بسم الله الرحمن الرحيم

Islamic University – Gaza
Dean of Postgraduate Studies
Faculty of Commerce
Business Administration

Organizational Memory Impact on the Intellectual Capital Case Study - Gaza Power Generating Company

أثر الذاكرة التنظيمية على رأس المال الفكري – دراسة حالة على شركة غزة لتوليد الكهرباء

Submitted By

Alaa El-Dein Jabr Koraz

Supervised By

Dr. Wasim El-Habil

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master in Business Administration.

2011 م - 1432 هـ

بسم الله الرحمن الرحيم

الجامعة الإسلامية – غزة
The Islamic University - Gaza

عمادة الدراسات العليا

هاتف داخلي: 1150

الرقم Ref ج س غ/35/
2011/09/06
التاريخ Date

نتيجة الحكم على أطروحة ماجستير

بناءً على موافقة عمادة الدراسات العليا بالجامعة الإسلامية بغزة على تشكيل لجنة الحكم على أطروحة الباحث/ **علاء الدين جبر عبد الفتاح كراز** لنيل درجة الماجستير في **كلية *التجارة*/ قسم إدارة الأعمال** وموضوعها:

Organizational Memory Impact on the Intellectual Capital Case Study Gaza Power Generating Company

وبعد المناقشة العلنية التي تمت اليوم الثلاثاء 08 شوّال 1432 هـ، الموافق 2011/09/06م الساعة العاشرة صباحًا، اجتمعت لجنة الحكم على الأطروحة والمكونة من:

د. وسيم إسماعيل الهابيل	مشرفاً ورئيساً	.....
د. رشدي عبداللطيف وادي	مناقشاً داخلياً	.....
د. أكرم إسماعيل سمور	مناقشاً داخلياً	.....

وبعد المداولة أوصت اللجنة بمنح الباحث درجة الماجستير في **كلية *التجارة*/ قسم** إدارة الأعمال.

واللجنة إذ تمنحه هذه الدرجة فإنها توصيه بتقوى الله ولزوم طاعته وأن يسخر علمه في خدمة دينه ووطنه.

والله ولي التوفيق ،،،

عميد الدراسات العليا

أ.د. فؤاد علي العاجز

P.O. Box 108, Rimal, Gaza, Palestine fax: +970 (8) 286 0800 فاكس Tel: +970 (8) 286 0700 ص.ب 108 الرمال، غزة، فلسطين هاتف
public@iugaza.edu.ps www.iugaza.edu.ps

يقول تعالى في كتابه العزيز

﴿ قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا

إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ ﴾

صدق الله العظيم

سورة البقرة – الآية 32

Dedication ….

To whom shared me the happiness for my success ..

I'm dedicating this work ……

To .....

My parents

My wife and children

My brothers and sisters

My friends especially Ahmed ……

To All of you ..... Thank you

Acknowledgment …

I would like to express my deepest gratitude and appreciation to my advisor ***Dr. Wasim El Habil*** for his guidance and support at each step of this dissertation.

Many great thanks for the members of the discussion committee for their acceptance to evaluate and discuss this thesis; ***Dr. Rushdi Wady*** and ***Dr. Akram Samour.***

My special thanks and appreciation are extended to the Gaza Power Generating Company management and staff for their encouragement and assistance while a special gratitude for ***Eng. Mohammed ElShereif***, the plant manager who was generous in his time and efforts to accomplish this dissertation.

My gratitude also goes to ***Dr. Samir Safi*** for his keen assistance in the statistical analysis of the questionnaire and also to the committee judged the research's questionnaire.

Also I sincerely acknowledge to the teaching staff of IUG.

I would also submit my thanks to all the participants who took a part in this research for their valuable time and kind assistance.

Finally I would like to express my heart thanks for my family for giving me the support and encouragement to pursue my education.

Table of Contents

List of tables

List of Figures

Abbreviations

Abbreviations	Descriptions
COM	Cultural Organizational Memory
CONICCVALTM	Contextual IC Components Valuation
GEDCO	Gaza Electricity Distribution Company
GPGC	Gaza power Generating Company
HC	Human Capital
IC	Intellectual capital
ICT	Intellectual Capital Technology
ICW	Intellectual Capital Web
KM	Knowledge Management
LO	Learning Organization
MGOM	Managerial Organizational Memory
MROM	Marketing Organizational Memory
OCHA	Office for the Coordination of Humanitarian Affairs
OM	Organizational Memory
OMS	Organizational Memory Systems
OL	Organizational Learning
OP	Operational Performance
PEC	Palestinian Electric Company
PENRA	Palestinian Energy and National Resources Authority
PNA	Palestinian National Authority
RC	Relational Capital
ROI	Return On Investment
SC	Structure Capital
SOP's	Standard Operating Procedures'
TOM	Technical Organizational Memory

Abstract

The study aimed to highlight the concepts of organizational memory and intellectual capital and to investigate the impact of the organizational memory on the 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 polices and the learning facilities to investigate the impact of these elements on the intellectual capital through its main components; human capital and structural capital. In addition, a questionnaire has been developed and tested by a pilot study and then distributed to a sample consisting of 106 employees where 92% response rate achieved. The study adopted the complete census by which the whole study population used as the sample. The collected data was analyzed by statistical methods and manipulated through the SPSS software.

The most notable finding of the study was the presence of the impact of the organizational memory on the intellectual capital since 76.8% of the employees agreed on that, while the organization's polices had the highest impact where 81.0% agreed on the presence of impact of the organization's polices on both the human capital and structural capital. 77.6% of the respondents agreed that experience is affecting the human capital while 78.3% agreed that experience is affecting the structural 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. It is important also to create and develop the intellectual capital and especially the human capital through the learning facilities and well knowledge management.

ملخص

تهدف هذه الدراسة لتقييم أثر الذاكرة التنظيمية على راس المال الفكري لدي موظفي شركة غزة لتوليد الكهرباء كما و تهدف أيضا لإلقاء الضوء على مفاهيم الذاكرة التنظيمية و رأس المال الفكري.

اعتمدت هذه الدراسة على المنهج الوصفي التحليلي حيث تم استنباط نموذج يمثل الذاكرة التنظيمية من خلال الخبرات المتراكمة لدي الموظفين و أنظمة أرشفة البيانات و نماذج الإجراءات التشغيلية و سياسة المنظمة و وسائل التعلم و ذلك بهدف تقييم أثر هذه العناصر على رأس المال الفكري بشقيه رأس المال البشري و راس المال التنظيمي. و في ضوء هذا النموذج تم تصميم استبيان كأداة للدراسة و قد تم عمل عينة استطلاع و من ثم توزيعه على 106 موظفين مثلوا عينة البحث لمجتمع الدراسة و استجاب 98 موظف ليمثلوا نسبة استجابة تقدر ب 92% و تم تحليل البيانات باستخدام الأساليب الإحصائية من خلال البرنامج الإحصائي SPSS.

و كان من أبرز نتائج الدراسة وجود تأثير للذاكرة التنظيمية على رأس المال الفكري حيث وافق 76.8% من الموظفين على ذلك و كانت سياسة المؤسسة هي الأكثر تأثيرا حسب أراء الموظفين حيث وافق 81.0% منهم على وجود تأثير لسياسة المؤسسة على كل من رأس المال البشري و راس المال التنظيم بينما 77.6% من المستجيبين للدراسة وافقوا على أن الخبرة تؤثر على رأس المال البشري و 78.3% منهم وافقوا على أن الخبرة تؤثر على رأس المال التنظيمي.

أوصت الدراسة بضرورة خلق المعرفة حول الذاكرة التنظيمية في المؤسسات و دورها العظيم في تطوير رأس المال الفكري و وضع أنظمة منسقة و منظمة لعناصرها و كذلك الاهتمام برأس المال الفكري و خاصة البشري و العمل على تطويره من خلال وسائل التعلم و إدارة المعرفة.

Chapter 1

General Introduction

1.1 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).

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). Learning process requires tools facilitating knowledge acquisition, information distribution, interpretation, and organization. "The organizational memory (OM) seems to be a necessity to allow Organizational Learning (OL). 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 – pp16). 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) is largely depending on the knowledge and the experiences transfers between its employees and so affects their behavior, performance and culture. GPGC in its learning process 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 polices, the learning facilities and others which all together form the OM of the organization. This study is to investigate the impact of the OM's elements on IC.

1.2 Problem Statement

Beside highlighting the importance of the OM and IC, 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?"*

In addition, the research tries to answer other sub-questions including:

1- How far does the experience affect the human capital and structural capital at Gaza Power Generating Company?

2- How far do the archiving systems affect the human capital at Gaza Power Generating Company?

3- How far does the SOP's affect the human capital at Gaza Power Generating Company?

4- How far do the organization's policies affect the human capital and structural capital at Gaza Power Generating Company?

5- How far does the experience affect the human capital and structural capital at Gaza Power Generating Company?

a. Research Objectives

The research pursues to achieve the following objectives:

2. Identify, highlight, and characterize the concepts of OM and IC.
3. Create the awareness of the importance of OM and IC at organizations.
4. Investigate and study the OM elements at Gaza Power Generating Company.
5. Investigate and study the IC resources at Gaza Power Generating Company.
6. Trace the effect of OM elements on IC at Gaza Power Generating Company.
7. Suggest some recommendations to increase the effectiveness and systemizing OM and to improve the value of the IC at Gaza Power Generating Company.

1.4 Research Importance

Study Importance to the Researcher

The study provides the researcher with good knowledge and new zones of researching in the company where he works. Moreover, the study is a good chance of a career development for the researcher.

Study Importance to the University

This is the first academic study locally that engages the importance of the OM and the IC according to the researcher's knowledge. Therefore the study provides the academic libraries in Gaza with a significant new researching topic.

Study Importance to the Company

The company will gain through the current study the following benefits:

- To educate the society about the importance and the role of the company and how it operates through a high professional standards.
- To detect the strengths and the weaknesses OM and IC at the company.
- To improve OM management and IC values through a group of recommendations.

Study Importance to the Palestinian Society

The local community will gain through the current study the following benefits:

- To percept the importance of IC and how it can be developed and maintained.
- To present to the Gaza society the qualifications and professionalism exercised in the company.

1.5 Research Variables

Independent Variables (Organizational memory)

1- Experiences
2- Data archiving systems
3- Standards operation procedures
4- Organization's policies
5- Learning

Dependent Variable (Intellectual capital)

1- Human Capital
2- Structure capital

1.6 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 at 0.05 level.

And hence the following sub hypotheses are generated:

1- There is a statistical significant effect of the organizational memory (Experience) on the intellectual capital (Human Capital) at 0.05 level.
2- There is a statistical significant effect of the organizational memory (Experience) on the intellectual capital (Structure Capital) at 0.05 level.
3- There is a statistical significant effect of the organizational memory (Data archiving systems) on the intellectual capital (Human Capital) at 0.05 level.
4- There is a statistical significant effect of the organizational memory (Standards operation procedures) on the intellectual capital (Human Capital) at 0.05 level.
5- There is a statistical significant effect of the organizational memory (Organization's polices) on the intellectual capital (Human Capital) at 0.05 level.
6- There is a statistical significant effect of the organizational memory (Organization's polices) on the intellectual capital (Structure Capital) at 0.05 level.
7- There is a statistical significant effect of the organizational memory (Learning) on the intellectual capital (Human Capital) at 0.05 level.
8- There is a statistical significant effect of the organizational memory (Learning) on the intellectual capital (Structure Capital) at 0.05 level.
9- There are significant differences among the respondents' answers regarding the impact of organizational memory on intellectual capital due to the individual characteristics.

Conceptual Map

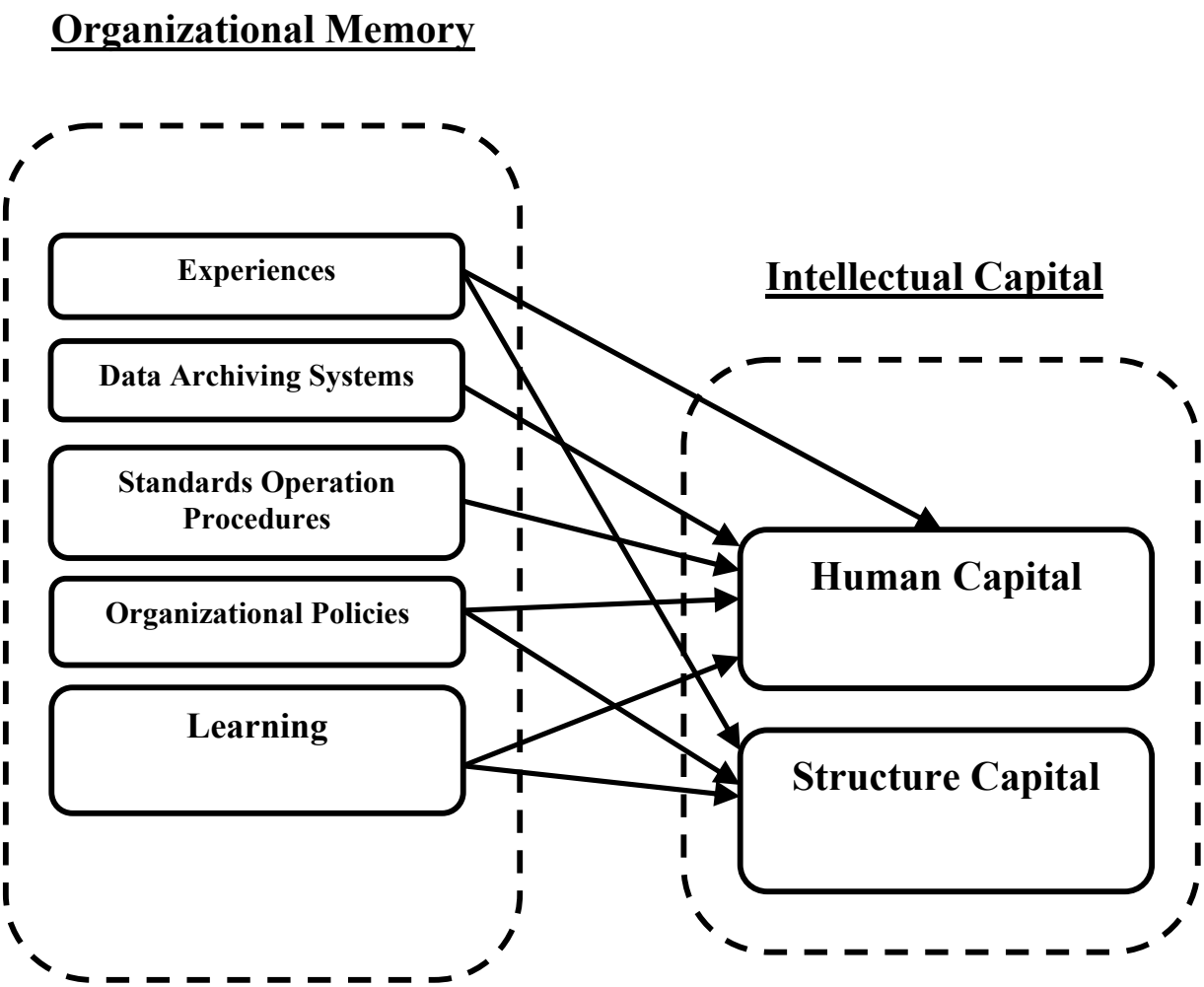

Fig. (1.1) – Conceptual Map - Researcher, 2011

1.7 Research Parameters

Time Horizon

The study has been prepared during 2011, so the collected data reflected the facts and perspectives during the period located between May, 2011 and September, 2011.

Location

The research has targeted the Gaza Power Generating Company at Gaza (GPGC) Strip which is considered as the case study.

Subject

The study has investigated the influencing relationship between OM and IC at the GPGC.

1.8 Research Limitations

The researcher has recognized the following limitations:

- There has been a shortage in the Arabic references since the influence relationship between the OM and the IC has been rarely studied in the Arabic literature.
- IC has been measured at GPGC through its human and structure capitals only because RC doesn't exist in our study because GPGC has only a unique and sole customer who is the Palestinian Electricity and Natural Resources Authority (PENRA).

1.9 Key Terms Definitions

Organization memory 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 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). OM seems to be a necessity to allow organizational learning. 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). Also OM is a branch of collective memory studies tied to instrumental group action in formal organization context (Wexler, 2002).

Intellectual capital 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).

1.10 Research Structure

The Study has six chapters. Chapter one is an introduction which represents the conceptual frame of the research where it includes the problem statement, objectives, importance, variables, hypotheses, methodology, parameters, and limitations of the research. Chapter two introduces the theoretical framework which consists of three sections. While the first section introduces and defines the categories of OM, the second section introduces, defines and elaborates IC. On the other hand, the third section elaborates the company general profile.

Chapter three includes the previous studies. Chapter four exposes and presents the research methodology and explained the research methods adopted in this study, research tool design, data collection procedures, statistical analysis procedures, and research tool tests. Chapter five introduces data analysis and discusses the descriptive and analytical statistics for the research questionnaire and discusses the findings of the study. Finally, Chapter six presents the conclusion and recommendations.

Chapter 2

Theoretical Framework

2.1 Organizational Memory

2.1.1 Introduction

The organizational Knowledge Management (KM) represents a key asset to support decision making processes, the main aim of KM systems is to manage, store and retrieve the organizational knowledge, so that it can be used later to learn, share knowledge, solve problems, and to support better decision making processes. Therefore by having well developed organizational information storage media that supports the structuring, reusing and processing of organizational knowledge is a success factor to achieve such an effective management (Martin, 2005).

In the same direction, an organization does not have brain, but it has cognitive systems and memories. Therefore, in order to reach and maintain the organizational effectiveness and competitiveness, an organization needs to learn from past and present experiences and lessons learnt and to formalize organizational memories for enabling to make explicit the individual's tacit knowledge and community's tacit knowledge as well. The organization cannot make an employee learn. Learning is continuous and the choice to learn is self-determined. An environment which facilitates an organization's members learning seems essential in this context. Numerous learning resources may be used during learning. Learning becomes part of a complex organizational conduct, in which the lack of required knowledge triggers the search for appropriate contents. Different approaches may be adopted to exploit such contents. They can be stored in learning object repositories and then reused, combined and adapted in different contexts. They can also be selected and organized in learning memories that are accessed directly by learners (Abel, 2008).

We are in an era of knowledge economy. Understandably, any efficient functioning of the knowledge economy must rely on managing knowledge well. Individuals and organizations must manage their knowledge through appropriate mechanisms and policies. KM requires the capture, storage, and use of several types of information and knowledge. The organizational knowledge may be accumulated and retained using several OM systems (Miler, 2000).

Within the field of KM, there has been interest in a variety of issues surrounding OM, which is understood to involve processes of storage and retrieval of organizational knowledge of the past for use in both the present and the future. The recognition of the importance of OM has implications for practice. For example, the effective use of OM can protect an organization from some of the negative effects of staff loss, while asserting that, an appreciation of OM can facilitate the solution of problems associated with the retention and utilization of knowledge within organizations (Jassimuddin, 2006).

2.1.2 Background

Walsh and Ungson (1991) provide an overall definition of OM as stored information from an organization's history that can be brought to bear on present decisions, while there are three major reasons to explore this concept in more detail:

(1) Memory is a rich metaphor that provides insight into organizational life.

(2) OM is embedded in other management theories.

(3) OM is relevant to management practice (Jassimuddin, 2006).

OL produces OM. Thus, learning systems can influence both present and future members of the organization through the shared accumulation of experiences and knowledge. When organizations learn, they are able to create OM, which are key ingredients in all organizational cognitive processes where OM defined as the knowledge and information from the organization's past which can be accessed and used for present and future organizational activities (Bowersox, 2009).

OM falls under the broader topic of KM, which contains areas of scholarly research such as OL and has implications for management information systems. All of an organization's memories must be collected, stored and made accessible in order for them to be put to effective use. These memories are either stored in a company's systems (including databases, paper archives and other resources) or in its people, through individual and group memories. OM therefore plays an important role in every organization, as memory is a prerequisite to the successful achievement of organizational goals and the implementation of the organization's strategic plans (Robinson, 2009).

Most of the literature on OM tends to focus on definitions of the term, the content and types of OM, its location, and the processes associated with the acquisition, storage,

retrieval, and maintenance of memory. This corresponds closely with the definition given which regards OM as the way in which organizational knowledge from the past is brought to bear on present activities. OM occupies a significant place within management literature. However, Walsh and Ungson (1991) argue that "the extant representations of the concept of OM are fragmented and underdeveloped." Examination of the existing literature reveals frequent divergence of understanding of the notion of OM . Indeed, earlier researchers denied the existence of OM. Generally, organizational theorists disagree about a variety of issues surrounding OM. Some researchers are concerned that a clear and universally accepted definition of what an OM should do appears to be lacking: After nearly 10 years of research, the term OM has become overworked and confused. It is time for a re-examination. The term is burdened with the practical wish to reuse organizational experience, leading researchers to ignore critical functions of an organization's memory and consider only some forms of augmenting memory (Jennex, 2002).

The term OM has been overworked and confused. Burdened with the requirement to reuse experience, the term OM obscures and ignores critical functions of the OM. Instead, only some forms of memory have been considered. Unfortunately, while these forms have been most visible, they are also the most likely to be corrupted by the extension of the metaphor from cognitive science's physical symbol system model to social groupings (Ackerman, 1997).

2.1.3 Definition

OM 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. OM is the stored information from an organization's history that can be brought to bear on present decisions. OL uses OM as its knowledge base. Knowledge is an evolving mix of framed experience, values, contextual information and expert insight that provides a framework for evaluating and incorporating new experiences and information. In organizations, knowledge often becomes embedded in documents or repositories and in the organizational routines, processes, practices, and norms. OM has been defined by many authors, there is no one agreed upon definition. Some authors view it as abstract

and supported by concrete/physical memory aids such as databases .Others view it as concrete and including computerized records and files where others define it as the means by which organizational knowledge is transferred from the past to the present (Junnex, 1998).

Jasimuddin (2006) defined the OM as the processes of storing and retrieving knowledge of the past for present and future use. OM draws from a wide variety of disciplines including organization theory and information systems. OM is the function of the organization in which organizational knowledge is stored and retrieved for present and future use, and thus contributes importantly to the processes of designing and creating the future of the organization.

Miller (2000) defined OM as a stored collection of organizational history reflected among the many parts. It includes both stored records and tacit knowledge and covers the various facets of organizational tasks, employees, and their task environments. Because it can be a large and valuable repository of information and knowledge, several researchers have recognized the import of OM in effecting organizational performance, however, take a critical view of prior research on OM and argue for a theoretical base to properly define and empirically validate future research. The researchers state that as socio-technical systems, organizations and their memories conform to social structures and norms while employing technical models. They use the theory of distributed cognition to develop a theoretical foundation for OM. The basic tenets of this theory are that knowledge evolves from a community of practice and that cognition and inferences result from the shared meaning among the participants hence the distribution.

Olsevicova (2003) defined OM as the organization's ability to benefit from its past experience in responding more effectively, faster and more accurately in the present, it's a structured set of knowledge related to the firm experience in a given domain. OM explained as an explicit, disembodied and persistent representation of knowledge and information in an organization, in order to facilitate its access and reuse by adequate members of the organization for their tasks. We can see that the most uncertain view presents OM as an abstract category (a social characteristic of organization), while other authors point out the technological and technical aspects and presents OM as a kind of computer based information system. The resources of OM are mainly people and

documents. The structure of OM is impacted by formal and informal structures and relationships in the organization, its procedures and culture. The content of OM consists of various kinds of knowledge. The important thing is that internal structure of OM should always reflect common user's way of looking for information or knowledge assets in the organization. That's why we can meet OM solutions based entirely on case collections or on networks of questions and answers. These simpler models of memory suit narrow and well-defined tasks. On the opposite, a heterogeneous OM hasn't got only one kind of basic knowledge unit, but consists of various knowledge bases, databases, case bases and tagged digital documents archives etc., with more variable access mechanisms.

OM has been defined by Ozorhon (2004) as the means by which organizations store knowledge for future use. A similar definition defined OM as the means by which knowledge from the past is brought to bear on present activities thus resulting in increased levels of effectiveness for the organization. Although organizations do not have brains, they have intentionally or unintentionally constructed memories. OM becomes a corporate asset by capturing, organizing, disseminating, and reusing the knowledge created by its employees. Walsh developed the structure of OM as acquisition, retention, and retrieval and postulated the existence of five storage bins that compose the structure of memory within organizations and one source outside of the organization being individuals, culture, transformations, structures, ecology and external archives. An alternative approach is developed identified the components of OM as individual memory, personal relationships, databases, work processes and support systems, product and services. A number of have stressed how OM development can produce habitual decisions and actions, which emphasize short term operational efficiency over long-term strategic effectiveness. OM is a general term implying that knowledge may be stored in a variety of repositories, both human and artifact. It is known that decision makers do not only store and retrieve hard data but they make use of the soft information in the form of tacit know-how and expertise. Obviously, it is a difficult task to ask company members to share such information since they may not desire to give up valuable information for fear of losing their individual competitive edge. Then an inevitable solution arises: establishing information systems to store and retrieve such collective knowledge in order

to preserve tacit knowledge and further promote organization learning. At this point, the necessity of technological means comes out.

From all above definitions, we can conclude that, the OM is the tools that brought, store and maintain the knowledge, information, experience and events from the past for present and future needs.

2.1.4 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. In addition, some researchers generally agree that organizational knowledge resides in: individuals, including managers, technical support staff, and direct production workers; the organization's technology, including its layout, hardware, and software; the organization's managerial systems, including its organizational structure, routines and methods of coordination; and the organization's culture. Core capabilities are consist of four types of knowledge, which is employee knowledge and skill, physical technical systems, managerial systems, values and norms. These kinds of knowledge consist of the internal source of organizational knowledge. On the other hand, the external source of organizational knowledge, which is collected and retained by competitors, suppliers and customers of an organization (Li, 2004).

From the point of knowledge, physical technical systems can be considered as technical knowledge; managerial systems as managerial knowledge; values and norms as cultural knowledge. External knowledge is an important source of organizational knowledge, which is mostly about market, so marketing knowledge must be included in organizational knowledge.

2.1.4.1 Technical Organizational Memory (TOM)

TOM means a series of memory based on professional knowledge, including the technology and related experiences, which force the development and support the normal operate of the organization. The variables include product development system, production control method, production information control system, the use of IT and

internet, equipments, technique style, re-engineering in the past, total quality management, etc. These factors affect the produce efficiency, product quality and the production cost of the company (Li, 2004).

2.1.4.2 Managerial Organizational Memory (MGOM)

MGOM refers to knowledge that controls the operation of an organization, it can be described as the management method and the structure of the organization, such as KM method, factory layout, human resources management, the short-term and long-term strategies, equipment management, production management, document management, training for members, enrolment, and crisis management. MGOM often based on the organization history and stable relatively. MGOM must be known by the employees, so that employees can understand the strategy and basic management method. Thus employee can do as the request of management and then the aim of the company can realize easily (Li, 2004).

2.1.4.3 Cultural Organizational Memory (COM)

COM can be defined as mental wealth that was accumulated along the development of a company. COM exists almost everywhere in any organization, such as the history of the organization, shared values, informal organization, and suggestions from the employees. The organizational culture is the organization's embedded memory where the collective memory itself is a cultural system (Li, 2004). COM is the way people think, communicate and work together. COM is also formed in the history of enterprise and stable. Although it as affected by the external culture, it is hard to change once it was formed. Besides, COM affects the individual's action, orients their intentions, sets their moods, and enables them to act. So, COM should be understood and practiced by most employees (Li, 2004).

2.1.4.4 Marketing Organizational Memory (MROM)

MROM implies the OM related to the supplier, the middleman and the customer and concerning sale and purchase. It includes customer relationship management, marketing strategy, external cooperation, and principles of choosing supplier and

middleman, subscription, channels, 4P and so on. MROM is another important component of an enterprise, which is concerned with the foreground of the enterprise, and impacts the normal operation of the enterprise. So, new knowledge of market must be protected from being known by competitors and the market is changing all the time, so enterprise must obtain the information of market and forecast the demands of customers, which will guide the development of TOM. Generally, these four types of OM components play an important role in an organization. With the help of OM, the managers and the decision-makers can use relative knowledge to guide present activities, so as to make good decisions. As far as manufacturing companies are concerned, technology and management knowledge have consistently been considered as contributing aspects to the productivity gains observed with increasing experience (Li, 2004).

2.1.5 Organizational Memory Models

Several models have been set by researchers to explore or investigate OM such as Dixon model (2005) where he categorized OM into internal and external memory elements. The internal elements are intentional such as experience, data base, records and reports, learning lessons and polices while the unintentional elements were for example the culture, structure, and working environment. The external memory elements as per Dixon are consists of the financial reports, previous employees, competitor's reports and governmental records. Another model was generated by Walsh where the OM represented by individuals, culture, transformation, ecology and external archives (Guerrero, 1999).

In addition, Walston (1999) implemented OM model where he represented OM by role, culture, social networks, tables and documents, media, models and knowledge. Jacqueline (1999) divided OM into four main dimensions; the culture, the structure, the systems and the procedures. The culture expressed by the world view, the ideologies, the norms and values, the symbols, the habits, myths and saga, rituals, status, working surrounding and expectation of customers. The structure expressed by the communication channels, methods and techniques, tasks and steering groups, cross functional groups, task forces, discussion groups, networking, meetings, production

structures, task responsibilities, and authority structures. The system elements consists of the systems education, training and instruction systems, intervention techniques, complaint settlement, appraisal and payment system, financial system, control system, forms of work prescriptions and documents and reports. Finally the procedures OM elements are SOP's, rules, sources for investigations, routines and product creation process. Moreover, Daniel (2006) expressed OM in his model by individuals, structure, rules, archives and culture. Some other researchers also implemented OM models through their studies, but it was formulated almost from the same variables.

2.1.6 Organizational memory Variables

In this study, some elements have been selected to represent OM in GPGC regarding their presence and the ability to measure and evaluate them

2.1.6.1 Experience

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

Experience has been defined as the particular instance of personally encountering or undergoing something or as the process or fact of personally observing, encountering, or undergoing something which is business experience. Also the experience defined as the observing, encountering, or undergoing of things generally as they occur in the course of time to learn from experience which is the range of human experience. Another definition of experience was the knowledge or practical wisdom gained from what one has observed, encountered, or undergone. Also the experience defined from philosophy point of view as the totality of the cognitions given by perception; all that is perceived, understood, and remembered. So finally the experience could be concluded as the familiarity with a skill or field of knowledge acquired over months or years of actual practice and which has resulted in superior understanding *(*www.*dictionary.reference.com).*

Types of experience (Brown, 2003)

The experience can be classified into different types such as physical, mental, emotional and social experiences

Physical experience

Physical experience occurs whenever an object or environment changes. In other words, physical experiences relate to observables.

Mental experience

Mental experience involves the aspect of intellect and consciousness experienced as combinations of thought, perception, memory, emotion, will and imagination, including all unconscious cognitive processes. The term can refer, by implication, to a thought process. Mental experience and its relation to the physical brain form an area of philosophical debate: some identity theorists originally argued that the identity of brain and mental states held only for a few sensations.

Emotional experience

Humans can rationalize falling in (and out) of love as "emotional experience". Societies which lack institutional arranged marriages can call on emotional experience in individuals to influence mate-selection. The concept of emotional experience also appears in the notion of emotional intelligence and empathy.

Social experience

Growing up and living within a society can foster the development and observation of social experience. Social experience provides individuals with the skills and habits necessary for participating within their own societies, as a society itself is formed through a plurality of shared experiences forming norms, customs, values, traditions, social roles, symbols and languages.

2.1.6.2 Data archiving systems

It refers to a long term storage of data and events, it covers the content, the storage media and data retrieval processes. It's the systematic retention and re-use of data that is typically collected to fulfill real time operation and management needs. Data archiving is also referred to as data warehousing or operations data archiving (Turner, 2001).

Today's archiving solutions help rein in expanding data storage costs while satisfying the growing demands of compliance.

What Is 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. In addition, archiving allows the business to define data retention policies for various applications and users, ensuring proper storage of data. Archiving also enables users to perform advanced searches and it provides organizations with a foundation and framework for rules and policies to prevent data from being lose or altered, which is critical to processes (Lawrence, 2006).

Why Archiving?

Professionals in businesses of all sizes recognize that the growth of unstructured data is not only going to continue, but is likely to increase dramatically. The expansion of multimedia, messaging, rich media and other data-intensive applications ensures that the challenges created by data growth will have to be addressed and, in most cases, addressed immediately and with a long-term solution. From a practical standpoint, professionals generally require the following from their storage infrastructure:

- Dedicate the highest performance storage to applications that are most closely associated with company profitability.
- Maximize storage investment by not saving duplicate data and also moving data that is older or deemed less critical to less expensive storage systems.

Because of quickly expanding data storage requirements, most organizations eventually experience a pain point where they know they must do something to get things under control.

For the company that is experiencing or has experienced any or all of these issues, it is clearly time to start investigating an archiving solution. Ideally, this is one that offers a number of capabilities including reducing costs, ensuring compliance, eliminating storage silos and increasing content-reuse capabilities (Lawrence, 2006).

Benefits of Archiving

Many benefits of the data archiving. Some of the most highly touted include the following:

1. Saving Money. In most cases, when companies need more storage, they buy more drives, typically high performance devices for production environments. Archiving allows moving older disks to second- or third storage, thus extending their lifecycle. Another option is to simply purchase less-expensive devices for lower-tier storage.

2. Reducing Storage. With archiving, single-instance storage enables data to be reduplicated, meaning the firm will have less data to store and thus reduced storage requirements. That means less data to back up as well.

3. Compliance. Archiving offers the ability to easily search for relevant data. Furthermore, write-once and time-stamp technology offer much more insight into what data is available and where it is located. Data can also automatically be deleted once it has hit its retention life.

4. Operational Efficiency. There are huge efficiencies to be gained by automating processes and not having IT professionals doing them manually. This lets IT focus on more strategic initiatives, helping the business to save money and helping IT to "move at the speed of business. (Lawrence, 2006).

2.1.6.3 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. The development and use of SOPs are an integral part of a successful quality system as it provides individuals with the information to perform a job properly, and facilitates consistency in the quality and integrity of a product or end-result (US Office of Environmental, 2007).

SOPs are sets of written instructions that document a routine or repetitive activity followed by an organization. The development and use of SOPs are an integral part of a successful quality system as it provides individuals with the information to perform a job properly, and facilitates consistency in the quality and integrity of a product or end-result. The term SOP may not always be appropriate and terms such as protocols, instructions, worksheets, and laboratory operating procedures may also be used (EPIA, 2006).

Purpose of SOPs

SOPs detail the regularly recurring work processes that are to be conducted or followed within an organization. They document the way activities are to be performed to facilitate consistent conformance to technical and quality system requirements and to support data quality. They may describe, for example, fundamental programmatic actions and technical actions such as analytical processes, and processes for maintaining, calibrating, and using equipment. SOPs are intended to be specific to the organization or facility whose activities are described and assist that organization to maintain their quality control and quality assurance processes and ensure compliance with governmental regulations. If not written correctly, SOPs are of limited value. In addition, the best written SOPs will fail if they are not followed. Therefore, the use of SOPs needs to be reviewed and re-enforced by management, preferably the direct supervisor. Current copies of the SOPs also need to be readily accessible for reference in the work areas of those individuals actually performing the activity, either in hard copy or electronic format, otherwise SOPs serve little purpose (EPIA, 2006).

Benefits of SOPs

The development and use of SOPs minimizes variation and promotes quality through consistent implementation of a process or procedure within the organization, even if there are temporary or permanent personnel changes. SOPs can indicate compliance with organizational and governmental requirements and can be used as a part of a personnel training program, since they should provide detailed work instructions. It minimizes opportunities for miscommunication and can address safety concerns. When historical data are being evaluated for current use. SOPs can also be valuable for reconstructing project activities when no other references are available. In addition, SOPs are frequently used as checklists by inspectors when auditing procedures. Ultimately, the benefits of a valid SOPs are reduced work effort, along with improved comparability, credibility, and legal defensibility. SOPs are needed even when published methods are being utilized. For example, if an SOP is written for a standard analytical method, the SOPs should specify the procedures to be followed in greater detail than appear in the published method. It also should detail how, if at all, the SOPs differs from the standard method and any options that this organization follows (EPIA, 2006).

Types of SOPs

SOPs may be written for any repetitive technical activity, as well as for any administrative or functional programmatic procedure, that is being followed within an organization. General guidance for preparing both technical and administrative SOPs (EPIA, 2006).

Technical SOPs

Technical SOPs can be written for a wide variety of activities. Examples are SOPs instructing the user how to perform a specific analytical method to be followed in the laboratory or field. Technical SOPs are also needed to cover activities such as data processing and evaluation, modeling, risk assessment, and auditing of equipment operation.

Administrative SOPs

As with the technical SOPs, these SOPs can be written for a wide variety of activities, e.g., reviewing documentation such as contracts, Quality assurance project plans and Quality Management Plans, inspecting (auditing) the work of others, determining organizational training needs, developing information on records maintenance, validating data packages or describing office correspondence procedures. Administrative SOPs need to include a number of specific steps aimed at initiating the activity, coordinating the activity, and recording and/or reporting the results of the activity, tailored to that activity.

2.1.6.4 Organization's polices

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).

Policies are basically the rules and procedures for how the organization functions. Policies serve as guidelines for managing the organization and, if properly established, should prevent the board from constantly needing to approve staff and committee decisions. The policies set the tone, and in some cases legal structure, for the

organization. A board should establish policies on several key areas: board procedures and operation (recruitment, orientation, evaluation), financial controls (reporting, audits, etc.), public relations (who speaks when, etc.), fundraising (methods to be used, who you will/will not accept money from). To be effective, policies should be developed with staff assistance, approved by the board, distributed throughout the organization, consistently enforced, regularly reviewed and updated and consistent with the organization's bylaws and mission. The absence of clear policies, or the avoidance of implementation, can create situations that undermine board authority, jeopardize organizational efficiency and risk the smooth functioning of the group (Berl, 2005).

An organization should establish internal and external policies that guide its operations. While the Board should draw up these policies and adopt them, they do not need to be a part of the organization's formal bylaws. Regardless, they should be duly noted and included in a Board notebook, so that all Board members can refer to these policies to guide their decision-making (Berl, 2005).

Internal

Leadership Organizations need to recognize the difference between the way in which an all-volunteer organization functions and one that has a paid executive director. Boards need to understand clearly this difference – especially as they make the transition from the former to the latter. Staff An employee should have a contract that spells out length of employment, salary, hours expected, vacation and sick leave, any benefits (insurance, retirement plan, etc.), annual review, etc. Of particular note is the annual (or more frequent) review of staff performance. Not only is this evaluation the basis for any salary increases, it is also the time to note shortcomings and problems and can serve as a way to document difficulties in order to avoid possible lawsuits regarding wrongful termination, harassment and discrimination, disagreements about promotions or salary actions, etc. Another policy that many groups have found helpful is a procedure for staff grievances. Financial management A Board should spell out clearly who has authority to sign checks, number of signatures required on checks over a certain amount, any banking or investment procedures or restrictions. In addition, the Board needs to establish its process for its adoption of the annual budget and stipulate regularly scheduled review of the organization's income, expenses and cash flow (Berl, 2005).

External

Public Position Most organizations take public stances on issues from time to time. A Board needs first to determine its "persona" and "tone". What kind of public "face" do you wish to present? (i. e. how strident do you wish to appear?) What kind of rules do you wish to adopt as you interact with public officials, area businesses and other members of the public? What subject matters do you wish to address? Will you limit yourselves to only water and pollution issues? to growth and sprawl matters? to natural resource issues? Having your organization's priority work clearly articulated (per a Strategic Plan or other such planning tools) will help set this scope of issues. Many groups develop background papers to help them articulate the issue and the scope of the problem, so that when the opportunity to speak out arises, they have a framework from which to work. What procedure should your group take for taking a public position? A Board needs to establish the parameters that the group should take. Will your organization take legal action? If so, are the procedures you follow different that taking a position? Spokesperson(s) Who is authorized to speak publicly on behalf of the organization? Usually, the Executive Director and the President share this responsibility. Sometimes, the chairperson of the Policy Committee (if one exists) may also be designated (Berl, 2005).

General

The Board should establish a procedure to undertake an "annual audit" of the organization – of itself, of the staff, of the programs and projects, of its finances and fundraising. This process can be informal or more formalized, using a written guideline, such as the Institute for Conservation Leadership's "Benchmarking" (Berl, 2005).

2.1.6.5 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. Depending on the epistemology underlying the learning design, learners might interact with instructors and tutors, with content and/or with other people. Many

educators expend enormous amounts of effort to designing their learning to maximize the value of those interactions (Tanya, 2011).

Organizational learning (OL) occurs when the individual members detect the discrepancy between actual and expected results, and try to correct the errors or challenge the underlying assumptions. OL means the process of improving actions through better knowledge and understanding. The new insights or ``theory-in-use'' are embedded in the shared mental models of other organizational members or in the organizational artifacts to make the learning become organizational. There is an inherent assumption from the definition that learning will improve future performance through change of insight, new organizational structure, new actions or the combination of all. OL occurs when individuals within an organization experience a problematic situation and inquire into it on the organizational behalf. They experience a surprising mismatch between expected and actual results of action and respond to that mismatch through a process of thought and further action that leads them to modify their images of organization or their understandings of organizational phenomena and to restructure their activities so as to bring outcomes and expectations into line, thereby changing organizational theory-in-use. The outcome of learning can be manifested in various ways. The concept of the experience curve is a well-developed concept in the economic discipline, measuring the manufacturing unit cost reductions from accumulated production volume to explain the efficiency gained by personal experience in terms of better knowledge of the work and external environment. The improvements are understandably gained through better understanding of the work activities, process redesign, innovations or economies of scale. However, the question of how organizations actually learn remains unsolved. It can be answered either from the individual or organizational level, depending on the unit of analysis and the research goal (Hong, 1999).

Process of organizational learning

The prevalent paradigm of understanding the collective process of cognitive change in organizations has taken very where researchers define organizations as single entities having the same information searching and processing behavioral responses as individuals. Learning activities first take place in the cognitive structure of the organization in the form of shared mental models or organizational knowledge. The

objective is to increase their ability of searching, encoding, distributing, and interpreting the external information, which is called the ``absorptive capacity'' of the organization. Organizational knowledge structure is not just merely the knowledge structure of the top level management, or the so-called dominant, but is developed through a consensus process in which the main concept is identified, and the relationship between concepts is discussed. Four components are developed to describe the learning process, which are:

(1) knowledge acquisition,

(2) information distribution,

(3) information interpretation

(4) organizational memory.

So the more closely the collective thinking of all significant individuals is aligned, in the sense that different individual perspectives are understood and respected, the more effectively organizations can interact with the environment and interpret the meaning of different signals continuously in order to survive. The interpretation process includes environmental scanning, interpretation, and learning. From the understanding of the meaning of data collected, subsequent actions are undertaken by organizational members to align with the environment to be competitive and innovative (Hong, 1999).

2.1.7 Characteristics of Organizational Memory

The level of OM refers to the amount of stored knowledge an organization has about a particular phenomenon. High level of memory provides base of organizational absorptive capability, which enhances learning and accumulates more knowledge. But the greater the prior experience, the less likely organizations engage in information searching activities, this may influence flexibility, causes competence trap or core rigidity, so we can measure the OM through its dispersion and content. Different meaning of distribution and dispersion. One means knowledge or information distributed and shared among various knowledge retention bins. The more highly OM is distributed, the more shared norm, value, or routines among various individuals, groups or organizational units. The convergent nature of OM enhances organizational coherence, which enhances the efficiency of exchange. But the consistent minimum set implied by convergence lessens the diverse opinions and perspective essential to new knowledge creation. The dispersion

of knowledge means specialization and complementarities which can provide various domain and novel knowledge to prevent local learning and enhance capability(Tsai, 2005).

There are two types of OM, procedural and declarative memory. Procedural memory is distinguished from declarative memory. Procedural memory refers to process memory, which is similar to routines and made the performance faster and more reliable over time. Declarative memory refers to the memory of concepts, facts, or events. In organizational context, declarative memories may refer to knowledge about customers' requirement, commercial specification, product specification, production capability, bill of materials, and scheduling rules. They can be found across different organizational units, databases, or intranet. Riding a bike is a good example. Riding a bike involves procedural memory, but it is contrasted to the declarative memory of the mechanics underlying riding a bike (Tsai, 2005).

2.2 Intellectual Capital

2.2.1 Introduction

The IC of an organization comprises such intangible resources and assets that an organization can use to create value by converting it into new processes, products, and services. IC is the knowledge, experience, and brainpower of employees as well as knowledge resources stored in an organization's databases, systems, processes, culture, and philosophy. Business has always relied on its intangible resources, along with tangible and capital resources, to create value and achieve the organization's goals (Al-Ali, 2010).

The former editor of the business magazine "Fortune" Thomas Stewart, and author of the famous column Leading Edge, described IC as something that cannot be touched, although it slowly makes you rich. In general, the term IC is used to refer to intangible assets or intangible business factors of the company, which have a significant impact on its performance and overall business success, although they are not explicitly listed in the balance sheet. The value of the company does not only include physical and financial capital, but to a large extent IC as well. Microsoft for example, is a company

which managed to create enormous profits in spite of the limited traditional physical and financial resources, due to the significant share of IC (Zagreb, 2007).

"IC is often a synonym term of intellectual assets, intangible assets or knowledge assets" (Zhou, 2003, pp. 264).

So there is increasing evidence that the drivers of value creation in modern competitive environments lie in a firm's IC rather than its physical and financial capital (Petty, 2006).

2.2.2 Background

The term IC was first published by John Kenneth Galbraith in 1969. He believed that IC meant more than just "intellect as pure intellect" but rather incorporated a degree of "intellectual action". In that sense, IC is not only a static intangible asset, but an ideological process. (Bontis, 1998).

The roots of this term are found in the economics field, but the label became popular when Skandia, Dow Chemicals, and the Canadian Imperial Bank of Commerce started to use it to denominate all their intangible firm resources. In particular, important differences between the book and market value of firms in the service industry prompted managerial interest in measures that could capture the invisible side of companies (Vera, 2001).

The interest in IC as a business management tool is seemingly in its embryonic stage of development. Among academics, IC has been researched for a slightly longer period, and traceable to ideas and studies on social and IC (Salleh, 2007).

2.2.3 Definitions

The research about the definition of IC came of the west. The concept of IC was first proposed by famous economist of US, James K. Galbraith in 1969. And he thought that IC was not only a kind of static intangible asset in itself, but a kind of dynamic capital without fixed capital form, and it is the process effectively utilizing knowledge, and a kind of measure to realize the target. IC can be defined as the matters which were known by all members in the company and could help the enterprise to acquire the competitive advantage in the market. Starting from the measurement of IC, the IC

defined as the part that the market value of the enterprise exceeded the book value, where it could be a kind of intangible asset based on relatively infinite knowledge. The essential of the enterprise IC was to integrate intangible assets existing in organization structure, system arrangement, enterprise culture, employee's quality and enterprise management relationship. The IC meant that knowledge or knowledge commodity was regarded as the measure to implement value enhancement or offer service in the knowledge economy. The connotation of IC could be defined from four aspects such as the definition, the representation, the function and the character of IC (Ding, 2010).

Stewart (1997) defines IC in the general term as intellectual material i.e. knowledge information, intellectual property and experience that can be used to create wealth. Lynn (1998) defines IC as the wealth of ideas and the ability to innovate, both being factors that determine the future of the organization. Edvinsson (1997) explains IC as applied experience, organizational technology, customer relationships and professional skills that provide a firm with a competitive advantage.

There are several indicators specified by various researchers in their attempt to measure IC. For example, Edvinsson (1997) used the 'Navigator' model that focus on financial, customer, process, renewal and development, and IC to measure IC. Bontis (1998) conducted an exploratory study that developed measures and models of IC through survey questionnaires. Definitions and conceptualizations of IC are not significantly different among the researchers. Many IC models have similar constructs and measures that are merely labeled differently (Salleh, 2007).

2.2.4 Classifications of Intellectual Capital

The IC has been classified by researchers into three main parts, HC, structural capital (SC) and Relational capital (RC). IC represents the individual skills applied to satisfy customers. IC is the organizational capabilities of the enterprise, demanded by the market. Relationship capital is the strength of a franchise afforded by a business's ownership of rights (Cheng, 2001).

2.2.4.1 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. HC has also been defined on an individual level as the combination of these four factors; genetic inheritance, education, experience and attitudes about life and business (Bontis, 1998).

It encompasses all the employees with all the individual and collective knowledge they have accumulated, their capabilities, attitudes, capacities, behavior, experience and emotions, but only in the case, when they are able to transform their knowledge and capabilities into actions in accordance with the business strategy which contribute to tangible and intangible value creation for the company such as value added, new clients, better image, more successful and efficient work organization, innovative and improved products, win to win partnership. Therefore, even the brightest people can be dead capital if they do not know how to contribute to their company's value creation. All employees have certain potential for value creation but not everybody will be successful in the same way. The HC also can be classified into three shapes; competences, relationships and values. Competences refers to the professional skills and expertise of the employees, meaning that they know exactly what, how and when to do things under given circumstances. In addition to, social competence is important as well, it is related to the capabilities of employees to work with other people, as examples manners, behavior, communication skills, team work, fitting into the corporate culture. Relationships, the more successful the employees are in establishing value creating relationships with their colleagues, clients, partners or other professionals, the better the overall performance of the company will be. Values, the notion of employees about what is valued and appreciated in their company and what represents undesirable behavior. These notions, which are often inarticulate, have a strong impact on the ways, models and modes the employees are doing their work (Zagreb, 2007).

Hofmann (2008) defined the HC as the technical skills, social competences and motivation of management and staff, patents, copyrights etc.

HC as the source of organizational culture and innovation, development of this capital can be possible through considering the ideas of employees and listening to their suggestions to develop the business. It is possible to enlist the component of employee capital, which is also considered as the corporate capability of an enterprise, in the sense of benefiting from the acquired knowledge of the people in its body, such as knowhow, training, professional adequacy, studies aimed at data production, studies aimed at forming capability/skill, the joy of entrepreneurship, invention, accepting and rejecting skills and revolutionize (Zerenler, 2008).

Employees generate IC through their competence, attitude and their intellectual agility. The competence includes skills and education, while attitude covers the behavioral component of the employees work. Intellectual agility enables an employee to change practices and to think of innovative solutions to problems (Salleh, 2007).

HC is the foundation of IC, a primary element to perform IC's functions. It refers to such factors as employees' knowledge, skill, capability, and attitudes in relation to fostering performances. Such knowledge and skill are contained in the employee's head. HC is important as the foundational source of innovation, strategic renewal of a company and the company can thus realize and create value in the knowledge based economy. So HC can be defined as a combination of employee's competence, attitude and creativity. Employees' competence is the hard part of IC, it includes employee's knowledge, skills, talents, and knack, of which knowledge and skill are uppermost. Knowledge, which consists of technical knowledge and academic knowledge, is obtained mainly through school education and is thus theoretical. Skills, the employee's capability of accomplishing practical

assignments, are obtained primarily through practice, especially the tacit skills that cannot be literally expressed, even though it can also be developed through school education. Employees' attitude is the soft part of IC, including their motivation for

work and satisfaction from work. It is regarded as the prerequisite for employees to give full play to their competence (Chen, 2004).

2.2.4.2 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. An individual can have a high level of intellect, but if the organization has poor systems and procedures by which to track his actions, the overall IC will not reach its fullest potential. An organization with strong SC will have a supportive culture that allows individuals to learn. Structuring intellectual assets with information systems can turn individual knowhow into group property (Bontis, 1998).

SC is the supporting infrastructure of HC, hence there are two kinds of IC: organizational and customer capital. Organizational SC, which is the ways of running the business, management systems, drafts, means of control, information and communication systems, value management systems such as finances, investments, accountancy, development, relationship with other employees, database, documentation and intellectual assets such as patents, copyright, licenses etc. This type of capital enables an organization to function in a systematic and codified way. The customer capital encompasses the relationships with customers and data bases with relevant information on customers. If we encompass relationships with the suppliers and partners as well then the term relationship capital is more appropriate (Zagreb, 2007).

SC is the total of systematical studies, aimed at providing a lever by making the knowledge and skill, which are stated as the employee capital, institutional and forming an united OM. Every enterprise has its own unique SC. All of the immovable properties of an enterprise unite the SC and hardware, software, database, organizational structure, patents and trademarks form the SC (Zerenler, 2008).

The SC is the mechanisms and structures, which help to support employees. It comprises all non-human storehouses of knowledge in organizations including the databases, organizational charts, process manuals, strategies, routines and anything whose value to the company is higher than its material value. It's as what remains in the company when employees go home. In contrast to HC, SC can be owned by the

organization and therefore can be traded. The SC deals with the mechanisms and structures of the organization that can help support employees in their quest for optimum intellectual performance and therefore overall business performance (Salleh, 2007).

SC is subject to HC, since IC is a determinative factor of the organizational form. On the other hand, once influenced by HC, SC exists objectively independent of HC. For example, organizational structure and company culture can exert foundational effects independently. SC can be classified into company culture, organizational structure, OL, operational process, and information system. A company's culture is the values, faith and behavior criterions approved and shared by all the staff. Values are what a company regards as the most important to its business, employees and customers. Faith refers to an employee's attitude towards himself, his company and customers. Meanwhile behavioral criterions are the unwritten rules emphasizing such matters as employees' appearance and cooperation with one another. Company culture under the guidance of a favorable managing philosophy is a valuable asset. Only under the strong culture can a company give full play to its employees' competence and motivate them to serve the company and customer heart and soul (Zagreb, 2007).

Organizational structure is the power and responsibility structure formed in the managing process. This power and responsibility structure can find expression in the policy-making structure, the leading structure, the controlling structure and the information structure. Organizational structure is both static and dynamic since organizational structure includes not only the formal organizational relationship consisting of the power relationship and the control system, but also the informal organizational relationship. On the other hand, organizational structure is influenced by its internal and external environments, as a result, there will be an organizational change to promote the organizational development. Some managers usually believe that the more they learn about the change, the better they will manage it and the better the company will perform. Organizational competence is the result of the perennial learning and accumulating, and it is becoming one of the most important core competence of a company. It is affirmed that in the twenty-first century the only way for a successful company to maintain its competitive excellence is to be quicker in learning than its competitors. The operational process, which ensures a company to complete its various

operational tasks, is the most effective working methods and processes after a long-term accumulation and deposition. The total quality management and the company reconstruction, which are popular in the later twentieth century, focus on the reform in operational processes in order to increase operational efficiency and reduce production cost. The information system includes the storage, disposal and transmission of the inner information of a company. A favorable information system enables a company to quicken the flow of the inner information, heighten the operational efficiency, and hasten learning within the company(Chen, 2004).

2.2.4.3 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. Since creating such relationships does not require heavy investments, there is actually no excuse for low quality relationships or destructive relationships with other companies or institutions. The relationship with suppliers and partners is of highest importance since they are direct participants in the value creation system for the end users. These systems go beyond limits of individual companies and they provide opportunity for networking of various professions (Zagreb, 2007).

The knowledge of marketing channels and customer relationships is the main theme of RC. Frustrated managers often do not recognize that they can tap into a wealth of knowledge from their own clients. After all, understanding what customers want in a product or a service better than anyone else is what makes someone a business leader as opposed to a follower. RC represents the potential an organization has due to its intangibles, these intangibles include the knowledge embedded in customers, suppliers, the government or related industry associations (Bontis, 1998).

The RC puts forward the value of the relationship of an enterprise with customers, suppliers and the rest of the society for consideration and states the loyalty of mentioned ones to the enterprise (Zerenler, 2008).

RC is defined as the knowledge embedded in the marketing channels and customer relationships that an organization develops through the course of conducting business (Salleh, 2007).

RC acts as a bridge and a catalyst on the operations of IC, is the main requirement and determinant in converting IC into market value and thereupon organization business performance. Without RC, market value or organizational performance cannot be achieved. RC is most directly related to a company's business performance. The cultivation of RC relies on the support from HC, SC and innovation (Chen, 2004).

Based on above illustrations and definitions, in the study only HC and SC found relative relevant to the scope of work for GPGC since it has unique and sole customer which is PENRA. The HC formed in GPGC in during many elements and indicators, the following were selected t represent the HC at GPGC

- Practical Experience
- Personal skills
- Performance efficiency
- Knowledge
- Innovation
- Satisfaction and Loyalty
- Self-learning skills
- Values and Believes
- Leadership and responsibility

Where the SC will be measured in the study through the following elements and indicators

- Quality Management
- Competitive Advantages
- Investors' Trustee & Organization Reputation
- Organization's Structure

- Employee's Behavior
- Knowledge Management
- Cooperation and Teamwork
- Organizational Culture
- Risk Avoidance

2.3 Gaza Power Generating Company

2.3.1 Introduction

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). GPGC is the operating company of the power plant and owned by the Palestinian Electric Company (PEC).

2.3.2 Electricity in Gaza

The Gaza Strip's needs electrical power ranged between 240 and 280MW according to Office for the Coordination of Humanitarian Affairs at occupied Palestinian territory (OCHA) during May 2010, of which 120MW which forms around 42% is purchased from Israel, distributed in separate feeder lines along the Gaza Strip as shown in Fig (2.1), and 6% is purchased from Egypt, distributed mainly to the Rafah area. The remaining electricity which equals to 140 MW at the beak loads need is supposed to be met by the GPGC power generation, but due to fuel and the power transformers shortage GPGC is able to generate up to 90MW while its nominal production is not exceeding 55-70MW which cover 20% of Gaza electrical power requirement. This is resulting in a deficit of up to 32%, GEDCO copes with the electricity shortage by applying a load sharing system, through which it schedules electricity cuts in one area in order to feed another, (OCHA, 2010).

2.3.3 Vision

The company always working, amidst difficult political turmoil's towards a brighter future for Palestine. The company looks for maximizing the shareholders value (Company annual report, 2009).

2.3.4 Establishment, Value and Ownership

The company has been established in 1999 in accordance with Palestinian laws, to own and operate 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 Gaza electrical power distribution feeders is shown in Fig. (2.1) as per OCHA (2010)

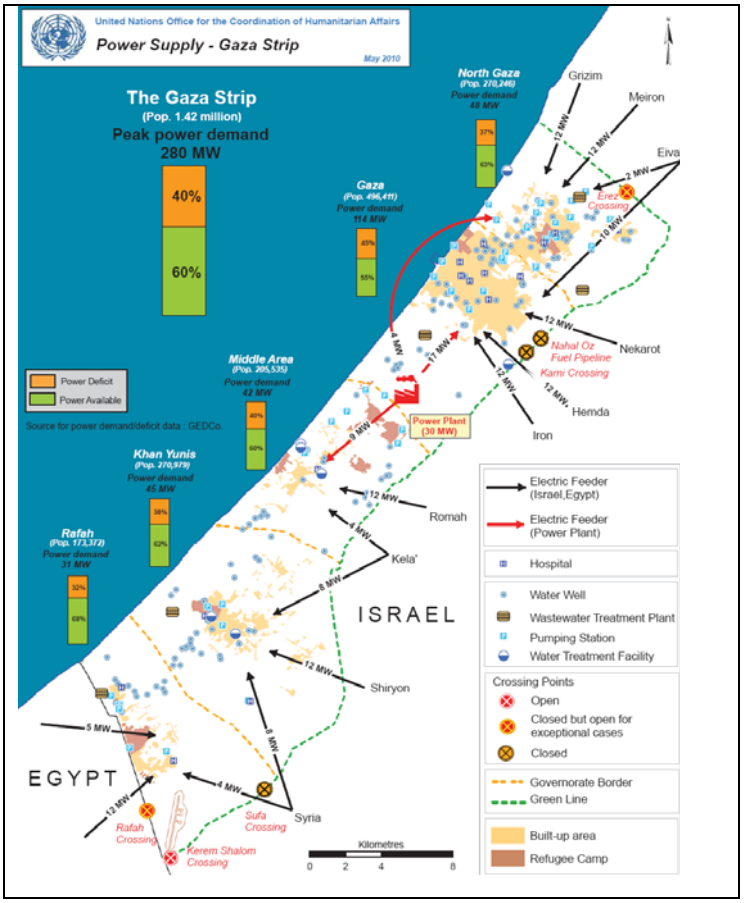

Fig.(2.1) - Gaza electrical power distribution feeders (OCHA, 2010)

2.3.5 Establishment History

- 1999, Establishment of PEC in compliance with Palestinian laws, to own and operate the first Palestinian power generating company in Palestine.
- 1999, Establishment of GPGC as the operating company for the power plant.
- 2004, Commercial operation on 15 March 2004.
- 2004, Started trading in the Palestine Security Exchange on 10 May 2004.
- 2006, Air strikes targeting the power plant's six power transformer on 28 June 2006.
- 2006, PEC resumes operation for the first time after the air strike on 30 October 2006 (Company information brochure, 2007).

2.3.6 Declaration Agreement with Palestine Securities Exchange

PEC is in compliance with the Palestine Securities Exchange and Capital Market Authority declaration agreement in order to maintain transparency in all of company activities and to ensure full communication between the company and shareholders (Company information brochure, 2007).

2.3.7 Main Contracts and Agreements

GPGC is a party of an implementation agreement dated June 18, 1999 with the Palestinian National Authority (PNA), whereby the PNA has undertaken a number of steps to facilitate the project and to guarantee the obligation of the Ministry of National Resources, which was ratified by the Palestinian Legislative Council. GPGC is also party of long term power purchasing agreement dated June 18, 1999 with PENRA, whereby the PENRA purchases the power from GPGC subject to the term and conditions of the agreement (Company information brochure, 2007).

2.3.8 Technical Brief

The combined Cycle Power Plant is based on four ABB gas turbine generators used in combined cycle with two steam turbine generators in a configuration of two generating blocks each consisting of two gas turbine generators and one steam turbine generator. The gas turbines are equipped with dual fire capability and could burn both natural gas and liquid fuel. Initially conventional combustion chambers utilize distillate

fuel (Diesel Oil) which is trucked into the power plant. The fuel used by the power plant is stored in two big tanks with a capacity of 10,000 cubic meters each, and the average daily usage of diesel fuel by the power plant is approximately 700 cubic meters at full operation thus, when the tanks are filled to their capacity, the power plant can be operational for 30 days in the case of fuel delivery shortage. It is also worthwhile to mention here that natural gas will replace diesel oil once it becomes available (Company annual report, 2007).

2.3.9 Working Team

"At Palestine Electric Company we encourage our team to regularly assess themselves and work on the areas that need improvement, for the benefit of the company and also for their personal growth and career goals attainment. We also carry out quarterly management assessments of the staff which allows for the efficient allocation of training courses and assignments to the team. Employees receive regular feedback on their performance and meet with their managers to discuss development opportunities and their career goals. Our employees took part in various training courses depending on their evaluation and work requirements" (www.pec.ps, 2011).

"A strong professional and dedicated team is one of the main pillars that support the growth and development of the company, retaining our employees is important to us and we value our employees and are proud of our family atmosphere upon which we all share together our successes and strive together to make the company grow and develop. Employee retention also shows that our people management practices are yielding successful results" (Walid Salman, Executive Managing Director, 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's local staff has also proven to be highly competent and qualified with more than 85% of the team having

university degrees and diplomas (www.pec.ps, 2011). 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. The employees are classified according to the academic level as shown in table (2.1).

Table (2.1) – Employees Classification as per Education

Education Level	No. of Employees
Bachelor's degree	82
Master degree	5
PHD degree	2
Diplomas	29
Vocational	49
No Education	2

2.3.10 Company Structure

The company is formed from several departments including

- Management.
- Operation department.
- Maintenance department.
- Financial department.
- HR department.
- Safety department.
- IT department.
- Contracting department.
- Training department.
- Purchasing department.
- Public relations department.
- Stores department.
- Security department.
- General services department.

Chapter 3

Previous Studies

3.1 Introduction

The third chapter of the previous studies includes twenty studies that are relative to the research topic from the researcher point of view; eighteen of which are English studies while five studies are written in Arabic, one of them is a master thesis prepared at the Islamic university at Gaza. The studies have been publish in the recent years where two of them published in 2011, five were published in 2010, eight were published in 2009 and 2008 while the rest of them published during the years 2002 up to 2007.

Unfortunately, the Arabic papers that were available to the researcher couldn't be satisfied since none of them covered the OM branch. Most of previous studies were cited from English Journals.

3.2 Arabic Studies

3.2.1 Hamada, 2010

The Training and its Effect on the Intellectual Capital Development at the National Palestinian Authority

The study is highlighting the impact of training on development of the IC and its indicators; capabilities and qualifications, knowledge, behaviors and orientation at NPA at Gaza Strip. The study population was the employees who participated in training programs, where a questionnaire was distributed to 345 and 381emplpyees responded which forms 99 percent respondent. The study aimed to explore the deviations in training impact on the IC regarding the sex, education, position, age, experience and number of training courses participated to increase the awareness about training sector and its importance to NPA and to increase the awareness about the IC importance and how to maintain and improve.

The researcher concluded that the training has a positive and effective impact on IC through the knowledge improvement, capabilities and qualification improvement, individuals' behaviors and orientations. The overall average of the impact of training on IC was 75.14% and the study detected the absence of deviations in the response of the sample participation due to sex, education, position, age, experience and number of training courses participated.

The recommendations set by the researcher were to set the training plans based on systematic analysis of the employees' needs, to adopt the efforts of the participating team to assist the others in knowledge exchange and mutual learning, to facilitate the knowledge gathering processes, to continue in implementing training programs that improve the qualifications and capabilities, to provide intensives for who assisting in training and to match the increments and promotions with the related training courses collected by the employee.

3.2.2 Al Fadel, Moa'ied, 2009

Relation 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 used the published financial data from 87 banks at Arab gulf countries for the years of 2004 to 2006 to detect the importance of IC in improving the organization performance.

The study revealed that, there was a significant relation between IC and return on investment (ROI), productivity and organizational growth. 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.

3.2.3 Atteiah, 2008

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 ElDywania in Iraq and studies if the governmental banks' systems have the IC that allow the organizations to implement the fully utilization of its experiences. The study presents that IC is formed from the knowledge, applied experience, techniques, and customer relation and provides the organization by the competitive advantages by increasing the organization value. The IC is consisting from the human, structure and RC and it is valuable when it copes with the different knowledge levels; cognitive knowledge, advanced skills, understanding and self motivated creativity.

A questionnaire and interviews were the research instruments to conclude 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. In addition, the study explores the importance of individuals' knowledge in improving the organization performance. The researcher recommended to determine the qualifications' gab in the business market and then to design matching education and training programs to implement periodic individuals' knowledge evaluation and join the result with the intensive and rewards systems, to construct infrastructure for the IC and to work more on improving the knowledge at the workplace.

3.2.4 Kazem, Abdallah, 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. A questionnaire was distributed to 30 of the managers and their assistants at the company to measure the hypotheses of the research.

The research problem was in measuring the effect of the IC dimensions; HC, SC and RC on the innovation and if the management is considering a clear framework about IC at the organization. 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.

The researcher recommended through his study to care more about IC since it representing all the intangible assets and HC through building qualified human capabilities and to enhance the management to learn more about IC and how to be developed.

3.2.5 Yousef, Abdel Sattar, 2005

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 polices, strategies, and rules. The research problem was how business firms invest in IC with the guarantee of none fluctuating rate in its value.

The study concluded that the organizations are still not using any specific forms for evaluating IC values while the governments is still not caring much about this issue. The study found that HC is the most important item of IC at the knowledge economy and it's the most difficult part to be evaluated.

3.3 Foreign Studies

3.3.1 Kamukama and Others, 2011

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 population consisted of 78 microfinance institutions which are registered members of the Association of Microfinance Institutions in Uganda. Out of 65 microfinance institutions, 51 responded representing a 78.5 percent response rate. The paper adopts MedGraph program (Excel version), Sobel tests and the Kenny and Boran approach to test for mediation effects.

The results showed that IC has a substantive and significant relationship with financial performance. The study showed that there are positive and significant relationships between IC and competitive advantage existed in microfinance institutions. The mediation effect of competitive advantage on the relationship between IC and financial performance is further confirmed by significant Sobel z-value of 2.46 ($p < 0.05$).

The findings indicate that mediating effect of competitive advantage on the relationship between IC and firm performance satisfies the conditions of mediation. This is true because the uniqueness of intellectual assets that reside in an organization can put an organization in a better competitive position. This finding links well with resource-based view of the firm which postulates that the presence of assets that are difficult to imitate are associated with the firm's competitive position. This confirms that the presence of

competitive advantage acts as a conduit between the IC and financial performance in microfinance institutions.

The study recommends that management should intensify initiatives to encourage greater understanding and acceptance of the concept of IC which boosts firms' competitive position and superior performance.

3.3.2 Vera and Crossan, 2011

OL, knowledge Management and Intellectual Capital: an Integration Conceptual Model

The purpose of this paper is to provide a conceptual model that integrates OL, KM, and IC and establishes a theoretical link between these constructs and performance. The research questions how do, OL, KM and IC fit together, and how do they impact performance. The paper is a theoretical study where OL, KM, and IC literatures are reviewed, compared, and contrasted. A framework of the integration of OL, KM and IC and their link to performance is offered. Finally, conclusions and directions for future research are included.

The study concluded that to clear up the conceptual confusion in the learning field by providing synthesis and integrating three closely related constructs: OL, KM, and IC the researcher reviewed previous research in an effort to understand how these three literatures fit together and how they can be aggregated into a more meaningful conceptual model for both academics and practitioners. Another conclusion extracted from the analysis is that the knowledge and IC concepts can be integrated into one single construct. However, a close look at the proposed components of IC led to conclude that all the elements of HC, SC, and RC are in fact grounded on different types of knowledge. Some of this knowledge is embodied in individuals HC and some of it is embedded, uncultured, or encoded in non-human storehouses of organizational knowledge SC and RC. Also researcher emphasized the strong link between the learning process and the KM processes. The researcher proposed a framework as an instrument to facilitate communication between researchers working on various facets of the learning phenomenon.

3.3.3 Huang and Wu, 2010

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. Data were collected from samples of the Taiwanese biotechnology and Taiwanese pharmaceutical manufacturers by using only small and medium-sized companies. A total of 110 questionnaires were mailed to pharmaceutical companies, 220 to medicine pharmaceuticals, and 380 to biotechnology companies where a total of 113 valid responses were obtained, representing a valid response rate of 15.92 percent.

This study partially empirically 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.

The SC and RC interaction was significantly negatively related to knowledge productivity. A possible explanation for the lack of interaction is that, in some cases, SC may actually hinder knowledge productivity. Highly formalized processes, systems, structures, etc. have a tendency to reinforce existing norms and obviate against the variation and change that promote knowledge productivity. Therefore, the study suggests that managers build contingent circumstances for dynamic knowledge productivity.

3.3.4 Guerrero and Pino, 2010

Understanding Organizational Memory

The theoretical study represented that, the OM models and definitions can be found in the literature, 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. The paper presented a review of some OM models as well as some systems intended to manage part of the information stored in it. A few observations about the human memory from a cognitive science point of view are also included, giving design ideas for new OM systems. Finally, a new OM model is presented emphasizing information privacy aspects.

The study concluded that the OM has several definitions since this term was introduced where some of the terms used in the theoretical models may be too general, such as "knowledge needed in the organizations." A new model for OM consisting of five components was presented, the five components are the privacy, the search and retrieval, the hypertext, the conventional model and the collaborative activity, the new suggested model is shown in Fig. (3.1)

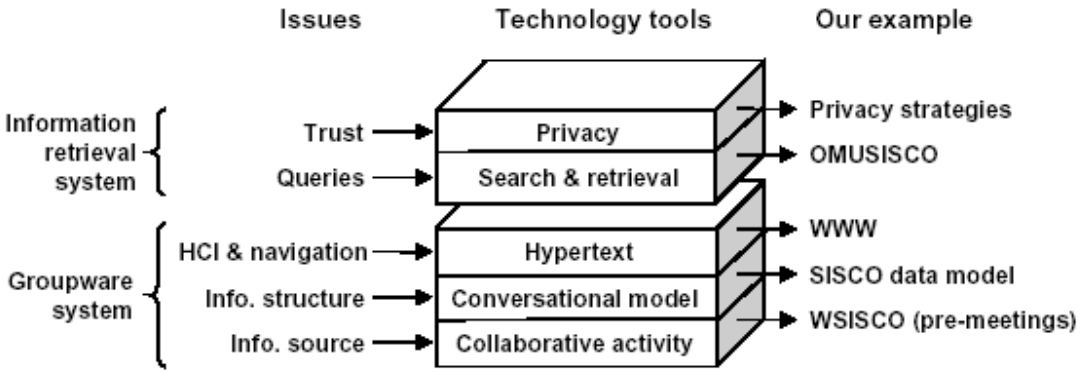

Fig. (3.1) Five component model (Guerrero, 2010)

3.3.5 Amiri and etal, 2010

Increasing the Intellectual Capital in Organization: Examining the Role of Organization Learning

The starting point of this research is that the economy has changed from an industrial into a knowledge economy, in which the competitive advantage of organizations is based on the ability to exploit knowledge resources. The purpose of the study is to investigate empirically the relation between the OL and IC components. The objective of this research was to test a Conceptual model of effects for learning on IC in industrial business in Iran. A questionnaire distributed to 35 employees at Cronbach's alpha which

form 92% from the population and 20 personal interviews were conducted with managers and experts. Fig (3.2) represents the conceptual map of the research .

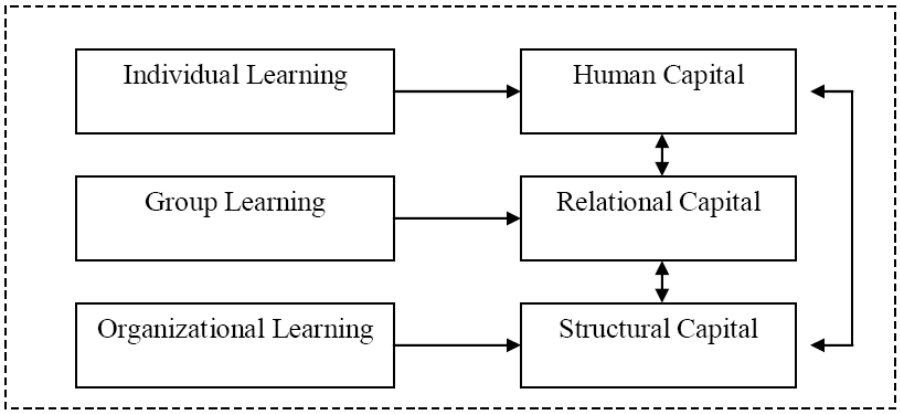

Fig (3.2) – Impact of OL on IC (Amiri, 2010)

The results of the research indicated that OL has positive and important effects on IC in general with $r = 0.48$, $P < 0.000$, and also on each of IC elements; HC, SC and RC. The learning in all the levels of the organization is one of the capabilities and significant properties can be studied for the organization and it could be so effective for the increase of SC. As a result, there is an important and positive dependency between OL and IC elements.

3.3.6 Vargas and Noruzi, 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 intention of the IC; HC, SC and RC is to value the intangible asset and reassess the knowledge gaps to improve the business advantage.

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. Also it highlighted the importance of IC Technology (ICT), where ICTs are the enablers of change and not by themselves create transformations in society. ICTs are best regarded as the facilitators of knowledge creation in innovative societies. Then the problems of IC and the role of IC in the organizations come.

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. A firm's IC; employees' knowledge, brainpower, know-how, and processes, as well as their ability to continuously improve those processes is a source of competitive advantage. Successful organizations hire intelligent staff and this is the usual form of developing IC in the organization. The organizations have adapted or transformed their management styles and business models to manage intellectual and respond to IC enabled dynamics of the knowledge economy. Finally the study recommended that, managers and CEO's should provide themselves with the latest knowledge so that they could overcome to the forthcoming events.

3.3.7 Bencsik and Others, 2009

From Individual Memory to Organizational Memory: Intelligence of Organizations

The study is a theoretical study starting from the clarification of that intensive changes of environment and strong market competition have raised management of information and knowledge to the strategic level of companies. In knowledge based economy only those organizations are capable of living which have up-to-date, special knowledge and they are able to exploit and develop it. Companies have to know what knowledge they have by taking a survey of organizational knowledge and they have to fix actual and additional knowledge in OM. The question is how to identify, acquire, fix and use knowledge effectively.

The study set a model showing the multilevel of interpretation of the learning, knowledge and memory as it shown in Fig (3.3).

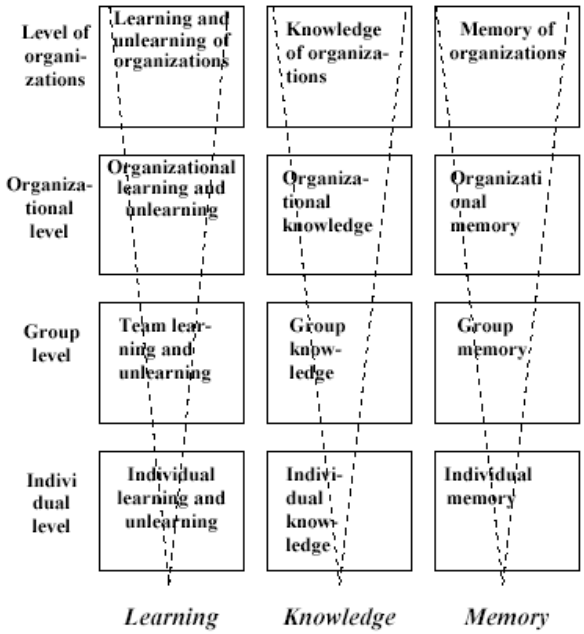

Fig (3.3) – Multilevel of interpretation of Learning, Knowledge and Memory (Bencsik, 2009)

The study concluded that when experts leave, the cost the organization is even greater because it takes years of education, training and experience to make one. Loss of that knowledge can undermine the competitiveness and competence of the firm and have an impact on cultural, norms and values. In sum, a better understanding of OM can assist managers in framing and solving problems related to the retention and utilization of organizational knowledge within their organizations beyond the limited support provided by current information technologies. Such knowledge can lead to higher levels of organizational effectiveness which in turn can result in the attainment of competitive advantage.

3.3.8 Vrinciannu and Others, 2009

Organizational Memory: an Approach from Knowledge Management and Quality Management of Organizational Learning Perspectives

The study presented three main categories; first is 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, second; the analysis of

the main quality models that may be employed in OL related services and the third part is a study regarding the perception of successful organizational factors in the field of KM based training services amongst Romanian companies and institutions. The research used a survey on 129 Romanian organizations (98 small and medium enterprises, 16 large enterprises, 5 banks, 5 multinational companies, 3 universities, 3 military organizations, one administrative institution) for the understanding the key organizational factors in assurance of OL success and those based on systems of KM. The total number of distributed questionnaires was 450 and 131 were with usable answers.

The research revealed a possibility that many organizations have not implemented a quality management system. Although the concepts of KM and quality management are essentially different, there are some common areas in their approaches. The analysis revealed the OL services based on KM systems are in the sample studied and a characteristic of large firms have a culture of capitalization on knowledge through a collaborative and oriented to knowledge environment.

The study reveals that, the success of implementing a system of quality management of services related to OL focuses on the client orientation , the continuous improvement of organization activities, defined and coherent processes, the guaranteed quality of learning processes, and finally the prevention instead of supervision or correction.

3.3.9 Oritz, 2009

Analysis and Valuation of Intellectual Capital According to its Context

The paper aimed to analyze and group the IC components of worldwide organizations through a humanistic model called CONICCVALTM (Contextual IC Components Valuation). The CONICCVALTM model in its schematic form can be regarded as a cone where the tip of the figure represents the nuclear dimension that groups together the intrinsic capacities of the human being. The components of the next dimensions (radial and peripheral) are generated by human capacities and differentiated by their transferability capacity; Fig (3.4) shows the CONICCVALTM model.

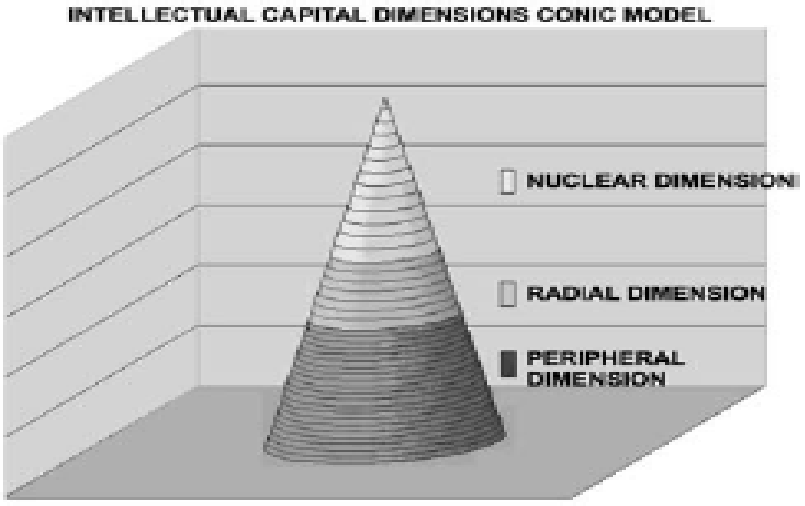

Fig (3.4) - CONICCVALTM model (Oritz, 2009)

Also the study aimed to consider the difference of perception on the value of intangible assets according to its context. The paper demonstrated that the geographic region, the segment of the industry, and the size of the organization are statistically significant factors that determine the weighing of IC where there are many principal components that shape IC and their profiles were identified to measure it according to the context.

The population consisted of 38,000 graduates and students of master's and executive education programs from a top international management school in the USA. This school has been consistently ranked in the last decade as the top graduate program in the International Management specialty. They represent a working community of approximately 12,000 companies in 140 countries. The selection of the target population was made through a simple random sampling model, and the survey was conducted via e-mail to a 1,568 respondents.

The study concluded that IC represents high value to organizations in the present time, but due to the constitution of its intangible assets it is even a greater economic value generator in the short, medium and long terms, therefore it is of utmost importance for managers and those in charge to generate and manage value and wealth within organizations to be aware of the relevance of these resources. The study emphasizes that

the best and only possible way to manage intangible assets is by being aware of its constituents and recognizing its value in the organization.

3.3.10 Zerenler and Others, 2008

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 indicated that three elements of IC; HC, SC and RC and the researchers looked to detect the relationship between IC elements and innovation performance. IC in this study was defined as the total stocks of all kinds of intangible assets, knowledge, capabilities, and relationships, etc, at employee level and organization level, within a company.

This study tested hypotheses with a questionnaire survey that was conducted in Turkish manufacturing companies. The industry is concentrated in clusters in the Marmara Region. There were 92 responses, which included 76 valid questionnaires and 16 invalid ones. The effective response rate was 78.63 %.

As per the imperical results the hypothese was significantly supported with F-value = 69.916 at $p < 0.01$. Moreover, the results also indicated that the higher the growth rate of an industry, the stronger were the positive relationships between three types of IC and innovation performance. Besides, RC was the greatest among these three types of IC in Turkish automotive supplier industry, HC was the next, and SC was the least. This shows Turkish automotive supplier industry emphasized the interactive “relations” with their suppliers, clients, and partners and it was imperative for Turkish manufacturing enterprises to develop their SC to increase their innovation performance. The study also found there were no relevant studies exploring the relationship between IC and innovation performance, so this study focused on this research gap.

3.3.11 Abel, 2008

Competencies Management and Learning Organizational Memory

The paper is a theoretical study aims to offer a project called MEMORAe as an alternative to the loss of competencies and knowledge in an organization where the

learning content is indexed by knowledge and competencies and organized by means of ontology. The study indicated that learners can acquire the knowledge and the competencies by doing different tasks and accessing different contents. In this context, companies must take into consideration two new risks: the knowledge obsolescence with respect to its environment and loss of know-how or competencies.

Within the MEMORAe project, the researcher was interested in online communities of practice using ontology to index and share resources. These communities may have been established in a face-to-face setting or not, and currently concern academics (teachers and students), also the researcher focuses on hard competencies and particularly knowledge resources, and the context and objective of the competency.

The study concluded that, the globalization, information and communication technologies and innovation are the new criteria of the economic environment. The knowledge capital of a company is increasingly crucial. In such a context, organizational performance is highly correlated to its employees' knowledge, competencies and the way they use them to achieve work outcomes. The concept of OM is born from helping organizations to manage their knowledge. However, traditional organizations are not made to learn. A great number of lessons and experience feedback is acquired then lost. Organizations acting as communities of practice facilitate their learning process. Learning can be considered as an outcome associated with acquiring new competencies.

3.3.12 Tsai and others, 2007

Core Competence and Core Rigidity: Organizational Memory Perspective

The study is a theoretical study aimed to explain the core competence and core rigidity from OM perspective. The study stated that the organizations, in the 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. For capability being embedded within OM and different contents of OM, OM perspective provides us more deeply understanding of core capability and rigidity. Constructs of procedural and declarative memory are adopted to explore the

rationales underlying the paradox. After reviewing the nature of capability/rigidity and OM perspective, the researcher infers propositions regarding the conceptual framework.

The study concluded that OM perspective provides insight to expand existing knowledge of core capability and core rigidity. For the conceptual paper, the study proposed conceptual framework to evaluate rationales and theoretical implication. When opposite effects of novelty and speed of organizational capability, the relative strength between procedural and declarative memories needs future research work. In process of capability accumulation, adaptive fit or robust transformation, the relations among Know-how as a procedural memory, know-what as a declarative memory and know-where as trans active memory remain future direction.

3.3.13 Li and Others, 2004

An Empirical Study on the Impact of Organizational Memory on Organizational Performance in Manufacturing Companies

The study discussed the knowledge as the important asset in organizations where effective KM plays a crucial role in organizational development. OM integrates all kinds of organizational knowledge. The paper analyzes the knowledge structure of OM in manufacturing company from internal and external sources of organizational knowledge. OM in manufacturing company is composed of four types that is managerial OM (MGOM), technical OM (TOM), cultural OM (COM) and marketing OM (MROM). These four types of OM components enhance organizational development jointly. The study suggests that OM is a dynamic factor. The empirical data for this research comes from the International Manufacturing Strategy Survey, initiated by London Business School and Chalmers Universities of Technology. International Manufacturing Strategy Survey covers 20 countries and 600 companies. The paper focuses on the impact of OM on organizational performance in manufacturing companies.

According to the survey, questionnaire the relationships of OM and organizational performance are analyzed. A conceptual model is presented in Fig (3.5).

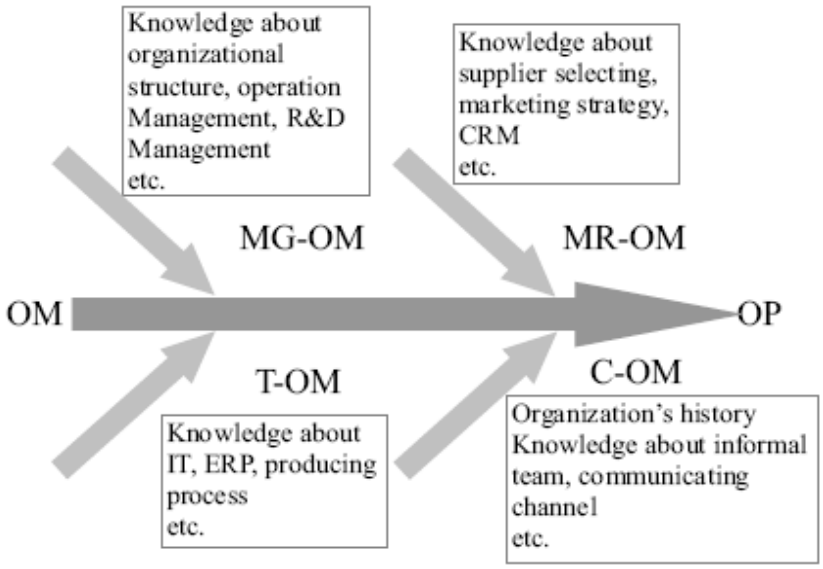

Fig (3.5) – OM and organizational Performance relationship (Li, 2004)

According to the test of dimension reduction of canonical correlation analysis corresponding sig. are below 0.05 Proportion of variance of OM explained by its own canonical variables is 38.8%. Proportion of variance of OM explained by OP is 28.9%. Proportion of variance of OP explained by its own canonical variables is 49.9%. And proportion of variance of OP explained by OM is 37.1%. All the analysis data is high enough, so the conclusion that OM and OP are relative.

3.3.14 Olsevicova, 2003

Organizational Memory for Improving Learning Management Systems,

Olsevicova in his theoretical study stated that the learning management systems are used for storing and delivering educational content. OM is a structured set of knowledge related to the organization experience in a given domain, which goal is to provide useful knowledge when members of organization need it. The study discussed a presentation for the idea of such a backup of university memory.

The study concluded that the universities start to implement and use learning management systems to achieve higher effectiveness of educational processes. The learning systems then will become an integral part of OM of the university, together with the content of various traditional and digital libraries, information systems and database

applications. The manipulation with knowledge stored in courses would be replaced by the manipulation with knowledge about knowledge.

3.3.15 Curado, 2003

Perceptions of Knowledge Management and Intellectual Capital in the Banking Industry

This article is to capture the perceptions of KM and IC in the banking industry at Portugal and to identify the relevancy and perceived value of such organizational variables. In that sense, this research paper followed a qualitative approach and considers two different KM strategies: exploitation and exploration and three different IC components: HC, internal structures and external structures. The study led to some findings, allowing to empirically verify most of the theoretical KM and IC literatures, as well as to gather some examples of its routines and elements, and also to identify the value given to KM and IC by the banks that took part of the study. Data were collected through interviews and data on the information collected using the pages filled in by the interviewees who were also used.

The paper presented the opportunity to verify that the value given to KM and IC in the banks is consistent with the relevancy of the KM and IC literatures and the necessity to develop KM and IC reporting as a common practice. The results emerging from the paper were the most valued IC components that consist of HC (related to people, associated to the amount of knowledge that doesn't remain in the organization when the individuals go out and generally in its tacit form).The author considers this study to be a further step in the scholarly research concerning KM and IC in the banking industry. KM and IC are research fields that still face some lack of cumulative theoretical development and empirical studies, presenting challenging and interesting opportunities to explore these concepts and their perceptions at the organizations. Following the literature, the banking industry proved to be an excellent setting for the study, both in terms of firm's participation and the relevancy of research questions involved.

3.3.16 Zhou and Fink, 2003

The Intellectual Capital Web: a Systematic Linking of Intellectual Capital and Knowledge Management

The theoretical explanatory paper established similarities between the IC and the KM at Australian organizations and proceeds to develop a systematic approach to linking them through the IC web (ICW). There are six components with the ICW: strategic objectives, management systems, measurement systems, knowledge workers, catalysts and reward and incentive systems. The integration of IC and KM requires alignment of KM processes with IC assets to meet the organization's strategic needs. A theoretical conjecture is developed in which the components of elements of ICW were interweaved to achieve strategic objectives. The systematic approach outlined in the paper should offer organizations valuable guidelines to maximizing their IC assets and managing their KM processes. ICW is illustrated in Fig. (3.6).

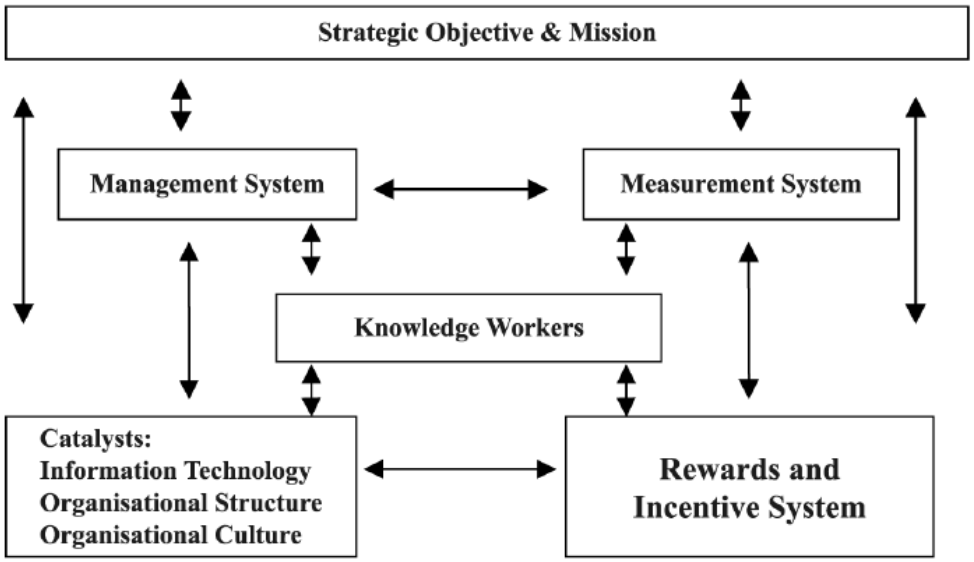

Fig. (3.6) – Intellectual capital Web (Zhou, 2003)

The study concluded that the key aspects of the research approach are summarized by that, IC is regarded as an organization's strategic resource taking the form of intangible asset and derived value from an organization's knowledge activities In this paper, the researcher argue that knowledge is one of intangible assets of IC and as such

KM processes lie within the wider processes of IC management. The existence of differences, similarities and complementariness between IC management and KM fosters a need to align KM processes with individual IC elements to pursue the development and maximization of IC. The ICW is designed to address this need by taking a systematic approach in managing and measuring knowledge processes for the purpose of creating and maximizing IC. The ICW is an integrated whole, each element integrates and interrelates with the other. Organizational strategic objective provides guidelines on IC identification and helps in identifying the knowledge workers who are a critical force in making the ICW function. Once key IC elements are formulated, the corresponding knowledge processes can be identified and KM systems can be implemented accordingly. The other elements of ICW are designed to help in strengthening the link between IC and KM. These include facilitating knowledge capture and transfer.

3.3.17 Jennex and Olfman, 2002

Organizational Memory/Knowledge Effects on Productivity, a Longitudinal Study

This paper discusses a longitudinal study that explored the relationship between the use of OM and knowledge worker productivity within the engineering group at a nuclear power plant. Data was gathered using a survey instrument collecting data on components of the OM systems (OMS), system usage, computer familiarity, and personal data, also structured interviews collecting data on components of the OMS, OMS effectiveness, and productivity. Productivity models based on ten years of performance history were generated from document research and interviews. The survey instruments were combined into a single survey and given to all 105 engineers, supervisors, and managers in the organization. A response rate of 79% was achieved on the survey. An OM and knowledge system was identified that improved effectiveness/productivity of the organization, the basic components of the OM and knowledge system remained the same over the study.

The paper concluded that memory happens, planned or unplanned, individuals and organizations will find a way to remember past decisions and events because it is cost effective to not re-invent the wheel or to start from scratch each time a decision has to be made. Although a great deal of quantitative data was taken, it was not possible to

quantify productivity gains as a function of OM and knowledge system effectiveness. The OM and knowledge system were found to be effective and to have improved in effectiveness over a five year period. The engineers were found to be more productive and much of the improvement was attributed to better systems, including improved OM and knowledge system components. A key and unexpected finding was that new members of the organization did not consider the OM and knowledge system as effective as established members and tended not to use the system until they became established members.

3.3.18 Wixler, 2002

Organizational Memory and Intellectual Capital

This exploratory paper utilizes the literature on OM to explore four models of the OM and concomitant mnemonic practices; the storage bin model, the narrative model, the innovation model and the political resources model. The storage bin is providing location and design of collective memory so as to reduce both the time to retrieve needed information, experience and the quality of information and experience lost, damage or irretrievable from storage. The narrative model is specializing in how to motivate that retrieval and use of information and experience in the OM. The innovation model of organization memory seeks to use information and experience in the organization memory to anticipate problems, attend to creative solutions and develop a bank of new, potentially useful information and experience in which to draw. Political resources model grows in networks where loose and fleeting coalitions abound, where the resource is the power and authority which is conferred on components of human system which control and thus gain legitimacy from the OM.

The study concluded that OM is a useful construct in illustrating how the literature on IC can be moved towards practice. The four model of organization memory all lend credence to the simple but powerfull recognition that at least when using OM, IC can be achived using very different practices. The study found that the field of IC is an immensely generative area of theoretical and conceptual issues so students of IC must move away from a once promising focus on the rewards of IC and being to determine when which practices are most usful.

3.4 Comments on Previous Studies

The prevoius studies concluded the direct relation or effectivness between knowledge and IC as provided by Vera (2011), Huang (2010), Attia (2008) and Curado (2003) where the knowledge and its management are the core of OM as indicated by Vrinciannu (2009) and Jennex (2002). The results acheived by the previous studies are giuding the current study to reach the direct relation between IC and OM as explicity illustrated by Wixler (2002) or impericaly mentioned and generated by Olsevicova (2003) and Vrinciannu (2009).

The studies as overall presented the importance of IC and the need of ongiong improvement strategies that must be set by the management and indicates how IC provided the organizations by achiving the comaptetive advantages and effectivness. The authors tied the success of improving IC by the knowledge and learning which are directly depending on OM proper management. Some authors set new models for OM such as Tasi (2007), Li (2004) and Bencsik (2009) as a bridge to reach the effeciency, productivity, learning management systems and competencies.

Many of the previouse studies are uptodate, but except Wixler (2002) none of the studies investigated the direct effect between OM and IC since they are investigated indirectly the effect of OM variables on one of IC indicators such as innovation, performance, competitive advantages, or others. On the other hand some of the studies were exploring the concepts of OM and IC and investigating the relationship between them through a mediator such as KM.

A shortage in the previous studies could be recongnized that there weren't many imperically measurable studies that could detect the direct impact between OM and IC. This measurble study make this research the first study to cover this issue and according to the the researcher's knowledge there is no arabic study that handled previously OM.

Chapter 4

Research Methodology

4.1 Introduction

This chapter addresses the methodology used in the study and deals with data collection, population and sample, research Instrument, variables measurement, reliability and validity of the instrument, scoring techniques, data-gathering procedures, and the procedure of statistical analysis.

The study used the analytical descriptive method which described and access the impact of the OM on IC. The descriptive method is used to compare, explain and evaluate in order to organize meaningful results.

4.2 Research Methodology

Where the analytical descriptive technique compares, explains and evaluates in order to generalize meaningful results to enrich knowledge, the research adopted the analytical descriptive technique to sustain quantitative and qualitative measurement and analysis, the descriptive part attempts to illustrate the concepts of OM and IC where the analytical part is to explain and explore the impact of OM on IC.

4.3 Data Collection

In this study; primary data and secondary data have been collected, the secondary data collected from:

- Scientific Journals such as the Knowledge Management, the Intellectual Capital and others through the electronic data bases such as Emerald.
- Thesis and dissertations accessed through the universities websites.
- Text books available on the websites.
- Internal documents and the intranet of GPGC.

The primary data obtained from survey questionnaire that has been developed based on the literature and has been modified regarding the supervisor's recommendations and the experts and academic judgments.

4.4 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 found 106 employees. A total of 106 questionnaires were distributed while 98 filled and returned within one month which formed a response rate 92%. The study adopted the complete census by which the whole study population used as the sample.

4.5 Research's Instruments

The research main instrument is 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 order to be able to select the appropriate method of analysis, the level of measurement must be understood. For each type of measurement, there is/are an appropriate method/s that can be applied and not others. 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 (Appendix 1) and then back translated to English (Appendix 2) after it has been judged by the experts and academic team (Appendix 3).

4.6 Data validity and Reliability Test

The questionnaire validity has been examined and measured by two methods

- **The Experts Validation:**

  The questionnaire evaluated by number of experts in the field from the university and from the company itself and the final questionnaire has been modified as per the experts' recommendations (see Appendix 1).

- **Pilot Study:**

  A pilot study conducted to assess reliability of the questionnaire by distributing the questionnaire on a random sample consist of 30 respondents from the study

population where these pilot questionnaires used to assess the validity and reliability of the data. . 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.

4.6.1 Test of Normality:

Table (4.1) shows the results for Kolmogorov-Smirnov test of normality. From Table (2), the p-value for each field is greater than 0.05 level of significance, then the distribution for each field is normally distributed. Consequently, Parametric tests will be used to perform the statistical data analysis.

Table (4.1):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	0.800	0.543
Standards operation procedures - Human capital	0.501	0.963
Organization's polices - Human capital	0.577	0.894
Organization's polices - 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

4.6.2 Statistical Analysis Tools

The researcher would use qualitative data analysis methods. The Data analysis will be made utilizing (SPSS 15). The researcher would utilize the following statistical tools:

1) Kolmogorov-Smirnov test of normality
2) Cronbach's Alpha for Reliability Statistics
3) Pearson correlation coefficient for Validity
4) Frequency and Descriptive analysis

5) Parametric Tests (One-sample T test, and Analysis of Variance)

- *T-test* is used to determine if the mean of a paragraph is significantly different from a hypothesized value 6 (Approximately the middle value of numerical scale 1-10). If the P-value (Sig.) is smaller than or equal to the level of significance, $\alpha = 0.05$, then the mean of a paragraph is significantly different from a hypothesized value 6. The sign of the Test value indicates whether the mean is significantly greater or smaller than hypothesized value 6. On the other hand, if the P-value (Sig.) is greater than the level of significance, $\alpha = 0.05$, then the mean a paragraph is insignificantly different from a hypothesized value 6.
- The *One- Way Analysis of Variance (ANOVA)* is used to examine if there is a statistical significant difference between several means among the respondents toward 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).

4.6.3 Validity of Questionnaire

Validity refers to the degree to which an instrument measures what it is supposed to be measuring. Validity has a number of different aspects and assessment approaches. Statistical validity is used to evaluate instrument validity, which include internal validity and structure validity (Polit & Hunger,1985).

Internal Validity

Internal validity of the questionnaire is the first statistical test that used to test the validity of the questionnaire. It is measured by a scouting sample, which consisted of 30 questionnaires through measuring the correlation coefficients between each paragraph in one field and the whole filed.

Table (4.2) clarifies the correlation coefficient for each paragraph of the " Experience - Human capital" and the total of the field. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this field are significant at $\alpha = 0.05$, so it can be said that the paragraphs of this field are consistent and valid to be measure what it was set for.

Table (4.2) Correlation coefficient of each paragraph of " Experience - Human capital" and the total of this field

No.	Paragraph	Pearson Correlation Coefficient	P-Value (Sig.)
1.	Personal skills	0.705	0.000*
2.	Performance efficiency	0.794	0.000*
3.	Knowledge	0.767	0.000*
4.	Innovation	0.630	0.000*
5.	Satisfaction and Loyalty	0.594	0.000*
6.	Self-learning skills	0.532	0.001*
7.	Values and Believes	0.741	0.000*
8.	Leadership and responsibility	0.622	0.000*

* Correlation is significant at the 0.05 level

Table (4.3) clarifies the correlation coefficient for each paragraph of the " Experience - Structure capital" and the total of the field. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this field are significant at $\alpha = 0.05$, so it can be said that the paragraphs of this field are consistent and valid to be measure what it was set for.

Table (4.3) Correlation coefficient of each paragraph of " Experience - Structure capital" and the total of this field

No.	Paragraph	Pearson Correlation Coefficient	P-Value (Sig.)
1.	Quality Management	0.713	0.000*
2.	Competitive Advantages	0.755	0.000*
3.	Investors' Trustee & Organization Reputation	0.772	0.000*
4.	Organization's Structure	0.740	0.000*
5.	Employee's Behavior	0.714	0.000*
6.	Knowledge Management	0.768	0.000*
7.	Cooperation and Teamwork	0.723	0.000*
8.	Organizational Culture	0.833	0.000*
9.	Risk Avoidance	0.731	0.000*

* Correlation is significant at the 0.05 level

Table (4.4) clarifies the correlation coefficient for each paragraph of the " Data archiving systems - Human Capital" and the total of the field. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this field are significant at $\alpha = 0.05$, so it can be said that the paragraphs of this field are consistent and valid to be measure what it was set for.

Table (4.4) Correlation coefficient of each paragraph of " Data archiving systems - Human capital" and the total of this field

No.	Paragraph	Pearson Correlation Coefficient	P-Value (Sig.)
1.	Practical Experience	0.852	0.000*
2.	Personal skills	0.862	0.000*
3.	Performance efficiency	0.840	0.000*
4.	Knowledge	0.742	0.000*
5.	Innovation	0.803	0.000*
6.	Satisfaction and Loyalty	0.748	0.000*
7.	Self-learning skills	0.775	0.000*
8.	Values and Believes	0.839	0.000*
9.	Leadership and responsibility	0.791	0.000*

* Correlation is significant at the 0.05 level

Table (4.5) clarifies the correlation coefficient for each paragraph of the " Standards operation procedures" and the total of the field. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this field are significant at $\alpha = 0.05$, so it can be said that the paragraphs of this field are consistent and valid to be measure what it was set for.

Table (4.5) Correlation coefficient of each paragraph of " Standards operation procedures" and the total of this field

No.	Paragraph	Pearson Correlation Coefficient	P-Value (Sig.)
1.	Practical Experience	0.822	0.000*
2.	Personal skills	0.796	0.000*
3.	Performance efficiency	0.808	0.000*
4.	Knowledge	0.712	0.000*
5.	Innovation	0.701	0.000*
6.	Satisfaction and Loyalty	0.620	0.000*
7.	Self-learning skills	0.591	0.000*
8.	Values and Believes	0.659	0.000*
9.	Leadership and responsibility	0.892	0.000*

* Correlation is significant at the 0.05 level

Table (4.6) clarifies the correlation coefficient for each paragraph of the " Organization's polices - Human Capital" and the total of the field. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this field are significant at $\alpha = 0.05$, so it can be said that the paragraphs of this field are consistent and valid to be measure what it was set for.

Table (4.6) Correlation coefficient of each paragraph of " Organization's polices - Human capital" and the total of this field

No.	Paragraph	Pearson Correlation Coefficient	P-Value (Sig.)
1.	Practical Experience	0.869	0.000*
2.	Personal skills	0.893	0.000*
3.	Performance efficiency	0.852	0.000*
4.	Knowledge	0.740	0.000*
5.	Innovation	0.780	0.000*
6.	Satisfaction and Loyalty	0.856	0.000*
7.	Self-learning skills	0.769	0.000*
8.	Values and Believes	0.533	0.001*
9.	Leadership and responsibility	0.777	0.000*

* Correlation is significant at the 0.05 level

Table (4.7) clarifies the correlation coefficient for each paragraph of the " Organization's polices - Structure capital" and the total of the field. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this field are significant at $\alpha = 0.05$, so it can be said that the paragraphs of this field are consistent and valid to be measure what it was set for.

Table (4.7) Correlation coefficient of each paragraph of " Organization's polices - Structure capital" and the total of this field

No.	Paragraph	Pearson Correlation Coefficient	P-Value (Sig.)
1.	Quality Management	0.852	0.000*
2.	Competitive Advantages	0.854	0.000*
3.	Investors' Trustee & Organization Reputation	0.844	0.000*
4.	Organization's Structure	0.901	0.000*
5.	Employee's Behavior	0.823	0.000*
6.	Knowledge Management	0.644	0.000*
7.	Cooperation and Teamwork	0.869	0.000*
8.	Organizational Culture	0.807	0.000*
9.	Risk Avoidance	0.696	0.000*

* Correlation is significant at the 0.05 level

Table (4.8) clarifies the correlation coefficient for each paragraph of the " Learning - Human Capital" and the total of the field. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this field are significant at $\alpha = 0.05$, so it can be said that the paragraphs of this field are consistent and valid to be measure what it was set for.

Table (4.8) Correlation coefficient of each paragraph of " Learning - Human Capital" and the total of this field

No.	Paragraph	Pearson Correlation Coefficient	P-Value (Sig.)
1.	Practical Experience	0.700	0.000*
2.	Personal skills	0.634	0.000*
3.	Performance efficiency	0.760	0.000*
4.	Knowledge	0.684	0.000*
5.	Innovation	0.808	0.000*
6.	Satisfaction and Loyalty	0.739	0.000*
7.	Self-learning skills	0.738	0.000*
8.	Values and Believes	0.682	0.000*
9.	Leadership and responsibility	0.499	0.003*

* Correlation is significant at the 0.05 level

Table (4.9) clarifies the correlation coefficient for each paragraph of the " Learning - Structure capital" and the total of the field. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this field are significant at $\alpha = 0.05$, so it can be said that the paragraphs of this field are consistent and valid to be measure what it was set for.

Table (4.9) Correlation coefficient of each paragraph of " Learning - Structure capital" and the total of this field

No.	Paragraph	Pearson Correlation Coefficient	P-Value (Sig.)
1.	Quality Management	0.703	0.000*
2.	Competitive Advantages	0.738	0.000*
3.	Investors' Trustee & Organization Reputation	0.803	0.000*
4.	Organization's Structure	0.841	0.000*
5.	Employee's Behavior	0.843	0.000*
6.	Knowledge Management	0.618	0.000*
7.	Cooperation and Teamwork	0.823	0.000*
8.	Organizational Culture	0.710	0.000*
9.	Risk Avoidance	0.707	0.000*

* Correlation is significant at the 0.05 level

Structure Validity of the Questionnaire

Structure validity is the second statistical test that used to test the validity of the questionnaire structure by testing the validity of each field and the validity of the whole questionnaire. It measures the correlation coefficient between one filed and all the fields of the questionnaire that have the same level of liker scale.

Table (4.10) Correlation coefficient of each field and the whole of questionnaire

No.	Field	Pearson Correlation Coefficient	P-Value (Sig.)
1.	Experience - Human capital	0.800	0.000*
2.	Experience - Structure capital	0.904	0.000*
3.	Data archiving systems - Human capital	0.743	0.000*
4.	Standards operation procedures - Human capital	0.883	0.000*
5.	Organization's polices - Human capital	0.809	0.000*
6.	Organization's polices - Structure capital	0.879	0.000*
7.	Learning - Human capital	0.860	0.000*
8.	Learning - Structure capital	0.862	0.000*

* Correlation is significant at the 0.05 level

Table (4.10) clarifies the correlation coefficient for each filed and the whole questionnaire. The p-values (Sig.) are less than 0.05, so the correlation coefficients of all the fields are significant at $\alpha = 0.05$, so it can be said that the fields are valid to be measured what it was set for to achieve the main aim of the study.

4.6.4 Reliability of the Research

The reliability of an instrument is the degree of consistency which measures the attribute; it is supposed to be measuring (Polit & Hunger,1985). The less variation an instrument produces in repeated measurements of an attribute, the higher its reliability. Reliability can be equated with the stability, consistency, or dependability of a measuring tool. The test is repeated to the same sample of people on two occasions and then compares the scores obtained by computing a reliability coefficient (Polit & Hunger, 1985).

4.6.5 Cronbach's Coefficient Alpha

This method is used to measure the reliability of the questionnaire between each field and the mean of the whole fields of the questionnaire. The normal range of Cronbach's coefficient alpha value between 0.0 and + 1.0, and the higher values reflects a higher degree of internal consistency. The Cronbach's coefficient alpha was calculated for each field of the questionnaire. Table (4.11) shows the values of Cronbach's Alpha for each filed of the questionnaire 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.

Table (4.11) Cronbach's Alpha for each filed of the questionnaire and the entire questionnaire

No.	Field	Cronbach's Alpha
1.	Experience - Human capital	0.778
2.	Experience - Structure capital	0.900
3.	Data archiving systems - Human capital	0.930
4.	Standards operation procedures - Human capital	0.884
5.	Organization's polices - Human capital	0.916
6.	Organization's polices - Structure capital	0.934
7.	Learning - Human capital	0.860
8.	Learning - Structure capital	0.906
9.	**All paragraphs of the questionnaire**	0.977

Table (4.12) Split Half Method:

No.	Field	Correlation Coefficient	Spearman-Brown Correlation Coefficient
1.	Experience - Human capital	0.737	0.849
2.	Experience - Structure capital	0.864	0.928
3.	Data archiving systems - Human capital	0.919	0.958
4.	Standards operation procedures - Human capital	0.888	0.941
5.	Organization's polices - Human capital	0.805	0.893
6.	Organization's polices - Structure capital	0.938	0.968
7.	Learning - Human capital	0.864	0.928
8.	Learning - Structure capital	0.784	0.880
9.	**All paragraphs of the questionnaire**	0.968	0.984

Table (4.12) clarifies the correlation coefficient for each field of the questionnaire. The correlation coefficients of all field are significant at $\alpha = 0.05$, so it can be said that the fields are consistent and valid to be measure what it was set for.

The Thereby, it can be said that the researcher proved that the questionnaire was valid, reliable, and ready for distribution for the population sample.

Chapter 5

Data Analysis and Discussion

5.1 Introduction

This study was designed to respond to the objectives, and to test hypotheses stated in chapter one. In this chapter, the findings that respond to these objectives will be discussed and compared to the findings in the previous studies.

5.2 Personal Traits

5.2.1 Age

Table (5.1) is showing the age distribution among the sample

Table (5.1) – Participants' age distribution

Age	Frequency	Percent
Less than 30	5	5.1
30 – Less than 40	46	46.9
40 – Less than 50	28	28.6
More than 50	19	19.4
Total	98	100.0

The statistics shows that, 5.1% from the sample are less than thirty years old while 46.9% are between thirty to forty years old, 28.6% are laying between forty and fifty years old and 19.4% are higher than fifty years old. The above statistics indicates that, the participants are diversifying to ages between 30 – 40 years and that is due to the nature of the power plant operation requirements such as handy activities.

5.2.2 Educational Level

Table (5.2) is showing the qualification distribution among the sample

Table (5.2) – Participants' education distribution

Education	Frequency	Percent
Secondary Certificate or less	8	8.2
Diploma	21	21.4
Bachelor	66	67.3
Higher education	3	3.1
Total	98	100.0

The statistics shows that, 21.4% from the sample are with diploma education level while 67.3% are with bachelor education level, and this high education level is due to the nature of the power plant operation activities' requirement from researcher point of view.

5.2.3 Position

Table (5.3) is showing the positions distribution among the sample

Table (5.3) – Participants' positions distribution

Position	Frequency	Percent
Technician or less	24	24.5
Engineer / Admin	45	45.9
Supervisor	19	19.4
Deputy manager or higher	10	10.2
Total	98	100.0

The statistics shows that, 24.5% from the sample are technician or less while 45.9% are engineers or equivalent levels, 19.4% are supervisors and 10.2% are deputy manager or higher. The statistics shows the nature of the organizational structure and the hierarchy at the organization.

5.2.4 Experiences

Table (5.4) is showing the experience distribution among the sample

Table (5.4) – Participants' experiences distribution

Experience	Frequency	Percent
Less than 5	10	10.2
5 – Less than 10	17	17.3
10 – Less than 20	38	38.8
More than 20	33	33.7
Total	98	100.0

The statistics shows that, 10.2% from the sample are with less than five years of experience while 17.3% are between five to ten years of experience, 38.8% are having between ten and twenty years of experience and 33.7.4% are with higher than twenty years of experience. The above statistics indicates that, the participants are high experience and that is due some of the employees were recruited from out boarder Arabic countries from electrical power plants.

5.3 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, where it was divided into the following sub hypothesizes (Dimensions):

5.3.1 Analyzing the First Dimension : Experience Impact on HC

The first dimension in the questionnaire discussed the impact of OM (experience) on IC (HC) through testing the first hypothesis which stated that, there is a statistical significant effect of the organizational memory (experience) on the intellectual capital (Human Capital) at 0.05 level.

Where table (5.5) shows the following results:

- 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 mean of paragraph #7 "Values and Believes" equals (70.9%), Test-value = 7.4, 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 mean of the filed "Experience - Human Capital" equals (77.6%), Test-value = 18.1, 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 field is significantly greater than the hypothesized value 6. We conclude that the respondents agreed to field of "Experience - Human Capital ".

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.

Table (5.5): Means and Test values for "Experience - Human Capital"

No	Field	Mean	Proportional mean (%)	Test value	P-value (Sig.)	Rank
1.	Personal skills	8.09	80.9	14.1	0.000*	2
2.	Performance efficiency	8.00	80.0	12.6	0.000*	4
3.	Knowledge	8.03	80.3	14.5	0.000*	3
4.	Innovation	7.73	77.3	11.8	0.000*	6
5.	Satisfaction and Loyalty	7.21	72.1	7.0	0.000*	7
6.	Self-learning skills	7.78	77.8	16.9	0.000*	5
7.	Values and Believes	7.09	70.9	7.4	0.000*	8
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

5.3.2 Analyzing the Second Dimension : Experience Impact on SC

The second dimension in the questionnaire discussed the impact of OM (experience) on IC (SC) through testing the second hypothesis which stated that, there is a statistical significant effect of the organizational memory (experience) on the intellectual capital (Structural Capital) at 0.05 level.

Where table (5.6) shows the following results:

- The mean of paragraph #1 "Quality Management" equals (85.8%), Test-value = 19.5, 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 mean of paragraph #5 “Employee’s Behavior” equals (72.3%), Test-value = 8.1, 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 mean of the filed “Experience - Structure Capital” equals (78.3%), Test-value = 16.7 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 field is significantly greater than the hypothesized value 6. We conclude that the respondents agreed to field of “Experience - Structure Capital ".

The analysis results 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 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.

Table (5.6): Means and Test values for "Experience - Structure Capital"

No	Field	Mean	Proportional mean (%)	Test value	P-value (Sig.)	Rank
1.	Quality Management	8.58	85.8	19.5	0.000*	1
2.	Competitive Advantages	8.08	80.8	13.8	0.000*	4
3.	Investors' Trustee & Organization Reputation	8.21	82.1	15.0	0.000*	3
4.	Organization's Structure	7.60	76.0	10.4	0.000*	6
5.	Employee's Behavior	7.23	72.3	8.1	0.000*	9
6.	Knowledge Management	7.47	74.7	11.2	0.000*	7
7.	Cooperation and Teamwork	7.69	76.9	10.6	0.000*	5
8.	Organizational Culture	7.35	73.5	8.1	0.000*	8
9.	Risk Avoidance	8.22	82.2	14.0	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

5.3.3 Analyzing the Third Dimension : Data Archiving Systems Iimpact on HC

The third dimension in the questionnaire discussed the impact of OM (Data archiving systems) on IC (HC) through testing the third hypothesis which stated that, There is a statistical significant effect of the organizational memory (Data archiving systems) on the intellectual capital (Human Capital) at 0.05 level.

Where table (5.7) shows the following results:

- The mean of paragraph #1 "Practical Experience" equals (78.8%), Test-value = 12.0, 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 mean of paragraph #6 "Satisfaction and Loyalty" equals (62.9%), Test-value = 1.7, and P-value = 0.048 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 mean of the filed “Data archiving systems - Human Capital” equals (71.2%), Test-value = 9.3, 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 field is significantly greater than the hypothesized value 6. We conclude that the respondents agreed to field of “Data archiving systems - Human Capital ".

The analysis results 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 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.

Table (5.7): Means and Test values for “Data archiving systems - Human Capital”

No	Field	Mean	Proportional mean (%)	Test value	P-value (Sig.)	Rank
1.	Practical Experience	7.88	78.8	12.0	0.000*	1
2.	Personal skills	7.57	75.7	10.8	0.000*	2
3.	Performance efficiency	7.47	74.7	10.0	0.000*	3
4.	Knowledge	7.38	73.8	9.0	0.000*	4
5.	Innovation	7.14	71.4	7.2	0.000*	5
6.	Satisfaction and Loyalty	6.29	62.9	1.7	0.048*	9
7.	Self-learning skills	7.13	71.3	7.1	0.000*	6
8.	Values and Believes	6.33	63.3	1.9	0.034*	8
9.	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

5.3.4 Analyzing the Fourth Dimension : SOP's Impact on HC

The fourth dimension in the questionnaire discussed the impact of OM (Standards operation procedures) on IC (HC) through testing the fourth hypothesis which stated that, there is a statistical significant effect of the organizational memory (Standards operation procedures) on the intellectual capital (Human Capital) at 0.05 level.

Where table (5.8) shows the following results:

- The mean of paragraph #1 "Practical Experience" equals (79.9%), Test-value = 16.7, 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 mean of paragraph #6 "Satisfaction and Loyalty" equals (66.5%), Test-value = 3.6, 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 mean of the filed "Standards operation procedures" equals (73.2%), Test-value = 13.2, 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 field is significantly greater than the hypothesized value 6. We conclude that the respondents agreed to field of "Standards operation procedures ".

The analysis results 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 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.

Table (5.8): Means and Test values for "Standards operation procedures"

No	Field	Mean	Proportional mean (%)	Test value	P-value (Sig.)	Rank
1.	Practical Experience	7.99	79.9	16.7	0.000*	1
2.	Personal skills	7.65	76.5	11.7	0.000*	3
3.	Performance efficiency	7.86	78.6	15.2	0.000*	2
4.	Knowledge	7.40	74.0	10.7	0.000*	4
5.	Innovation	7.01	70.1	6.9	0.000*	7
6.	Satisfaction and Loyalty	6.65	66.5	3.6	0.000*	9
7.	Self-learning skills	7.16	71.6	8.0	0.000*	6
8.	Values and Believes	6.76	67.6	4.7	0.000*	8
9.	Leadership and responsibility	7.38	73.8	8.0	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

5.3.5 Analyzing the Fifth Dimension : Organizational Polices Impact on HC

The fifth dimension in the questionnaire discussed the impact of OM (Organization's polices) on IC (HC) through testing the fifth hypothesis which stated that, there is a statistical significant effect of the organizational memory (Organization's polices) on the intellectual capital (Human Capital) at 0.05 level.

Where table (5.9) shows the following results:

- The mean of paragraph #6 "Satisfaction and Loyalty" equals (84.5%), Test-value = 15.8, 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 this paragraph is significantly greater than the hypothesized value 6. We conclude that the respondents agreed to this paragraph.
- The mean of paragraph #8 "Values and Believes" equals (76.3%), Test-value = 10.0, 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 mean of the filed “Organization’s polices - Human Capital” equals (81.0%), Test-value = 19.1, 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 field is significantly greater than the hypothesized value 6. We conclude that the respondents agreed to field of “Organization’s polices - Human Capital ".

The analysis results shows 81.0% of the GPGC staff agreed for the strong presence of the impact of the organization’s polices on HC, this reveals that, the organization’s polices 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.

Table (5.9): Means and Test Values for "Organization's Polices - Human Capital"

No	Field	Mean	Proportional mean (%)	Test value	P-value (Sig.)	Rank
1.	Practical Experience	8.34	83.4	17.0	0.000*	3
2.	Personal skills	8.22	82.2	14.8	0.000*	5
3.	Performance efficiency	8.40	84.0	16.0	0.000*	2
4.	Knowledge	7.91	79.1	12.2	0.000*	6
5.	Innovation	7.88	78.8	11.9	0.000*	7
6.	Satisfaction and Loyalty	8.45	84.5	15.8	0.000*	1
7.	Self-learning skills	7.82	78.2	14.7	0.000*	8
8.	Values and Believes	7.63	76.3	10.0	0.000*	9
9.	Leadership and responsibility	8.30	83.0	15.4	0.000*	4
	All paragraphs of the filed " Organization's polices - Human capital:"	8.10	81.0	19.1	0.000*	

* The mean is significantly different from 6

5.3.6 Analyzing the Sixth Dimension : Organizational Polices Impact on SC

The sixth dimension in the questionnaire discussed the impact of OM (Organization's polices) on IC (SC) through testing the sixth hypothesis which stated that, there is a statistical significant effect of the organizational memory (Organization's polices) on the intellectual capital (Structure Capital) at 0.05 level.

Where table (5.10) shows the following results:

- The mean of paragraph #3 "Investors' Trustee & Organization Reputation" equals (84.2%), Test-value = 15.9, 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 mean of paragraph #6 "Knowledge Management" equals (76.9%), Test-value = 11.6, 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 mean of the filed “Organization’s polices - Structure capital” equals (81.0%), Test-value = 17.8, 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 this field is significantly greater than the hypothesized value 6. We conclude that the respondents agreed to field of “Organization’s polices - Structure Capital ".

The analysis results shows 81.0% of the GPGC staff agreed for the strong presence of the impact of the organization’s polices on SC, this reveals that, the organization’s polices 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 is 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.

Table (5.10): Means and Test Values for "Organization's Polices – Structure Capital"

No	Field	Mean	Proportional mean (%)	Test value	P-value (Sig.)	Rank
1.	Quality Management	8.32	83.2	13.8	0.000*	3
2.	Competitive Advantages	8.34	83.4	14.4	0.000*	2
3.	Investors' Trustee & Organization Reputation	8.42	84.2	15.9	0.000*	1
4.	Organization's Structure	8.14	81.4	15.0	0.000*	5
5.	Employee's Behavior	7.73	77.3	11.6	0.000*	8
6.	Knowledge Management	7.69	76.9	11.6	0.000*	9
7.	Cooperation and Teamwork	8.31	83.1	18.1	0.000*	4
8.	Organizational Culture	7.99	79.9	13.4	0.000*	6
9.	Risk Avoidance	7.96	79.6	13.1	0.000*	7
	All paragraphs of the filed " Organization's polices - Structure capital"	8.10	81.0	17.8	0.000*	

* The mean is significantly different from 6

5.3.7 Analyzing the Seventh Dimension : Learning Impact on HC

The seventh dimension in the questionnaire discussed the impact of OM (Learning) on IC (HC) through testing the seventh hypothesis which stated that, there is a statistical significant effect of the organizational memory (Learning) on the intellectual capital (Human Capital) at 0.05 level.

Where table (5.11) shows the following results:

- The mean of paragraph #1 "Practical Experience" equals (83.3%), Test-value = 20.6, 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 mean of paragraph #8 "Values and Believes" equals (69.2%), Test-value = 5.4, 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 mean of the filed “Learning - Human Capital” equals (76.7%), Test-value =17.5, 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 field is significantly greater than the hypothesized value 6. We conclude that the respondents agreed to field of “Learning - Human Capital ".

The analysis results shows 76.7.0% of the GPGC staff agreed for the presence of the impact of the learning on HC, this reveals that, the 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.

Table (5.11): Means and Test Values for "Learning - Human Capital"

No	Field	Mean	Proportional mean (%)	Test value	P-value (Sig.)	Rank
1.	Practical Experience	8.33	83.3	20.6	0.000*	1
2.	Personal skills	8.07	80.7	15.4	0.000*	2
3.	Performance efficiency	8.06	80.6	16.4	0.000*	3
4.	Knowledge	7.76	77.6	13.0	0.000*	4
5.	Innovation	7.68	76.8	11.6	0.000*	5
6.	Satisfaction and Loyalty	7.14	71.4	7.7	0.000*	8
7.	Self-learning skills	7.51	75.1	10.6	0.000*	7
8.	Values and Believes	6.92	69.2	5.4	0.000*	9
9.	Leadership and responsibility	7.60	76.0	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

5.3.8 Analyzing the Eighth Dimension : Learning Impact on SC

The eighth dimension in the questionnaire discussed the impact of OM (Learning) on IC (SC) through testing the eighth hypothesis which stated that, there is a statistical significant effect of the organizational memory (Learning) on the intellectual capital (Structural Capital) at 0.05 level.

Where table (5.12) shows the following results:

- The mean of paragraph #1 "Quality Management" equals (79.7%), 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 mean of paragraph #5 "Employee's Behavior" equals (70.2%), Test-value = 7.1, 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 mean of the filed “Learning - Structure capital” equals (75.3%), Test-value = 15.0, 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 field is significantly greater than the hypothesized value 6. We conclude that the respondents agreed to field of “Learning - Structure Capital ".

The analysis results 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 is consistent with Vera (2011) who concluded the impact of KM is compatible with OM and consequently on the 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.

Table (5.12): Means and Test Values for "Learning - Structure Capital"

No	Field	Mean	Proportional mean (%)	Test value	P-value (Sig.)	Rank
1.	Quality Management	7.97	79.7	14.9	0.000*	1
2.	Competitive Advantages	7.83	78.3	14.6	0.000*	2
3.	Investors' Trustee & Organization Reputation	7.66	76.6	11.5	0.000*	3
4.	Organization's Structure	7.37	73.7	10.2	0.000*	7
5.	Employee's Behavior	7.02	70.2	7.1	0.000*	9
6.	Knowledge Management	7.37	73.7	9.3	0.000*	7
7.	Cooperation and Teamwork	7.58	75.8	10.5	0.000*	5
8.	Organizational Culture	7.39	73.9	9.5	0.000*	6
9.	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	0.000*	

* The mean is significantly different from 6

5.3.9 Analyzing the General Hypothesis

The main hypothesis stated that, there is a statistical significant effect of the organizational memory on the intellectual capital at 0.05 level.

Where table (5.13) shows the following result, 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.

Table (5.13): 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

5.3.10 Analyzing the night Dimension: Effects of Individual Characteristics

The ninth hypothesis stated that, 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). This hypothesis tested through its main four demographic characteristics as per the following:

9-a 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 **age**.

Table (5.14) 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 polices - 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 concluded that the personal trait age has an effect on these fields.

Table (5.14) shows that the p-value (Sig.) is greater than the level of significance α = 0.05 for the other fields, then there is insignificant difference among respondents' answers toward these fields due to age. We conclude that the personal trait age has no effect on these fields.

The results indicates the absence of the effect of age on the research's hypotheses. The above result is excluding the impact of experience on HC and SOP's on HC, and the impact of organization's policies on SC. These results may be due to the perspectives of the older employees about the importance of the experience and SOP's which are forms of routine processes. On the other hand, this finding indicates the older employees believe that organization's policies reflect their commitment and work loyalty.

Table (5.14): ANOVA Test of the Fields and Their p-values for "Age"

No	Field	Test Value	Sig.
1.	Experience - Human capital	3.228	0.044*
2.	Experience - Structure capital	2.969	0.056
3.	Data archiving systems - Human capital	2.367	0.099
4.	Standards operation procedures - Human capital	5.362	0.006*
5.	Organization's polices - Human capital	2.391	0.097
6.	Organization's polices - Structure capital	3.265	0.043*
7.	Learning - Human capital	1.984	0.143
8.	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 (5.15) shows the mean for each field for age.

Table (5.15): Mean for Each Field of "Age"

No	Fields	Means		
		30 – Less than 40	**40 – Less than 50**	**More than 50**
1.	Experience - Human capital	7.53	7.96	8.09
2.	Experience - Structure capital	7.58	8.07	8.14
3.	Data archiving systems - Human capital	6.95	7.10	7.64
4.	Standards operation procedures - Human capital	7.08	7.34	7.91
5.	Organization's polices - Human capital	7.88	8.40	8.27
6.	Organization's polices - Structure capital	7.82	8.47	8.29
7.	Learning - Human capital	7.49	7.89	7.84
8.	Learning - Structure capital	7.42	7.75	7.51
	All paragraphs of the questionnaire	7.47	7.87	7.96

9-b 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 (5.16) shows that the p-value (Sig.) is greater than the level of significance α = 0.05 for each fields, then there is insignificant difference among respondents' answers toward these fields due to Education. We conclude 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.

Table (5.16): ANOVA Test of the Fields and heir p-values for Education

No	Field	Test Value	Sig.
1.	Experience - Human capital	1.122	0.330
2.	Experience - Structure capital	1.517	0.225
3.	Data archiving systems - Human capital	1.389	0.254
4.	Standards operation procedures - Human capital	0.488	0.615
5.	Organization's polices - Human capital	1.146	0.322
6.	Organization's polices - Structure capital	2.526	0.085
7.	Learning - Human capital	1.129	0.328
8.	Learning - Structure capital	0.978	0.380
	All paragraphs of the questionnaire	1.892	0.156

9-c 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 (5.17) shows that the p-value (Sig.) is greater than the level of significance α = 0.05 for each fields, then there is insignificant difference among respondents' answers toward these fields due to Position. We conclude that the personal trait Position has no effect on these fields.

The answers of the respondents about the impact of OM on IC are not affected by the employees' positions about. This result is due to the illustration and orientation which was conducted by the researcher to all the respondents about how to fill the concerned questionnaires.

Table (5.17): ANOVA Test of the Fields and their p-values for Position

No	Field	Test Value	Sig.
1.	Experience - Human capital	0.124	0.946
2.	Experience - Structure capital	0.621	0.603
3.	Data archiving systems - Human capital	0.224	0.880
4.	Standards operation procedures - Human capital	0.219	0.883
5.	Organization's polices - Human capital	1.079	0.362
6.	Organization's polices - Structure capital	1.094	0.356
7.	Learning - Human capital	1.019	0.388
8.	Learning - Structure capital	0.379	0.768
	All paragraphs of the questionnaire	0.484	0.694

9-d 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 (5.18) shows that the p-value (Sig.) is smaller than the level of significance α = 0.05 for the fields "Experience - Human Capital, Experience - Structure Capital, and Standards operation procedures", then there is significant difference among respondents' answers toward these fields due to Years of Experience. We conclude that the personal trait Years of Experience has an effect on these fields.

Table (5.18): ANOVA Test of the Fields and their p-values for Years of Experience

No	Field	Test Value	Sig.
1.	Experience - Human capital	3.137	0.029*
2.	Experience - Structure capital	3.677	0.015*
3.	Data archiving systems - Human capital	1.843	0.145
4.	Standards operation procedures - Human capital	3.263	0.025*
5.	Organization's polices - Human capital	2.643	0.054
6.	Organization's polices - Structure capital	1.261	0.292
7.	Learning - Human capital	0.646	0.587
8.	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

Table (5.19) shows the mean for each field for Years of Experience.

For the fields " Experience - HC, Experience - SC, and SOP's – HC", the answers of the respondents with more than 20 years of experience were affected by the employees orientations. That indicates how the employees with higher years of experience are respecting and evaluating the accumulated years of experience.

Table (5.19): Mean for Each Field of Years of Experience

No	Fields	Means			
		Less than 5	**5 – Less than 10**	**10 – Less than 20**	**More than 20**
1.	Experience - Human capital	7.41	7.56	7.60	8.16
2.	Experience - Structure capital	7.60	7.31	7.73	8.27
3.	Data archiving systems - Human capital	7.39	7.01	6.82	7.45
4.	Standards operation procedures - Human capital	7.11	6.95	7.18	7.72
5.	Organization's polices - Human capital	7.86	7.55	8.15	8.41
6.	Organization's polices - Structure capital	7.78	7.84	8.05	8.39
7.	Learning - Human capital	7.78	7.67	7.52	7.82
8.	Learning - Structure capital	8.02	7.46	7.39	7.58
	All paragraphs of the questionnaire	7.62	7.42	7.56	7.97

Chapter 6

Conclusions and Recommendations

6.1 Introduction

In this chapter, the conclusions of findings, and the recommendations of the present study will be discussed.

6.2 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 systems, SOP's, organization's polices 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:

1- 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.

2- 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.

3- 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.

4- 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.

5- 81.0% of GPGC respondents agreed that, there is a statistical significant effect of OM (organization's polices) on IC (HC) at 0.05 level, the findings shows that, the organization's polices 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.

6- 81.0% of GPGC respondents agreed that, there is a statistical significant effect of OM (organization's polices) on IC (SC) at 0.05 level, the findings shows that, the organization's polices 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.

7- 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.

8- 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.

9- 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 polices 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.

10- 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).

6.3 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.

1- 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.

2- 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.

3- 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.

4- 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.

5- 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.

6- 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.

7- 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.

8- 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.

9- To set a clear and achievable goals, polices 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 polices which will guide to these goals.

10- 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.

6.4 Suggestions for Future Studies

As per the researcher knowledge, this is the first Arabic study conducted on the impact of OM on IC. This field of research is completely new and deserves more exploration and because of the importance on this topic , The researcher suggests the following research areas for further studies:

1- The intellectual capital management effectiveness at the Palestinian organizations.
2- The impact of intellectual capital management on performance at the Palestinian organizations.
3- The role of intellectual capital in maximizing the organization's market value applied on GPGC.
4- Comparative study between the cost and benefits from building structured organizational memory systems at a Palestinian organization.
5- Organizational memory systems role in E-learning programs at the Palestinian universities and institutes.

References

Abel, M. (2008). Competencies management and learning organizational memory. *Journal of Knowledge Management*, Vol. 12 No. 6, pp. 15-30.

Ackerman, Mark S. (1997). *Considering an Organization's Memory.* Information and Computer Science University of California.

AlAli, Nermin (2003). *Comprehensive Intellectual Capital Management*. John Wiley & Sons, Inc., Hoboken, New Jersey.

Amiri, Ali and others (2010). Increasing the Intellectual capital in organization: Examining the Role of Organizational Learning. *European Journal of Social Science* Vol.14 No. 1, pp 98-108.

AlFadel , Moa'ied (2009). Relationship Between Intellectual Capital and Value Creation. *Journal Of AlQadesiah for Management and Economic Science*, Vol. 11 No.3.

Attia, latif (2008). Intellectual Capital and Knowledge Management: Relation and Effects. *Journal Of Alqadesia for Management and Economic Science*, Vol. 10 No. 3.

Bencsik, A. and Others (2009). *From Individual Memory to Organizational Memory (Intelligence of Organizations)*. World Academy of Science, Engineering and Technology.

Bengtsson, Karin and others (2003). *Intellectual Capital in the Evaluation Process*. Master Research, Lund University.

Bent, Jacqueline (1999). Organizational Learning: An Exploration of Organizational

Memory and its Role in Organizational Change Process. *Journal of Organizational Change*, Vol. 12 No. 5 pp 337-404.

Berg, Herman (2003). *Models of Intellectual Capital Valuation: A Comparative Evaluation.*

Berl S. W. (2005), *Organizational Policies & Procedures establish policy,* Asheville, NC.

Bontis, Nick (1998). Intellectual Capital: An Exploratory Study that Develops Measures and Models. *Journal of Management Decision*, Vol. 36 No. 2 pp 63-76.

Bontis, Nick (2001). Assessing Knowledge Assets: A Review of The Methods Used To Measure Intellectual Capital, *Journal of Management Reviews*, Vol. 3 No. 1 pp 41-60.

Bowersox, N. (2009). *Downsizing and Building Organizational Memory: A Paradoxical Relationship between "Brain-Drain" and "Brain-Gain"*. Information Science Reference, USA.

Brown, N. W. (2003*) Psycho-educational groups: process and practice,* 2nd ed. Routledge

Chen, Jin and Others (2004). Measuring Intellectual Capital: a New Model and Empirical Study. *Journal of Intellectual Capital*, Vol. 5 No. 1, 2004 pp. 195-212.

Cheng, Meng-Yuh and others (2010). Invested Resources, Competitive Intellectual Capital and Corporate Performance. *Journal of Intellectual Capital*, Vol. 11 No. 4 pp 433-450.

Cheng, Shuenn (2004). Intellectual Capital Evaluation with Soft Computing Methods. *Journal of E-Commerce Studies*, Vol.2 No. 1 pp95-114.

Choong, Kwee (2008). Intellectual Capital: Definitions, Categorization and Reporting Models. *Journal of Intellectual Capital*, Vol. 9 No. 4 pp 609 – 638.

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

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

Dainel, Mares (2006). *Restructuring the Organizational Memory Under the Conditions of European Integration*. Sprin Haret University.

Ding, Youngliang and Li, Guanzhong (2010). Study on the Management of Intellectual Capital. *International Journal of Business and management*, Vol. 5, No. 2.

Environmental Protection Information Agency Washington (2007), *Guidance for Preparing Standard Operating*, United States Office of Environmental

Girard, John P. (2009). *Building Organizational Memories: Will You Know What You Knew?.* Information Science Reference, USA.

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

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

Hofmann, Jan and Schneider, Stefan (2008). *How Intellectual Capital Creates Value.*

Hong, Jack (1999) Structuring for organizational learning, *Journal of The Learning Organization,* Volume 6 . No.4 . pp. 173-185

Huang, Yi-Chum and Wu, Yen-Chum (2010). Intellectual Capital and Knowledge Productivity: The Taiwan Biotech Industry. *Journal of Management Decision*, Vol. 48 No. 4 pp 580-599.

IAQG (2008). *Competence Management Guideline*. International Aerospace Quality Group.

JadElRab, Saied (2006*). Intellectual Resources Management in modern Business Organizations.* ElAshri Publish, 2006.

Jasimuddin, Sajjad M. and Others (2006). Understanding Organizational Memory. *Encyclopedia of Knowledge Management*, pp. 870-875.

Jennex, Murray and Olfman Lorne (1998). *An Organizational Memory Information Systems Success Model: An Extension of DeLone and McLean's I/S Success Model*. Edison International and University of Phoenix.

Jennex, Murray and Olfman, Lorne (2002). *Organizational Memory Effects on Productivity*. 35Th Annual Hawaii International conference on systems science.

Kamukama, Nixon and others (2011). Competitive Advantages of Intellectual Capital and Performance. *Journal of Intellectual Capital*, Vol. 12 No. 1 pp 152-164.

Kazem, Abdallah (2008). Impact of Intellectual Capital on Organizational Innovation. *Journal Of AlQadesiah for Management and Economic Science*, Vol. 10 No.3.

Kianto, Aino and others (2010). Intellectual Capital in Service and production Oriented Companies. *Journal of Intellectual Capital*, Vol. 11 No. 3 pp 305-325.

Kleiner, George (1996). How to Measure an Organization's Intellectual Capital. *Journal of Managerial Auditing*, Vol. 11 No. 8 pp 36-39.

Lawrence, You (2006), *Efficient Archival Data Storage.*

Li, Zhango and others (2004). *An Empirical Study on Impact of Organization Memory on Organizational Performance in Manufacturing Companies*. Harbin institute 150001, China.

Lin, Furen and Lin, Shengcheng. (2000). *Conceptual Model of Virtual Learning Organization*. National Sun Yat-Sen University, pp. 849-863.

Loverde, Lorin (2001). Intellectual Capital: An Mergers and Acquisition Approach. *Journal of Knowledge Management Consortium* International, Inc., Vol. 1 No. 3.

Martin, M. and Olsina, L. (2009). *Added Value of Ontology for Modeling an Organizational Memory*. Information Science Reference, USA.

Miller, L. and Others (2000). *Managing Knowledge in Organizational Memory Using Topic Maps*. International Conference on Computers and Their applications. New Orleans.

O'Donnell, David and others (2000). Intellectual Capital: A Habermasian Introduction. *Journal of Intellectual Capital,* Vol. 1 No. 2 pp 187-200.

Olsecvicova, Kamila (2003). *Organizational Leaning Improving Learning Management Systems*. European Knowledge Management School.

Ortiz, Mignel (2009). Analysis and Valuation of Intellectual Capital According to its Context. *Journal of Intellectual Capital*, Vol. 1 No. 3 pp 451- 482.

Ozorhon, Beliz (2004). *Organizational Memory in Constructing Based Companies: A Case Reasoning Model as an Organizational Learning Tool*. A thesis Submitted to the Graduate School of natural and Applied Sciences of The Middle East Technical University.

Palestinian Electricity Company (2007). *Annual report.*

Palestinian Electricity Company (2009). *Annual report.*

Palestinian Electricity Company (2007). *Information brochure*.

Palestinian Electricity Company Intranet, www.pec.ps.

Petty, Richard M. and Others (2006). Intellectual Capital and Valuation: Challenges in the Voluntary Disclosure of Value Drivers. *Journal of Finance and Accountancy*.

Poilt, D., and Hungler, B. (1985). *Essentials of nursing research; Methods and applications*. J. B. Lippincott company.

Robinson, N.P. and Ensign, P.C. (2009). *Effective Stakeholder Knowledge Sharing for Effective Organizational Memory*. Information Science Reference, USA.

Salleh, Abdul Latif and Selamat, Fauziah (2007). Intellectual Capital Management in Malaysian Public Listed Companies. *International Review of Business Research Papers*, Vol.3 No.1. March 2007, pp.266-278.

Salmi, Pekka and others (2005). *Learning From Customer Knowledge in Engineering Consulting Firms.* Frontiers of E-Business Research.

Sandra M. and others (2007). Organizational Culture and Intellectual Capital: A New Model. *Journal of Intellectual Capital*, Vol. 8 No. 3 pp 409-430.

Swart, Juani (2006). Intellectual Capital: Disentangling an Enigmatic Concept. *Journal of Intellectual Capital*, Vol. 7 No. 2 pp136-159.

Tan, Hong and others (2008). The Evolution research on Intellectual Capital. *Journal of Intellectual Capital*, Vol. 9 No. 4 pp 585-608.

Tanya Elias (2011). *learning Analytics: Definition, Processes and Potential.*

Tasi, Chen-Yi and Others (2005). *Core Capability and Core Rigidity: Organizational Memory Perspective*. Shou University, China.

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

Turner, P.E. (2001). *Guidelines for Developing ITS Data Archiving Systems*. Texas Transportation Institute, The Texas A&M University System.

US Office of Environmental (2007). *Guidance for Preparing Standard Operating Procedures (SOPs)*. Environmental Protection Information EPA/600/B-07/001.

Vargas, Jose (2010). How Intellectual Capital and Learning organization Can Foster Organizational Competitiveness. *International Journal of Business and Management,* Vol. 5 No. 4.

Vera, Dusya and Crossan Mary (2001). *Organizational Learning, Knowledge Management and Intellectual Capital: An Integration Conceptual Model*. University of Western Ontario, Canada.

Virncianu, Marinela and Others (2009). Organizational memory: An Approach from Knowledge Management and Quality Management of Organizational Learning Perspectives. *The Bucharest Academy of Economic Studies*, Romania, Vol. 6, No. 26, pp. 473-481.

Wexler, M. (2002). Organizational memory and intellectual capital. *Journal of Intellectual Capital*, Vol. 3 No. 4, pp. 393-413.

Yousef, AbdelSattar (2005). *Study and Evolutes the Intellectual capital in Business*

Enterprises. AlZaytoona University, Amman.

Zagreb (2007). *Handbook of IC Management in Companies*. Mesnička, Croatia.

Zerenler, Muammer (2008). Intellectual Capital and Innovation Performance: Empirical Evidence in the Turkish Automotive Supplier. *Journal of Technology Management and Innovation*, Vol. 3, No. 4 pp. 31-40.

Zhou, Albert Z. (2003). The intellectual capital web A systematic linking of intellectual capital and knowledge management*. Journal of Intellectual Capital*, Vol. 4 No. 1, 2003 pp. 34-48.

Appendices

Appendix 1 – Questionnaire judgment committee

Dr. Majed ElFarra	Islamic University of Gaza
Dr. Rushdy Wady	Islamic University of Gaza
Eng. Mohamed ElSherief	Gaza Power Generating Company
Dr. Rafiq Maliha	Gaza Power Generating Company
Dr. Yousef Bahar	Islamic University of Gaza
Dr. Sami Abu AlRoss	Islamic University of Gaza
Dr. Samir Safi	Islamic University of Gaza
Dr. Wafiq ElAgha	Al- Azhar University

Appendix 2 – Questionnaire (Arabic Version)

بسم الله الرحمن الرحيم

الأخ/الأخت الفاضل/ـة

السلام عليكم و رحمة الله و بركاته

بهدف إعداد دراسة ميدانية حول **"الذاكرة التنظيمية و أثرها على رأس المال الفكري – دراسة تطبيقية على شركة غزة لتوليد الكهرباء"** بغرض نيل درجة الماجستير في إدارة الإعمال من الجامعة الإسلامية بغزة, تم إعداد هذه الإستبانة و عليه فإنني أرجو منكم التكرم بتعبئة هذه الإستبانة بدقة و موضوعية لما في ذلك من مساهمة في الارتقاء بالبحث العلمي و ما يعود به ذلك من نفع على المؤسسة و المجتمع, مؤكداً أن البيانات الواردة في هذه الإستبانة هي لأغراض البحث العلمي فقط.

شاكرين لكم حسن تعاونكم ,,,,

الباحث

علاء كراز

مقدمة

القيمة السوقية للمؤسسة ليس من الشرط أن تتساوى مع القيمة الدفترية لها حيث تعكس القيمة الدفترية قيمة الأصول الملموسة أما قيمتها السوقية فتعكس إضافة لأصولها الملموسة تقدير العملاء و المستثمرين و ذوي العلاقة, فنجد أن سمعة المؤسسة و شهرتها و الثقة بمنتجاتها و خبراتها و ثقافتها و سلوك أفرادها و غير ذلك من العناصر يسهم في خلق قيمة إضافية للمؤسسة و تسمى هذه العناصر مجتمعة برأس المال الفكري و هو الأصول غير الملموسة و التي تساهم في رفع قيمة المؤسسة السوقية و يصنف رأس المال الفكري إلى أقسام منها رأس المال البشري و الذي يتمثل في الخبرة و قدرات العاملين و كفاءة الأداء و المعرفة و القدرة على الابتكار و الإبداع و مستوى الرضا الوظيفي و غيرها من العناصر و رأس المال التنظيمي الذي يتمثل في تحقيق الجودة و تنمية الميزة التنافسية للمؤسسة و تعزيز الثقة بالمؤسسة و سمعتها الطيبة و هيكلها التنظيمي و قدرتها على إدارة المعرفة و روح التعاون بين أفرادها و قدرتها على تجنب المخاطر و غيرها من العناصر.

أما الذاكرة التنظيمية في المؤسسة فهي الوسائل و الأطر التي تستخدمها المؤسسة لإدارة مخزونها من التجارب و الخبرات و المعارف و الأحداث و حفظها و استرجاعها عند الحاجة و هناك العديد من هذه الوسائل منها خبرات العاملين في المؤسسة و أنظمة الأرشفة و حفظ البيانات و إجراءات التشغيل و سياسة عمل المؤسسة و وسائل التعلم فيها كالمكتبات و مواد التدريب و نماذج الدروس المستفادة و غيرها.

تهدف الدراسة الذي صمم لأجلها هذا الاستبيان إلى قياس مدى تأثير أدوات الذاكرة التنظيمية على تنمية و تطوير رأس المال الفكري (بشري و تنظيمي) و ذلك بالتطبيق على شركة غزة لتوليد الكهرباء.

المجموعة الأولى : البيانات الفردية

الرجاء اختيار البديل المناسب لكل من الفقرات التالية

1- العمر بالسنوات

☐ أقل من 30 ☐ 30 – أقل من 40 ☐ 40 – أقل من 50 ☐ 50 فأكثر

2- المؤهل العلمي

☐ ثانوية عامة فأقل ☐ دبلوم ☐ بكالوريوس ☐ دراسات عليا

3- المستوى الوظيفي

☐ فني أو أقل ☐ مهندس ☐ مسئول قسم ☐ نائب مدير فأعلى

4- عدد سنوات الخبرة

☐ أقل من 5 ☐ 6 – أقل من 10 ☐ 10 – أقل من 20 ☐ 20 فأكثر

المجموعة الثانية : مدى تأثير الذاكرة التنظيمية على رأس المال الفكري

الرجاء تقييم مستوى تأثير أدوات الذاكرة التنظيمية على عناصر رأس المال الفكري حيث يكون التقييم من (1-10) و القيمة 10 تعتبر الأكثر تأثيرا

أولاً : تأثير الخبرة على رأس المال البشري

تؤثر الخبرة على عناصر رأس المال البشري التالية :

م.	العناصر	التأثير (1 – 10)
1	تنمية القدرات الفردية	
2	تطوير كفاءة الأداء	
3	تعزيز المعرفة	
4	الابتكار و الإبداع	
5	الرضا الوظيفي و الولاء للمؤسسة	
6	مهارات التعلم الفردية	
7	الثقافة الفردية للعاملين (القيم و المعتقدات)	
8	روح القيادة و تحمل المسئولية	

ثانياً : تأثير الخبرة على رأس المال التنظيمي

تؤثر الخبرة على عناصر رأس المال التنظيمي التالية :

م.	العناصر	التأثير (1 – 10)
1	تحقيق الجودة	
2	تنمية الميزة التنافسية	
3	تعزيز ثقة المستثمرين و سمعة المؤسسة	
4	تطوير الهيكل التنظيمي	
5	تهذيب سلوك العاملين	
6	إدارة المعرفة	
7	التعاون و العمل بروح الفريق	
8	الثقافة العامة للمؤسسة	
9	القدرة على تحليل المتغيرات و تجنب المخاطر	

ثالثاً : تأثير أنظمة الأرشفة على رأس المال البشري

تؤثر أنظمة الأرشفة على عناصر رأس المال البشري التالية :

م.	العناصر	التأثير (1 – 10)
1	بناء الخبرة العملية	
2	تنمية القدرات الفردية	
3	تطوير كفاءة الأداء	
4	تعزيز المعرفة	
5	الابتكار و الإبداع	
6	الرضا الوظيفي و الولاء للمؤسسة	
7	مهارات التعلم الفردية	
8	الثقافة الفردية للعاملين (القيم و المعتقدات)	
9	روح القيادة و تحمل المسئولية	

رابعاً : تأثير إجراءات التشغيل القياسية على رأس المال البشري

تؤثر إجراءات العمل القياسية على عناصر رأس المال البشري التالية :

م.	العناصر	التأثير (1 – 10)
1	بناء الخبرة العملية	
2	تنمية القدرات الفردية	
3	تطوير كفاءة الأداء	
4	تعزيز المعرفة	
5	الابتكار و الإبداع	
6	الرضا الوظيفي و الولاء للمؤسسة	
7	مهارات التعلم الفردية	
8	الثقافة الفردية للعاملين (القيم و المعتقدات)	
9	روح القيادة و تحمل المسئولية	

خامساً : تأثير سياسة عمل المؤسسة على رأس المال البشري

تؤثر سياسة عمل المؤسسة على عناصر رأس المال البشري التالية :

م.	العناصر	التأثير (1 – 10)
1	بناء الخبرة العملية	
2	تنمية القدرات الفردية	
3	تطوير كفاءة الأداء	
4	تعزيز المعرفة	
5	الابتكار و الإبداع	
6	الرضا الوظيفي و الولاء للمؤسسة	
7	مهارات التعلم الفردية	
8	الثقافة الفردية للعاملين (القيم و المعتقدات)	
9	روح القيادة و تحمل المسئولية	

سادساً : تأثير سياسة عمل المؤسسة على رأس المال التنظيمي

تؤثر سياسة عمل المؤسسة على عناصر رأس المال التنظيمي التالية :

م.	العناصر	التأثير (1 – 10)
1	تحقيق الجودة	
2	تنمية الميزة التنافسية	
3	تعزيز ثقة المستثمرين و سمعة المؤسسة	
4	تطوير الهيكل التنظيمي	
5	تهذيب سلوك العاملين	
6	إدارة المعرفة	
7	التعاون و العمل بروح الفريق	
8	الثقافة العامة للمؤسسة	
9	القدرة على تحليل المتغيرات و تجنب المخاطر	

سابعاً : تأثير وسائل التعلم على رأس المال البشري

تؤثر وسائل التعلم على عناصر رأس المال البشري التالية :

م.	العناصر	التأثير (1 – 10)
1	بناء الخبرة العملية	
2	تنمية القدرات الفردية	
3	تطوير كفاءة الأداء	
4	تعزيز المعرفة	
5	الابتكار و الإبداع	
6	الرضا الوظيفي و الولاء للمؤسسة	
7	مهارات التعلم الفردية	
8	الثقافة الفردية للعاملين (القيم و المعتقدات)	
9	روح القيادة و تحمل المسئولية	

ثامناً : تأثير وسائل التعلم على رأس المال التنظيمي

تؤثر وسائل التعلم على عناصر رأس المال التنظيمي التالية :

م.	العناصر	التأثير (1 – 10)
1	تحقيق الجودة	
2	تنمية الميزة التنافسية	
3	تعزيز ثقة المستثمرين و سمعة المؤسسة	
4	تطوير الهيكل التنظيمي	
5	تهذيب سلوك العاملين	
6	إدارة المعرفة	
7	التعاون و العمل بروح الفريق	
8	الثقافة العامة للمؤسسة	
9	القدرة على تحليل المتغيرات و تجنب المخاطر	

انتهت الاستبانة .... شكراً

Appendix 3 – Questionnaire (English Version)

Group 1 – Demographic Data

Please select one of the following alternatives

1- Age

☐ Less than 30 ☐ 30 – Less than 40 ☐ 40 – Less than 50 ☐ More than 50

2- Education

☐ Secondary Certificate or less ☐ Diploma ☐ Bachelor ☐ Higher education

3- Position

☐ Technician or less ☐ Engineer / Admin ☐ Supervisor ☐ Deputy manager or higher

4- Years of Experience

☐ Less than 5 ☐ 5 – Less than 10 ☐ 10 – Less than 20 ☐ More than 20

Group 2 – The impact of the organizational memory on intellectual capital

Please, evaluate the impact of the organizational memory on the intellectual capital elements where the evaluation ranges from (1) up to (10) taking into consideration that the level (10) indicates the highest level of effectiveness.

1- The Impact of Experience on Human Capital

The Experience affects the following human capital elements

No.	Item	Impact (1 – 10)
1	Personal skills	
2	Performance efficiency	
3	Knowledge	
4	Innovation	
5	Satisfaction and Loyalty	
6	Self-learning skills	
7	Values and Believes	
8	Leadership and responsibility	

2- The Impact of the Experience on Structure Capital

The Experience affects the following structure capital elements

No.	Item	Impact (1 – 10)
1	Quality Management	
2	Competitive Advantages	
3	Investors' Trustee & Organization Reputation	
4	Organization's Structure	
5	Employee's Behavior	
6	Knowledge Management	
7	Cooperation and Teamwork	
8	Organizational Culture	
9	Risk Avoidance	

3- The Impact of Archiving Systems on Human Capital

The Archiving Systems affects the following human capital elements

No.	Item	Impact (1 – 10)
1	Practical Experience	
2	Personal skills	
3	Performance efficiency	
4	Knowledge	
5	Innovation	
6	Satisfaction and Loyalty	
7	Self-learning skills	
8	Values and Believes	
9	Leadership and responsibility	

4- The Impact of Standard Operating Procedures on Human Capital

The Standard Operating Procedures affects the following human capital elements

No.	Item	Impact (1 – 10)
1	Practical Experience	
2	Personal skills	
3	Performance efficiency	
4	Knowledge	
5	Innovation	
6	Satisfaction and Loyalty	
7	Self-learning skills	
8	Values and Believes	
9	Leadership and responsibility	

5- The Impact of Organization's Polices on Human Capital

The Organization's Polices affects the following human capital elements

No.	Item	Impact (1 – 10)
1	Practical Experience	
2	Personal skills	
3	Performance efficiency	
4	Knowledge	
5	Innovation	
6	Satisfaction and Loyalty	
7	Self-learning skills	
8	Values and Believes	
9	Leadership and responsibility	

6- The Impact of the Organization's Polices on Structure Capital

The Organization's Polices affects the following structure capital elements

No.	Item	Impact (1 – 10)
1	Quality Management	
2	Competitive Advantages	
3	Investors' Trustee & Organization Reputation	
4	Organization's Structure	
5	Employee's Behavior	
6	Knowledge Management	
7	Cooperation and Teamwork	
8	Organizational Culture	
9	Risk Avoidance	

7- The Impact of Learning on Human Capital

The Learning affects the following human capital elements

No.	Item	Impact (1 – 10)
1	Practical Experience	
2	Personal skills	
3	Performance efficiency	
4	Knowledge	
5	Innovation	
6	Satisfaction and Loyalty	
7	Self-learning skills	
8	Values and Believes	
9	Leadership and responsibility	

8- The Impact of the Learning on Structure Capital

The Learning affects the following structure capital elements

No.	Item	Impact (1 – 10)
1	Quality Management	
2	Competitive Advantages	
3	Investors' Trustee & Organization Reputation	
4	Organization's Structure	
5	Employee's Behavior	
6	Knowledge Management	
7	Cooperation and Teamwork	
8	Organizational Culture	
9	Risk Avoidance	