. Innov., 3(4): 31-40.

Zhou AZ (2003). The intellectual capital web A systematic linking of intellectual capital and knowledge management. Journal of Intellectual Capital, 4(1): 34-48.