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Determinants Of knowledge sharing in Professional Services (Case study: The Network Operations Directorate In Jawwal Company)

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ABSTRACT

Knowledge sharing is considered one of the most important functions that enable organizations to effectively benefit from the knowledge of their employees, enhance their performance, and create competitive advantages over their competitors.

This study aimed to find out the most effective determining factors that influence the knowledge sharing behavior at the network operations directorate in Jawwal Company. Four main categories of factors were believed to have the highest effect on the knowledge sharing performance i.e. motivational factors, environmental factors, technological factors, and individual factors.

The questionnaire was used as a tool in this study to collect the respondents' answers and all the employees in the network operations directorate both in west bank and Gaza strip participated in this study.

The results of this research showed that all the four groups of factors had a significant effect and great influence on the knowledge sharing process but with different degrees of importance. Motivational factors seemed to have the strongest effect on the knowledge sharing behavior. The individual attitude, as one of the three main factors in this group, had the most significant influence. Personality and personal perception had considerable effect on the attention to share knowledge with others.

The results showed that, organizational culture is one of the most important factors that need to be given special care. Reward and recognition had the lowest effect on the individual's decision to share knowledge with others, while leadership characteristics in the organization play a significant role in simulating and encouraging other employees to take the right step to be involved in the knowledge sharing process in the organization.

The Information & Communication Technology (ICT) availability and the ICT know how are two of the technological factors which are believed to help facilitating the knowledge sharing practice among employees.

The study suggests that the top management in Jawwal need to pay special attention to the most effective factors that affect the knowledge sharing process and try to enhance the performance through treating the areas that need special care.

The study also suggests that Jawwal should have a strong knowledge management system to treat the knowledge of the employees effectively.

The importance of having good knowledge practice and the benefits that Jawwal can gain through implementing effective knowledge sharing system are quite clear through this study.

ملخص الرسالة

عنوان الرسالة :

محددات عملية مشاركة المعرفة في المؤسسات المهنية
(دراسة حالة : إدارة عمليات الشبكة في شركة جوال)

تعتبر عملية مشاركة المعرفة واحدة من أهم الوظائف في أي نظام إدارة للمعرفة و التي تمكن الشركات و المؤسسات من الإستفادة من المعرفة التي يملكها موظفيها و تحسين مستوى أداءها و خلق ميزة تنافسية تميزها عن منافسيها .

هدفت هذه الدراسة إلى إستكشاف أكثر العوامل المحددة تأثيرا في عملية مشاركة المعرفة في إدارة عمليات الشبكة في شركة جوال . و بناءا عليه فقد تم إختيار أربعة مجموعات من العوامل و التي يعتقد أن لها الأثر الأكبر في عملية مشاركة المعرفة و هي : العوامل التحفيزية ، العوامل المرتبطة ببيئة العمل ، العوامل التقنية ، و العوامل المتعلقة بالفرد نفسه (العوامل الشخصية) .

لقد تم إستخدام الإستبيان كأداة لجمع المعلومات في هذه الدراسة ، كما تم إستخدام أسلوب الحصر الشامل حيث تم توزيع الإستبانة على جميع موظفي إدارة عمليات الشبكة في شركة جوال في كل من الضفة الغربية و قطاع غزة

أظهرت نتائج هذه الدراسة أن جميع العوامل التي تمت دراستها أثرت بطريقة فعالة على عملية مشاركة المعرفة و لكن بدرجات متفاوتة من الأهمية. و قد ظهر أن العوامل التحفيزية بصفة عامة لها الأثر الأكبر على هذه العملية و من بين هذه العوامل ظهر أن التصرف الفردي له الأثر الأكبر كواحد من هذه العوامل.

أظهرت النتائج كذلك أن المواصفات الشخصية للفرد و كذلك الإنطباع الشخصي كإثنين من العوامل التي تشكل مجموعة العوامل الفردية لهما أثر معتبر في توجه الفرد نحو مشاركة المعرفة مع الأخرين.

كذلك أظهرت نتائج هذه الدراسة أن ثقافة المؤسسة كأحد العوامل الخاصة ببيئة العمل هي واحدة من العوامل المهمة جدا و التي تحتاج إلى أن تؤخذ بعين الإعتبار من قبل إدارة المؤسسة. كما أن الحوافز و المكافئات و التي تمثل العامل الثاني في مجموعة العوامل البيئية ظهر بأن ليس لها تأثير كبير على قرار الفرد في الإنخراط في عملية مشاركة المعرفة مع الأخرين.

أما فيما يتعلق بالعوامل التكنولوجية فقد أظهرت هذه الدراسة وفق ردود و إجابات الفئة المستهدفة أن توفر الوسائل التقنية و الإلمام بإستخدام هذه الوسائل هما إثنين من العوامل التي تسهل عملية تبادل المعرفة.

أوصت هذه الدراسة الإدارة العليا في شركة جوال بأن تولي إهتماما خاصا بالعوامل التي تساعد و تؤثر بصورة مباشرة في تحسين عملية مشاركة المعرفة في الشركة ، و محاولة الإرتقاء بمستوى الأداء في هذا الإتجاه من خلال معالجة المناطق التي تحتاج إهتماما خاصا. كم أوصت الدراسة كذلك بأن تقوم شركة جوال ببناء نظام قوي لإدارة المعرفة التي يمتلكها الموظفين لديها و للإستفادة من هذه المعرفة بصورة فعالة.

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I would also like to express my deep gratitude to my colleagues in Jawwal for their encouragement and support and for the time they allocated to respond to the different questions of the study tool.

Dedication

TO MY MOTHER'S SOUL, TO MY DEAR FATHER ...

WITH LOVE AND APPRECIATION

TO MY LOVELY WIFE & WONDERFUL CHILDREN ...

WITH RESPECT AND GRATITUDES

TO MY PEOPLE OF PALESTINE

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LIST OF ABBREVIATIONS

ANOVA	One –Way Analysis of Variance
EHR	Electronic Human Resources System
ICT	Information & Communication Technology
IT	Information Technology
KM	Knowledge Management
KMS	Knowledge Management System
KS	Knowledge Sharing
KSI	Knowledge Sharing Intention
PALTEL	Palestinian Telecommunication Company
PSF	Professional Service Firms
R&D	Research And Development
TPB	Theory Of Planned Behavior
TRA	Theory Of Reasoned Action
URL	Uniform Resource Locator
ANOVA	One –Way Analysis of Variance
EHR	Electronic Human Resources System

CHAPTER ONE

INTRODUCTION

This chapter consists of the following sections:

1.1. RESEARCH BACKGROUND

1.2. RESEARCH PROBLEM

1.3. RESEARCH OBJECTIVES

1.4. RESEARCH VARIABLES

1.5. RESEARCH HYPOTHESIS

1.6. SIGNIFICANCE OF THE STUDY

1.7. RESEARCH METHODOLGY AND DESIGN

1.8. RESEARCH STRUCTURE

1.9. JAWWAL PROFILE

1.1. Research Background

As a result of increasing world competition, the issue confronting every organization is to find methods of enhancing its own competitiveness. One of the most important competitive recourses that a business can have is Knowledge (Abzari et. al., 2011).It is believed that the most significant aspect of knowledge management is knowledge sharing among the employees of any organization.

Knowledge sharing is that activity where agents (individuals, communities or organizations) exchange their knowledge (information, skills or expertise). It is intrinsically linked to the knowledge management process, which can be broadly characterized by four activities; creation, storage and retrieval, transfer and application of knowledge. Whilst knowledge sharing is fundamentally concerned with the transfer activity, it cannot be isolated from the other activities (Ireson & Burel, 2010).

The benefits of knowledge sharing to organizations are quite known, but while human knowledge can be the most valuable asset of an organization, often a lot of that knowledge is never shared. The importance of knowledge sharing and the technology supporting the activity is vital in organizations where knowledge brings all the value to the organization and employees are in different locations (Ismail & Yusof, The Impact of Individual Factors on Knowledge Sharing Quality, 2010).

Knowledge sharing is a key process in translating individual learning into organizational capability. But facilitating knowledge sharing is a difficult task. The willingness of individual to share and integrate their knowledge is one of the central barriers (Lemmetyinen, Factors Influencing Knowledge Sharing in Professional Services, 2007).

Knowledge sharing not only improves competence of the employees that are involved in the process but it also benefits the organizations by speeding up the deployment of knowledge (Shih & LOU, 2011).

The link between knowledge sharing and improving the learning ability in organization is quite obvious. While learning is defined as the creative process that

enables members of any organization to develop, adapt, excel, sharing knowledge is considered the enabler to enhance the learning performance (Aktharsha & Anisa, 2011).

The definition of learning and its relationship with knowledge sharing leads to the concept of learning organization which can be characterized by its ability to transform itself in response to the needs and aspirations of people, both inside and outside itself (Davenport & Prusak, 1998).

According to Aktharsha and Anisa (2011), a learning organization is skilled at creating, acquiring and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights.

People do not prefer to share their knowledge due to multiple reasons. Those reasons include organizational factors, stressors and personal gains. Not sharing the knowledge with others will emerge knowledge gaps. Accordingly those gaps will act as barriers in achieving the desired outcomes.

But the main question rises is "what factors have the biggest influence on the sharing process of knowledge?" And what are the most likely motivators that make people share the knowledge they possess?"

Many studies and researches have tried to answer such questions. And over the years researchers treated this subject from so many respective and focused on various aspects of knowledge sharing (Rehman, et. al., 2010).

Most of those studies such as the study of Matzler et.al. (2011) treated the individual related factors that motivate people to share their knowledge in their workplaces. Some other studies discussed other factors such as organizational structure as in the study of Donate & Guadamillas (2011), organizational climate as in the study of Abzari & Abbasi (2011), organizational size, information technology (Antonova et. al. (2011)), and stressors and job as Tec and Sun (2012) did in their study.

People believe that technology is the major facilitator for knowledge sharing, but this is not the case with large organizations (Rehman, et. al., 2010).Technology infrastructure facilitates easy communication which is the key to knowledge sharing (Kim & Lee, 2004).

Although information technology (IT) is considered as one of the important means of knowledge sharing but still it is not the most important factor. (Rehman, et. al., 2010)

Culture and environment of an organization also plays a vital role in building a knowledge sharing behavior of an individual. Organizational culture is "evolved context within which specific situations are embedded" (Bock, et. al., 2005).

Jawwal Company is a mobile operator working in the Palestinian territories which is considered one of the biggest companies that is providing cellular services for more than 2.4 million subscribers in both Gaza and West bank (Abawi, 2012). As a professional service provider, knowledge is considered as one of the main assets for jawwal, that if well treated, will give jawwal a competitive advantage over its competitors.

Jawwal has its main headquarter at Ramallah city with another regional directorate at Gaza city. This type of geographical separation has made the physical contact between employees hard to achieve. And this affected the performance of the knowledge sharing process among different teams and units and among the employees themselves.

Many technological systems are well implemented in Jawwal Company. The need for such systems raised from the kind of service that jawwal provides. This technological infrastructure is a prerequisite to facilitate the knowledge sharing performance in the company, but according to many researchers and many studies that investigated the knowledge sharing requirements in organizations, technology alone is not enough to enhance the knowledge sharing behavior. Besides, a group of other factors need to be considered.

The Network Operations Directorate in Jawwal is mainly dealing with technological systems and solutions .It needs all its member either engineers or technicians be updated always with the latest technologies, solutions, products, and information in general .Due to this important role that the network operations directorate plays in Jawwal rises up the importance of knowledge management and knowledge sharing within this technical directorate.

1.2.   Research Problem

The importance of knowledge sharing is quite clear, and almost no one can deny the benefits that any organization can gain through good and effective knowledge sharing practice.

Most of the organizations now days are complex and geographically dispersed and this creates the need to have better approach to share knowledge among employees.

Jawwal as most of the organizations does not possess all the required knowledge within its formal boundaries and it must rely on linkage to individuals to acquire the knowledge it needs. Moreover the type of projects and services that jawwal offer and the geographical separation among the different departments in Jawwal increase the need to have clear, straightforward, effective, and rapid knowledge and experience sharing among the employees involved in the different phases of any project.

The competitive market that Jawwal faces after the recent entry of the second mobile operator (Wataniya Mobile) adds more stress and exerts more pressure on Jawwal to get the most benefit and use of the knowledge that its employees have.

So the main problem of this research is to find out how to help Jawwal company enhance its employees knowledge sharing behavior through isolating the most effective determinants that have the highest influence on the knowledge sharing process and to find out how to stimulate the trend toward having effective knowledge sharing practice.

1.3.   Research Objectives

Knowledge sharing is especially vital in technical departments as people work with a large variety of topics often in short projects, and any time lost in "reinventing the wheel" is very costly (Naftanaila, 2010).

Thus, as sharing of knowledge can rarely be forced, the main objectives of this study are:

a- To find out how motivation as one aspect of the knowledge sharing behavior affects the knowledge sharing process.

b- To find out to what extent the individual's working environment can help in enhancing the knowledge sharing behavior.

c- To figure out the effect of the ICT tools and technology on enhancing and simplifying the knowledge sharing among employees.

d- To find out how the individual's personality and perception affects the knowledge sharing practice in the organization.

1.4.   Research Variables

The dependent variable in this study is: The Knowledge sharing Behavior
And the independent variables will be divided into four main groups as follows:

a) Motivational Factors/Variables
Those factors can be stated as follows:
1- The individual's Attitude.
2- The individual's awareness.
3- The individual's trust.

b) The Environmental Factors/Variables

Those are the group of factors related to the organization itself, which is the working environment the individual exists in which can be classified as follows:

1- The Organization Culture.

2- The Organization's Reward and Recognition Policy.

3- The Organization's Leadership Characteristics.

c) The Technological Factors/Variables

Those factors are:

1- The ICT Infrastructure available.

2- The ICT know-how.

d) The Individual's Characteristics

The main factors that can be listed in this category are:

1- Personality

2- Perceptions

1.5. Research Hypothesis

This research suggests that the following relations exist between the dependent variable (knowledge sharing behavior) and the independent variables as follows:

H1. Motivation is one aspect of the knowledge sharing behavior of the employees in the organization.

The sub-hypotheses are:

   i.   Individual's attitude is one aspect of the Knowledge sharing behavior.

   ii.   Individual's Awareness is one aspect of the Knowledge sharing behavior.

   iii.   The Individual's Trust is one aspect of the Knowledge sharing behavior.

H2. The working environment of the individuals has significant effect on the knowledge sharing behavior in the organization.

The sub-hypotheses are:

   i.   Culture is one aspect of the knowledge sharing behavior.

   ii.   Reward and recognition policy is one aspect of the knowledge sharing behavior.

   iii.   The leadership characteristic is one aspect of the knowledge sharing behavior.

H3. The Technology applied in the organization facilitates the knowledge sharing behavior among employees.

The sub-hypotheses are:

    i.   The ICT infrastructure available at the organization helps in the knowledge sharing behavior.

    ii.   The ICT know-how capabilities at the organization have significant effect on the knowledge sharing behavior.

H4. The Individuals' characteristics have big influence on the knowledge sharing behavior.

The sub-hypotheses are:

    i.   Individual's personality plays a significant role on enhancing the knowledge sharing behavior.

    ii.   Individual's perceptions play an important role on facilitating the knowledge sharing behavior.

H5. There are significant statistical differences in the answers of the respondents concerning the factors that determine the knowledge sharing behavior due to the personal traits of the respondents.

1.6.   Significance Of The Study

This study has its significance through the benefits that could be gained by the different parties involved in this study, those parties are:

a- Jawwal company :

Since knowledge is considered as one of the most important assets that any company may possess, and since sharing the knowledge that professional individuals have can enhance the work processes and procedures and enhance the overall performance of the company. Building knowledge sharing culture and specifying the factors that can simulate knowledge sharing between employees will definitely help Jawwal gain a competitive advantage over its competitors and enhance its work procedures and performance and hence finally increase its profit.

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b- The Customers of Jawwal:

This study can help enhancing Jawwal services and reducing the gaps between the users expectations and what they really receives and this for sure will help Jawwal customers gaining a good service.

c- The researcher:

As being one member of Jawwal family and on the head of the radio planning department, the researcher finds that it's his responsibility and job to work on enhancing the services that Jawwal provides to its customers.

And once knowledge is the most important resource that any company may possess, the researcher believes that sharing this knowledge will for sure enhance the performance of the different teams and finally enhance the service.

And this study will help the researcher in separating the factors that affect the sharing of knowledge and of course will help enhancing the performance of the different technical teams.

1.7. Research Methodology

This research is of an exploratory nature .In other words , the aim is to find the type of relation that exists between a dependent variable (i.e. knowledge sharing behavior) and a group of independent variables (factors) that are believed to have significant effect on knowledge sharing. To test the effect of the above mentioned factors a questionnaire based survey will be conducted for this purpose. A web-based questionnaire will be prepared and distributed over all the employees in the Network operations directorate in Jawwal. Then the results will be analyzed using the different statistical tools.

1.8. Research Structure

This research will be divided into six chapters as follows:

a) **Chapter One:** includes Research background, Research problem, variables, hypothesis, importance, objectives, and a profile about Jawwal Company.

b) **Chapter Two:** introduces the main definition of knowledge, knowledge types, knowledge importance and knowledge management different aspects.

c) **Chapter Three:** discusses the theory of Knowledge sharing and the different models used to explain the factors that affect knowledge sharing in different organizations.

d) **Chapter Four:** presents the previous studies and the comments on them.

e) **Chapter Five:** introduces research methodology, research procedures and data Sources, research difficulties and limitations.

f) **Chapter Six:** covers the data analysis and discusses the results.

g) **Chapter Seven:** concludes the research results and offers recommendations for further study and concerned bodies.

1.9 JAWWAL PROFILE

Jawwal Company was established in 1999 as a project owned by the Palestinian telecommunications company PALTEL. After the completion of the first phase of the project, Jawwal was separated from the mother company PALTEL in December 2000 to be the first independent Palestinian cellular firm serving the Palestinian community in the Gaza strip and the West Bank. Jawwal license fees in the beginning were paid through PALTEL license. These fees were $30 million plus 7% of the company's total revenue that should be paid at the end of each financial year. An additional $4 million was paid to the Palestinian Authority for licensing Jawwal as an independent company. (El Hindi, 2007)

Jawwal started as a small, homegrown company competing with four Israeli giants in the mobile industry who refused to sign agreements allowing Jawwal customers to interconnect with any of them, which was designed to effectively isolate Jawwal. Nobody expected that Jawwal would last very long amidst such conditions; people

would always make snide comments about how Jawwal would never last and be able to compete in the high-tech world of cellular communications (El Hindi, 2007).

The vision of Jawwal is to maintain itself as the market leader in a society where all Palestinians enjoy the benefits of wireless communications. Despite the operational obstacles facing Jawwal from its early commencement, Jawwal is making continuous investments to improve its services; its network now covers 98% of West Bank and Gaza, with 25 showrooms, 1000 main and sub dealers serving customers in every corner in the country. Through the international roaming agreements Jawwal signed with different 347 operators, it allowed its customers to stay connected while travelling in 150 countries (Jawwal Web Page).

Most services of Jawwal have been automated utilizing IVR, SMS and My Account allowing customers to request services at their convenience.

"Customers first" is Jawwal promise. To keep this promise, Jawwal offers a vast variety of well-designed packages and introduces the latest services that appeal to all age and user groups. There is also a choice of value added services to meet the expectations of all customers who wish to keep up with the most recent technologies.

The year of 2007 ended with Jawwal crossing the one million customers mark, in 2010 it has reached more than 2 million. Despite all adversaries, Jawwal has proven to be a company that managed to address the needs of every individual and segment in the market.

Jawwal has achieved increasing profits since the second year of its operation. This allows Jawwal to play an active role in the Palestinian economy through a number of key investments and initiatives. Jawwal is humbly proud to be a major contributor to securing the livelihoods of thousands of Palestinian families.

1.9.1. Knowledge Sharing in Jawwal:

Jawwal is categorized as a service-based organization with extensive and technologically complex delivery services as its main business.

Experience and knowledge that the company has assimilated over the years has provided Jawwal with the opportunity to further improve and streamline its operations through a greater focus on knowledge management. The efficiency potential lies in increased dissemination and utilization of the knowledge and experiences previous projects has given the company.

The Type of projects and services that different departments in Jawwal offer and the geographical separation among those different departments increases the demand and need for a straight and clear communication of knowledge and experience between individuals involved in the different phases of any project.

It is well-known that knowledge sharing is one of the most important factors affecting organizational agility and performance (Beckman 1997; Osterloh and Frey 2000). Since organizations are now complex and geographically dispersed (As the case for Jawwal), there is a need for having a better approach to share knowledge among employees. In fact, it has been widely agreed that information technology can provide the useful tools to knowledge sharing activities from storage based to communication support, in order to empower knowledge in organizations. Nonetheless, the support of these tools alone does not ensure the effectiveness of knowledge sharing in organizations.

Jawwal, as most of the organizations, does not possess all the required knowledge within its formal boundaries and it must rely on linkage to individuals to acquire the knowledge. Knowledge sharing not only improves competence of the employees that are involved in the process but it also benefits the organizations by speeding up the deployment of knowledge. Given the importance of knowledge management in improving organizational performance and competitiveness, knowledge sharing is considered as the main function to ensure the business frontier and sustainable competitive advantage.

Jawwal has realized the importance of having effective knowledge management system since its early beginnings, and started to build different technological systems that ensure the dissemination of information among the different employees in different department and work groups.

For all the functions related to the human resources, Jawwal established Electronic Human Resources System (EHR), through which employees can apply for any request related to vacations, leaves, medical insurance, and any document that may be needed through the HR directorate.

For the sales and commercial departments, Jawwal established the Electronic Operation System E-Operation, where any commercial campaign is published through this system and then all the concerned parties are being informed about the details and specifications of any campaign or work procedure through this system.

The E-mail system is widely used in Jawwal to communicate information and to organize activities. Different groups are formed as separate e-mail groups for different department to ease the distribution of information.

Jawwal official web site also plays an essential role in communicating different knowledge and information to the end users of Jawwal. Through this web site any customer can find the full details about the new lunched campaigns, the details related to any of the commercial programs of Jawwal.

Candidates that are seeking for jobs in Jawwal can apply for the job and attach their documents through the E-Career module that is built in Jawwal web site.

1.9.2 Summary

This chapter introduced to the main problem of this study and to the objectives behind performing this research. The research variables and hypothesis were stated clearly through this chapter. The knowledge sharing practice at Jawwal Company was pointed out in a separate section and the benefits behind having effective knowledge sharing performance among the employees at Jawwal Company were stated clearly. Studies show that the knowledge that embedded in the interaction of people provides a basis for competitive advantage to organizations and this represents the main backbone of any knowledge sharing process.

CHAPTER TWO

Knowledge Management Overview

This chapter consists of the following sections:

2.1.   INTRODUCTION

2.2.   KNOWLEDGE DEFINITION

2.3.   TYPES OF KNOWLEDGE

2.4.   KOWLEDGE MANAGEMENT DEFINITION

2.5.   THE ROLE OF KNOWLEDGE MANAGEMENT

2.6.   IMPORTANCE OF KNOWLEDGE MANAGEMENT

2.7.   KNOWLEDGE MANAGEMENT FUNCTIONS

2.8.   KEY SUCCUSS FACTORS OF KNOWLEDGE MANAGEMENT

2.9.   KNOWLEDGE MANAGEMENT IN PROFFESSIONAL SERVICES

2.1. Introduction

In today's organizations, information or more specifically knowledge is regarded as one of the most important strategic resources. Moreover, organizational capabilities are based upon the distinct competencies in sharing and integrating information and knowledge.

This chapter introduces the main concepts, definitions and terms related to knowledge and knowledge management in the literature review.

The researcher starts by presenting the common definitions of knowledge as stated by the researchers. The types of knowledge are also introduced.

Then the chapter proceeds with presenting the concept of knowledge management, its importance, jobs, and the main functions of the knowledge management process.

The professional services are finally introduced and the importance of the knowledge management concept in the professional services concludes this chapter.

2.2. Knowledge Definition

The theoretical interest and practical importance of knowledge in enterprises has increased remarkably within the last twenty years. Knowledge has always been an asset in building capabilities for firms and individuals (Rasmussen & Nielsen, 2011).

Knowledge is considered the most important and valuable resource for any company. This importance comes from the fact that knowledge involves intangible assets, routines and creative processes that are almost hard to imitate and copy (Bano, et al. , 2010).

It represents a set of justified beliefs that enhance an organization's capability for effective action and represents truth and offers a reliable basis for action (Adhikari, 2010).

Knowledge is defined as personalized information that is related to facts, procedures, concepts, interpretations, ideas, observations and judgments. This knowledge becomes information to others once it is presented in some interpretable form.

Bratianu and Orzea, (2010) defined knowledge as the information processed in order to understand the surrounding events produced in the external environment.

2.3. Types of Knowledge

The kinds of knowledge used in firms and other types of organization may be ordered in two general types (Rasmussen, 2007).

One type is formalized and systematic knowledge, which includes factual and declarative knowledge ("knowing that"), explicit rules and scientific (ordered and verified) knowledge.

The other type is an informal, practical and experience-based knowledge ("knowing how"), which is at least partly tacit and only manifests itself in the actions of persons.

According to Adhikari (2010); Polanyi (1966) and Saint-Onge (1996) three types of Knowledge have been defined:

1- **Explicit Knowledge**: which is also known as "hard" knowledge; is that type of knowledge that can be expressed in numbers and words and shared formally and systematically in the form of data, specifications, manuals, and so on.
   It is part of everyday professional life, and can be easily captured, and then shared with others.

   Examples of explicit knowledge may include documented organizational Procedures, product specifications, or official organizational publications.

2- **Tacit Knowledge**: This is also known as "soft" knowledge that includes insights, intuitions, and hunches. Tacit knowledge is difficult to express and formalize, and therefore difficult to share. It includes skills and "know how" that we have inside us and cannot be shared easily. This kind of knowledge is acquired through experience over years.

   Tacit knowledge is highly personal and hard to be formalized. It can only exist in the human's mind. It is a product of people interaction with each other and the people interaction with the environment around them.

Tacit knowledge accordingly can be transformed into explicit knowledge through interaction and exchanging of ideas between people within a social context or through formal writing and publications.

3- **Professional knowledge**: is formally rational and abstract, but at the same time applied and contextual. The applications do not constitute a fixed repertoire; they are supplemented and reshaped continuously.

The knowledge used in professional work is not just a specific and practical knowledge about problems and solutions in the domain of the specific profession. Behind the specific knowledge there is a dimension of general knowledge in the form of rationalizing conceptual systems. (Rasmussen & Nielsen, 2011)

2.4. Knowledge Management Definition

There are several definitions for knowledge management. Knowledge management can be defined from two perspectives; a process perspective and an outcome perspective.

The process perspective focuses on how to work with knowledge; the outcome perspective stresses the benefits of knowledge management for an organization (Carrillo, 2006). A combination of both perspectives is also possible.

Newman and Kazi see knowledge management as a process of controlling the creation, dissemination, and utilization of knowledge. Snowden understands knowledge management as the identification, optimization, and active management of intellectual assets, either in the form of explicit knowledge held in artifacts or as tacit knowledge possessed by individuals or communities to hold, share, and grow the tacit knowledge (Mládková, 2012).

Knowledge management is seen to be concerned with the way an organization gains a competitive advantage and builds an innovative and successful organization. For Tiwana (2000) knowledge management enables the creation, communication, and application of knowledge of all kinds to achieve business goals.

Klasson (1999) defines knowledge management as the ability to create and retain greater value from core business competencies (Al-Ghassani, et al., 2006).

All definitions focus on the fact that knowledge is a valuable asset that must be managed, and that knowledge management is important to provide strategies to retain knowledge and to improve performance (Al- Ghassani, et al., 2006).

In recent years, knowledge management (KM) has been recognized as a key instrument for the improvement of organizational effectiveness and performance (Zack et al., 2009).

Knowledge management has been the subject of research in organizational, educational, social and business science as well as information management. Throughout the years various approaches towards knowledge management have been developed which offer different definitions of knowledge and therefore of knowledge management itself.

2.5. The Role of Knowledge Management

Knowledge management focuses on the processes that are composed of acquisition, creation, sharing and applying knowledge. Knowledge management is popularized and has been spread across the industrial and the information research world (Bano, et al., 2010).

With the upcoming era of economy, knowledge and knowledge management has become vital to success in organizations (Abzari, et al., 2011)

Clearly, Knowledge management is not a new phenomenon. For many years organizations' knowledge has been stored in several ways, including human mind, documents, policies and procedures, and has been shared among individuals through the means of conversation, training and reports (Adhikari, 2010).

According to Darrouch (2005), knowledge management has emerged as a new discipline in organizations, and it plays an important supporting function by providing a coordinating mechanism to enhance conversion of resources into capabilities.

As it is clear from the above definitions of knowledge management, the researchers have stated many definitions for knowledge management, each from his or her respective and according to the type of research each one was involved in. But as it can be seen, knowledge management is considered a key part in creating a competitive advantage for all the organizations today.

For the purpose of this study we can define knowledge management as that continuous and lasting process that gets use of all the sources of knowledge in the organization and introduces it in a way that benefit enhancing the work procedures, processes, outputs, and performance and helps the organization to gain competitive advantages over its competitors.

2.6. Importance of Knowledge Management

The importance of knowledge management within organizations has dramatically risen due to several factors such as growing globalization, the acceleration in the rate of technological change, and the need to share best practices (Mehta, 2008).

Knowledge is considered the most important strategic resource of insuring an organization's long-term survival and success. Consequently, processes and practices that firms utilize in order to manage knowledge are instrumental for attaining strategic objectives by harnessing complexity and making the best use of existing resources and capabilities.

Knowledge management plays a potentially mediating role in connecting organizational context and strategy with organizational effectiveness (Zheng, et al., 2010).

Successful knowledge management is believed to have the potential of enhancing an organization's competitive advantage, customer focus, employee relations and development, innovation, and lower costs (Skyrme and Arnindon, 1997).

 In turn, knowledge management is context-specific, because context determines who participate and how they participate in the knowledge management process (Nonaka et al., 2000).

2.7. Knowledge Management Functions

Knowledge Management (KM) is a cycle model starting with the entrance of the new knowledge to applying it into organizational processes (King et al., 2002).

There are many KM cycle models that identify the key aspects of KM, ranging from Davenport and Prusak's 3-stage model ("generate, codify/coordinate, and transfer") to Ward and Aurum's 7-stage ("create, acquire, identify, adapt, organize, distribute, apply") (Ward & Aurun,2004).

The model in Figure 2 shows that the introduction of the KM cycle includes either the creation or the acquisition of knowledge. *Knowledge creation* refers to the development of new knowledge inside the boundary of organization, while *knowledge acquisition* entails the search for, recognition of, and assimilation of new knowledge, from outside organizational boundaries.

After the creation or the acquisition of new knowledge, KM systems, and processes the incoming knowledge should be prepared to transmit it into the organization's memory aiming at maximal long-term reusability. This is what we call *knowledge refinement.*

On the following stage, the refined knowledge enters various storage media and becomes a part of the organization's memory.

That is to say, organizational memory consists of knowledge stored in the minds of organizational members, held in electronic repositories, can be acquired and/or retained by groups or teams and is embedded either in internal or external relationships as well as in the business's processes, products and services (King & Ko,2001).

In order to have an organizational wide impact, the stored knowledge should be either *transferred* or *shared*. Knowledge transfer and sharing represent two ends of a continuum. Transfer is the purposeful communication of knowledge from a sender to a known receiver while sharing occurs through a repository, to people who are usually unknown to the contributor (King, 2006).

The transferred or shared knowledge is then applied into organizational process and practices in order to end to collective and individual learning, and/or collaborative problem solving, and innovation.
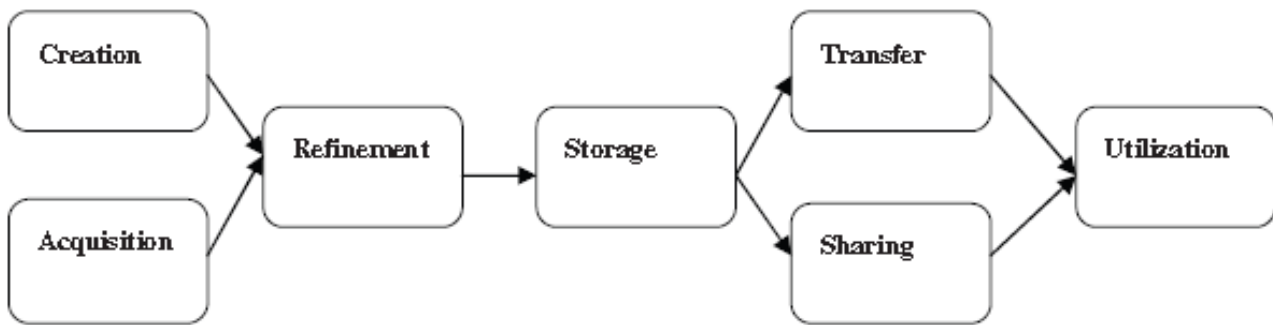
Fig. 2.1 KM cycle model (source: King et al., 2008)

2.8. Key Success Factors of Knowledge Management

Different success factors for knowledge management are presented and discussed in this section.

According to literature there are a number of factors that contribute to or impede the creation and dissemination of knowledge thus affecting the knowledge management process either in a positive or negative manner.

Davenport and Prusak (1998) suggest nine factors leading to the success of knowledge projects. The factors are:

a) A knowledge-oriented culture
b) Technical and organizational infrastructure
c) Senior management support
d) A link to economics or industry value
e) A modicum of process orientation

f) Clarity of vision and language

g) Nontrivial motivational aids

h) Some level of knowledge structure

i) Multiple channels for knowledge transfer

After reviewing these factors and the theory presented so far in this regard the following 10 factors are suggested to be of vital importance for successful knowledge management initiatives:

- Technology
- Project management
- Organizational culture
- Organizational structure
- Knowledge vision
- Management support
- Leadership and empowerment
- Motivation and reward systems
- A viable business case
- Change management

When present and adapted to the organization, all these factors support and enhance the collection, dissemination and efficient utilization of knowledge within the organization. Through coupling the above coherent factors the following six areas prove to be of importance for successful knowledge management initiatives: Organization, task, people, technology, organizational environment and culture.

As for the viable business case this success factors are not actually be part of the model for successful knowledge management but rather compliments the model by providing a clear rationale and motivation for initiating and implementing a knowledge management initiative.

The model (Figure.2) below provides the theoretical foundation facilitating the analysis and understanding of any business case.

Fig 2.2 Theoretical foundation for the analysis of any business case

(Source: King et. al. 2008)

2.9. Knowledge Management in Professional Services

2.9.1. Definition of Professional Services:

Professional service workers share a common body of codified knowledge through formal education and training. In many professional services there are mandated and well-documented standards, protocols, and procedures that must be followed for service delivery. For example, an electrical engineer must comply to local and state codes, and design of electrical circuits should confirm to well established scientific and design principles. Many professional service firms require their workers to be accredited (pass the bar exam or be a licensed professional engineer) and, in

addition, seek continuing education to keep them abreast with the latest developments in the profession. Such specialized and consistent know-now and its continued use in ongoing project work makes the professional worker resistant to knowledge depreciation.

On the other hand, productivity gains in professional services may be sensitive to worker turnover (or layoff). Professional workers are primarily responsible for generating insights from prior projects to solve current client problems. When a worker leaves, the unique knowledge he or she has also leaves, depreciating the knowledge stock (Boone, Ganeshan, & Hicks, 2008).

2.9.2. Services and Technological Knowledge

The first meaning of "knowledge-intensive" relates to the process of application of knowledge within the sector. Many services are knowledge-intensive in this sense - as crudely demonstrated by such indicators as their high numbers of professional and technical staff, or their unusually high levels of investment in new IT.

These services are applying knowledge in their activities. As well as being important **users** of new technology, certain services are also **carriers**, agents of transfer, of new technology - e.g. consultancies and training services.

In practice, many services will play this role as a secondary function, even if it is not their primary mission. One feature common to many services, as noted earlier, is the close interaction between client and service provider in the course of service specification, production and delivery. (Miles & Kastrinos, 1995)

New technologies in general, and new requirements for technology, have spawned new services that enable the further development and design of these technologies. Examples include laboratory, design, engineering and related services; and services may be connected with biotechnology and new materials, and with environmental technologies, as well as with IT.

Such services innovation is important not only for the dynamism of the service industries themselves, but also across the whole economy. Technology-intensive users play a role in innovation through intensifying user-producer relationships. And other services facilitate the adoption, diffusion and implementation of new technologies, through their provision of decision support (e.g. consultancies), training, repair and maintenance, facilities management, and so on. (Miles & Kastrinos, 1995)

2.9.3. Knowledge Sharing in Professional Services

Perhaps no other industry is more dependent on maximizing the use of information assets and knowledge capital than professional services and consulting organizations. Knowledge, whether tacit or explicit, is the single most valuable asset of a professional services firm. The inability to effectively manage knowledge and utilize the knowledge assets results in a high cost to not only the firm but also to clients. Improving the access and use of knowledge as well as combining access to the highly specialized expertise of consultants can result in improving organizational returns linked to that knowledge.

With the ever increasing mobility of consultants across disperse geographies the challenge is to make knowledge sharing and distribution an easier and more transparent process creating a holistic view of knowledge assets regardless of where the information is stored or the location of staff (Garland, 2012).

This inability to find knowledge assets for re-use and to spur thought leadership can result in a loss of clients, decreasing returns, and ultimately a loss of revenues.

Research on professional service firms (PSFs) has been quickly developing over the last twenty years, especially emphasizing both PSFs' distinctiveness and their current challenges.

In some professional organizations, much of the most useful knowledge may be tacit in nature. Although critical to organizational decisions, tacit knowledge is difficult to ensure and has been infrequently studied (Brockmann and Anthony, 1998).

While technology may facilitate the storage of explicit knowledge, tacit knowledge resides only in the minds of people and its availability and use depends upon

individual decisions and relationships (Cross and Baird, 2000; Fahey and Prusak, 1998; Hinds and Pfeffer, 2001; Lucas, 2005).

The speed of technological changes over the last decade has had a profound effect on business enterprises around the world.

The widespread diffusion of computer technology and the greatly enhanced computing and networking capabilities have significantly modified the nature of work as well as information flows around and within organizations. These changes have important implications for the professional service providers,

2.9.4. Summary

Through this chapter, several definitions of knowledge were presented; all of those definitions assure the importance of knowledge and the critical role that it plays in enhancing the performance and creating competitive advantages. The different types of knowledge presented in section two aimed to explain the need behind transferring tacit knowledge into explicit knowledge in order to make it transferable. The role of knowledge management and the key success factors of any knowledge management system were presented in this chapter. The definition of professional services and the different aspects of technological knowledge were introduced by the end of this chapter too. Since Jawwal is one of the major professional service providers in Palestine , the significance of knowledge sharing practice is such companies was stated clearly and in a way that supports the main objectives of this study.

CHAPTER THREE

Knowledge Sharing Overview

This chapter consists of the following sections:

3.1. INTRODUCTION

3.2. DEFINITION OF KNOWLEDGE SHARING

3.3. KNOWLEDGE SHARING IMPORTANCE

3.4. KNOWLEDGE SHARING BARRIERS

3.5. KNOWLEDGE SHARING ENABLERS

3.6. FACTORS AFFECTING KNOWLEDGE SHARING

3.7. MOTIVATIONAL FACTORS/VARIABLES

3.8. ENVIRONMENTAL FACTORS

3.9. TECHNOLOGICAL FACTORS

3.10. INDIVIDUAL FACTORS

3.11. THEORIES OF INDIVIDUAL BEHAVIOR

3.12. KNOWLEDGE SHARING PERFORMANCE

3.13. CONCLUSION

3.1. Introduction

This chapter presents an overview of the concepts, definitions and terminology related to the knowledge sharing. The different definitions of knowledge sharing is firstly introduced, the importance of sharing knowledge, the knowledge sharing barriers and enablers are also covered within this chapter.

The outcomes of sharing the knowledge, and what are the factors that have the significant influence on knowledge sharing either that related to the organization itself, to the working environment and conditions or to the individuals their selves are also stated.

This chapter also covers the different theories that explain the individual's behavior and attitude toward the sharing process of knowledge. Knowledge sharing performance and a general conclusion are presented by the end of this chapter to sum up the results of this chapter.

3.2. Definition of Knowledge Sharing

Knowledge sharing is that activity where agents (individuals, communities or organizations) exchange their knowledge (information, skills or expertise). It is linked to the knowledge management process, which can be broadly characterized by four activities, the creation, storage and retrieval, transfer and application of knowledge (Ireson & Burel, Knowledge Sharing in eCollaboration, 2010).

Davenport and Prusak (1998) defined knowledge as "Knowledge is a fluid mix of framed experiences, values, contextual information, and expert insight that provide a framework for evaluating and incorporating new experiences and information". According to the above definition Sharing of knowledge can be defined as the dissemination of information and knowledge throughout the organization (Ling, et. al., 2009).

Knowledge sharing is regarded as the informal communication process involving the sharing of knowledge between co-workers (Siemsen et. al., 2008).

Organizational members are better equipped with skills and knowledge when they engage in knowledge sharing practices (Sitko-Lutek et al., 2010).

Organizational administrators and mangers presumably value such practices, because knowledge sharing among employees makes an individual's job easier, and saves the individual's time for more substantive Tasks.

In the past knowledge management was not considered of that big importance for the organizations, but now knowledge is considered as the economic recourses for any organization. And based on this fact, knowledge sharing is believed to be the most significant part of knowledge management (Rehman, et. al., 2010).

As one knowledge–centered activity, knowledge sharing is the fundamental means through which employees can contribute to knowledge application, innovation and specifically to the competitive advantage of the organization (Wang & Noe, Knowledge Sharing : A review and directions for future research, 2010)

Knowledge sharing can be seen as the process of knowledge exchange. It has been argued that the motivation for these different exchanges is related to the expectation of reserving something in return (Lilleoere & Hansen, 2011).

3.3. Importance of Knowledge Sharing

Knowledge sharing gains its importance from the role it plays over enhancing the overall performance of any organization, and the competitive advantages it adds to the corporate.

The significance of knowledge sharing has been recognized thus far through many previous studies. And many researchers have noted the benefits of knowledge sharing and the negative consequences of knowledge hoarding.

Knowledge sharing is widely recognized to be a central component of successful knowledge management, and one of the central characteristics of healthy knowledge culture is that knowledge sharing is embedded in the way in which organization works (Seba, et. al., 2012)

According to Lin (2007), knowledge sharing is fundamental to generate new ideas and developing new opportunities through the socialization and learning process of employees.

With the advent of knowledge management in today's knowledge-based economy era, knowledge sharing (KS) may become one of the most effective approaches in assisting individuals and organizations to update or enhance knowledge, skills and competency (Shih & LOU, 2011)

In any workplace it is very important to determine how to share knowledge with colleagues and coworkers, in order to make good use of available knowledge.

Effective knowledge sharing has been shown to lead to an institution's ability to retain the knowledge created by its members as well as their talent and expertise (Hassandoust & Kazerouni, Implications Knowledge Sharing Through E-Collaboration and Communication Tools, 2011)

Knowledge sharing plays an essential role in the organizational process because it helps an organization to transfer new ideas or solutions (Islam et al., 2010).

As a summary, we can state the benefits of sharing knowledge in the as following points as follows:

a) Knowledge sharing enhances the overall performance of the organizations.
b) Knowledge sharing helps adding extra competitive advantage.
c) Knowledge sharing helps individuals to create new ideas, enhance work process, and achieve creative solutions.
d) Knowledge sharing develops the individuals and groups skills and competencies.
e) Knowledge sharing plays an essential role in enhancing the organization's profit, and in reducing the turnover rate.
f) Knowledge sharing assists in strengthening the social relationships among groups and individuals.
g) And finally, with sharing knowledge, the organization assures that it will always stay dynamic and flexible to face any changes in the working environment.

3.4. Knowledge Sharing Barriers

Knowledge sharing is believed to be influenced by factors both at individual and organizational level (Naftanaila, 2010).At the individual level, one of the most important factors affecting knowledge transfer process is trust.

Most people are unlikely to share their knowledge and experience without a feeling of trust. The feel that other people will misuse the knowledge they receive is behind this feel of un-trust.

It is quite known that the level of trust that exists between the organization , its subunits and its employees greatly influences the amount of knowledge that flows both between individuals and from individuals into the firm's database ,and affects the best practices achieves and other records.

According to (Lilleoere & Hansen, 2011),Some of the knowledge sharing barriers that exist are: no knowledge of where knowledge is available ,no knowledge about the existence of valuable knowledge, not having access to the knowledge , the assumption that knowledge equals power ,and large physical and social distance between individuals .

Szulanski (1996) found that knowledge sharing is inhibited by three major factors:

1. Lack of absorptive capacity of the recipient.
2. Casual ambiguity concerning the knowledge itself.
3. An arduous relationship between the sender and the receiver.

Napier and Ferris (1993) also talked about another obstacle that affects the knowledge sharing process which is the physical location and described how physical distance between colleagues makes it more difficult for them to share dimensions of tacit knowledge.

3.4.1. Cultural Barriers

Vazquez et al, (2009) in their analysis of some barriers for innovation and knowledge sharing identified several cultural barriers that can influence knowledge sharing on the employees' level such as; organizational environment, emotional

intelligence and managers' commitment. They also emphasize the need to develop a suitable environment for knowledge production and sharing.

The people have to be assured that even if they share their very specific or tacit knowledge with others, their position in a company is not endangered (Hauke, 2006).

Knowledge production and sharing processes are influenced by the cultural dimensions and organizational culture. For businesses with a good organizational culture that promotes the necessary conditions to share knowledge, managers have to be aware that the cultural impact has two levels: the macro and micro levels (Vazquez et. al., 2009).

The cultural barriers that affect the knowledge sharing practice in any organization can be divided into two groups, i.e. *objective* cultural barriers and *subjective* cultural barriers.

3.4.1.1. Objective Cultural Barriers

These include: unfavorable organizational culture; undeveloped communication within enterprise; different technological background; organizational culture which promotes the results but not the sharing; little commitment of managers in knowledge sharing process; lack of motivation from superiors for knowledge sharing; intolerance toward mistakes or the need for help; bad allocation of knowledge that is needed; status and rewards given to knowledge owners; lack of financial incentives promoting the research of new knowledge and its transfer; and lack of time (Hauke, 2006).

3.4.1.2 Subjective Cultural Barriers

These include: protection of own position and specialization; lack of sentiment that the knowledge that one possess may be useful for other people in the organization; internal fear–not being sure if the ideas are good enough; lower-level workers feel being discriminated; fear of only giving information – without receiving it from others; lack of trust; fear of changes; and the sense that others will not know how to use such a complicated knowledge or high self-esteem (Hauke, 2006).

From the employee point of view, organizational environment, emotional intelligence and managerial commitments are existing cultural barriers preventing knowledge sharing.

For the private companies organizational environment and emotional intelligence are the most important barriers that they must work with.

Riege (2005) has classified KS barriers into three broad categories:

1- Individual;

2- Organizational; and

3- Technological.

3.4.2. Individual Barriers

Individual barriers refer to personal barriers such as lack of communication skills, lack of social networks, differences in culture, lack of time, lack of trust, lack of motivation, lack of awareness of the benefit of KS, lack of interaction, fear of not receiving recognition (Ling et al., 2009).

Previous studies reveal that people are reluctant to share knowledge though their organizational culture promotes the practice (Lu et al., 2003).According to Riege (2005); there are seventeen potential individual factors that hinder people from sharing knowledge. These include:

• Lack of time to share knowledge

• Fear that sharing may jeopardize job security

• Lack of awareness

• Dominance in sharing explicit over tacit knowledge

• apply of strong hierarchy, position-based status, and formal power

• Inadequate capture, evaluation, feedback, communication, and tolerance of past mistakes that would improve individual and organizational learning effects

• Differences in levels of experience

• Lack of interaction

• Poor verbal/written communication and interpersonal skills

• Difference of age

• Difference of gender

• Lack of social network

• Differences of education levels

• Taking ownership of intellectual property because of fear of not receiving recognition and accreditation from managers and colleagues

• Lack of trust in people because they misuse knowledge or take unjust credit for it

• Lack of trust in the accuracy and credibility of knowledge due to the source

• Differences in national culture or ethnic background; and values and beliefs associated with it.

Senge (1997) argued that "sharing of knowledge is not about giving people something or getting from them but sharing occurs when people are genuinely interested in helping one another develop new capacities for action".

3.4.3. Organizational Barriers

Organizational barriers are barriers that originate from the firm. Examples of such barriers are lack of rewards, lack of support from top management, ineffective HRM practices, weak organizational structure, inadequate infrastructure, poor organizational culture, office politics, lack of KM/KS strategies, and lack of formal and informal avenue to share knowledge, competition between business units, and lack of training (Jain et al., 2007; Ling et al., 2009).

3.4.4. Technological Barriers

Among the technology barriers highlighted are lack of integration of IT systems/processes, lack of technical support, lack of maintenance of integrated IT systems, people's reluctance to use IT systems and lack of training for familiarization of IT systems and processes (Riege, 2005).

Lack of technology was a major barrier to KS in the public sector (McAdam and Reid, 2000).

Gorry (2008) who conducted two case studies on KS in the public sector in the USA found that inadequate technology and lack of institutional commitment (lack of leadership and top management support) as main barriers to KS.

3.5. Knowledge Sharing Enablers

According to (Davenport and prusak, 1998.), One of the most important knowledge-sharing enablers in any organization is the creation of a knowledge-sharing culture.

Thus, one key challenge may be to facilitate effective knowledge sharing in the organization by ensuring adsorptive capacity and a culture that supports knowledge sharing (Nielsen, 2006).

Incentives can facilitate an individuals' willingness to participate in knowledge sharing (Lilleoere & Hansen, 2011).

In an empirical study, Cardinal and Hatfield (2000) found that human networks were one of the key vehicles for sharing knowledge and that trust among individuals was related to informal networks.

Tsai and Ghoshal (1998) emphasized the role of social ties as channels for knowledge sharing. Social ties have also been found valuable; empirical findings by Levin and Cross (2004) demonstrated that individuals are five times more likely to contact other individuals than to use technical systems.

An employee feels motivated to share knowledge once he or she has a good relationship with another person. In addition, social dilemmas are also embedded in knowledge-sharing practices, because organizational knowledge is more likely to be shared with a person who is highly likeable rather than with someone who is highly competent (Casciaro and Lobo, 2005).

Furthermore, common identity often facilitates knowledge sharing as individuals within one group understand each other better than people from outside the group, i.e. people are embedded in the same practice, speak the same technical language and have a similar identity (Currie and Kerrin, 2003).

As a summery, the most important and effective enablers that mostly affect the knowledge sharing process can be listed as:

1. Creation of knowledge sharing culture.
2. Organization's Reward and incentives system.

3. Top management support

4. Human networks and trust among employees.

5. Human resources practices in the organization in terms of training, performance appraisal and incentives.

6. Informal systems such as meetings and personal network.

7. Workshops, discussion forums, training needs analysis and face-to-face communication.

3.6. Factors Affecting Knowledge Sharing

Because of the potential benefits that can be realized from knowledge sharing, many organizations have invested considerable time and money into knowledge management (KM) initiatives including the development of knowledge management systems (KMS) which use state-of-the-art technology to facilitate the collection, storage, and distribution of knowledge.

However, despite these investments it has been estimated that at least $31.5 billion are lost per year by Fortune 500 companies as a result of failing to share knowledge (Babcock, 2004).

An important reason for the failure of KMS to facilitate knowledge sharing is the lack of consideration of how the organizational and interpersonal context as well as individual characteristics influences knowledge sharing (Voelpel, et al., 2005).

According to the study of (Wang & Noe, Knowledge Sharing : A review and directions for future research, 2010), seventy-six qualitative and quantitative studies were published between 1999 through early 2008 regarding knowledge sharing. They presented a framework that organizes knowledge sharing research based on several areas of emphasis including organizational context, interpersonal and team characteristics, cultural characteristics, individual's characteristics, and motivational factors.

Wang and Noe (2010) have reviewed the qualitative and the quantitative studies done on the individual – level knowledge sharing. And they developed a frame work for understanding knowledge sharing research.

This frame work identified five areas of emphasis of knowledge sharing research which are: organizational context, interpersonal and team characteristics, cultural characteristics, individual characteristics, and motivational factors.

The framework shown in (Fig 3) was based on the review of the literature and shows five emphasis areas of knowledge sharing research. It shows the topics within each area that have been investigated and the topics that still need further research and investigation.
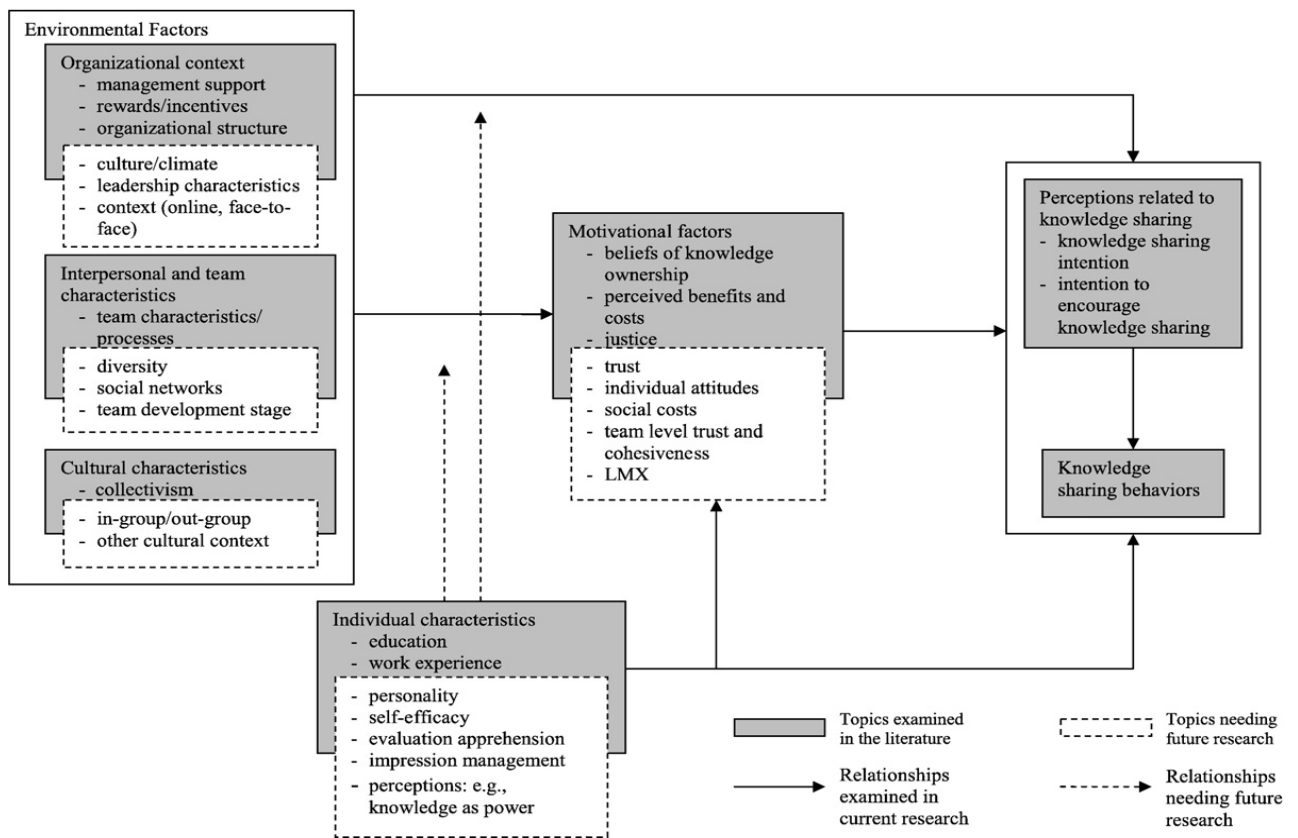
Figure 3.1 a framework of knowledge sharing research

Source (Wang & Noe, Knowledge Sharing : A review and directions for future research, 2010)

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In the light of this study and its results, the independent variables (factors) that are believed to affect knowledge sharing intention have been decided on.

3.7. Motivational Factors/Variables

It is difficult to enforce knowledge sharing because knowledge is created and stored within the organizational members (Chow and Chan, 2008).

In the workplace, knowledge sharing problem is relatively common in which the individual employees with knowledge are less inclined to share their knowledge (Ho et al., 2009).

Knowledge sharing will not happen if one does not intend to share knowledge (Siemsen et al., 2008). Furthermore, knowledge sharing behaviors are generally unnatural because individuals perceive their knowledge as valuable assets, and open sharing of knowledge with others is limited by their natural tendency to keep information to themselves (Hsu et al., 2007).

Therefore, the unwillingness of employees to share knowledge with other colleagues has created problems for organizational survival (Lin, 2007).

Knowledge sharing literature is varied, rich and still growing over two decades, many researchers have limited their studies to focus on interpersonal trust (Chai and Kim, 2010), reciprocal benefits (Tohidinia and Mosakhani, 2010), cultural factors (Huang et al., 2008), and organizational issues (Li, 2010) in relation to knowledge sharing behavior.

Although the accumulation of research on knowledge sharing has provided useful insights a complete picture of the psychology surrounding knowledge sharing behavior is still missing.

3.7.1. Individual's Attitude

On the basis of a review study, Hislop (2003) concluded that the most significant factor influencing knowledge sharing is the employee attitude. In some instances, employee attitudes may impede knowledge sharing behavior (Yang, 2008).

Because knowledge sharing behavior is regarded as an individualistic behavior (Bock and Kim, 2002), it is important to understand how the individual attitudinal and behavioral outcomes may have a differential impact on employees' knowledge sharing behaviors.

3.7.2. Individual's Awareness

Cress et al. (2007), investigated whether creating awareness about the usefulness of one's knowledge to others would positively affect contributions to a shared database. The results of their experimental study support the notion that a person not only considers his or her own payoff, but also the usefulness of their knowledge to the whole collective when deciding to share knowledge.

3.7.3. Individual's Trust

Trust is defined as one party's willingness to be dealt with the risks which came from actions conducted by another party (Tang et al., 2008). The study of Gefen et al. (2003) discussed the definition of trust from a broader perspective as a set of specific beliefs, which includes integrity, benevolence, ability, and predictability.

Interpersonal trust contributes to creating a knowledge sharing atmosphere in an organization (Nonaka, 1994). Trust is also discussed as one of the important factors affecting Knowledge transfer in society.

Previous research (Nahapiet & Ghoshal, 1998; Tsai & Ghoshal, 1998) indicates that close social ties or networking have a significant positive effect on promoting sharing knowledge.

When a trust relationship is established, people in the relationship are more willing to participate in cooperative interaction. The research of Nonaka also emphasized the importance of the role of interpersonal trust in generating knowledge sharing environment in the organizations.

Trust is referred to as one of the positive powerful factors on user's decision making in information transaction in the working context (Kim et al., 2007).

3.8. Environmental Factors/Variables

Environmental factors affecting knowledge sharing refer to that factors related to the working place and space of the teams, groups and individuals. In other words, those are the factors that are mostly associated with the organization itself.

A number of cultural dimensions that influence knowledge sharing have been identified through previous studies. Trust has received the most attention in knowledge sharing research (Wang & Noe, Knowledge Sharing : A review and directions for future research, 2010).

An organizational climate that highlights cooperative teams helps to build trust and increase the knowledge sharing behavior. A team culture that is cooperative in nature can stimulate social exchanges; it creates a high level of trust that is required for knowledge sharing (Schepers & Van den Berg, 2007).

According to Brink (2001) the main requirements of knowledge sharing are:
 (1) Social circumstances.
 (2) Organizational conditions, and
 (3) Technological conditions.

Nonaka & Takeuchi (1995) believe that Intention, autonomy, creative chaos, redundancy, and requisite variety are effective organizational requirements of knowledge creation which lead to knowledge sharing in the organization.

Researches show that the organizational context is a constraining factor of individual behavior, learning and knowledge sharing in organizations (Crossan et al., 1999)

In this respect, several studies highlight the role of organizational structure. Willem and Buelens' (2009) study showed that in contrast to previous studies hierarchy and centralization had no negative effect on knowledge sharing.

 However, team-based structures and horizontal coordination resulted in higher knowledge sharing. Willem and Buelens (2007) show that incentives have a positive effect on both knowledge sharing's effectiveness and intensity.

Gupta and Govindarajan (2000) argue that knowledge sharing between subsidiaries and headquarters is higher in cases where subsidiaries are organized as profit centers.

The brief summary of recent research reveals that knowledge sharing within groups, organizational units and between units is influenced by a multitude of factors on the individual, the social and organizational level.

3.8.1. The Organization's Reward and Recognition Policy.

Since the quality of shared knowledge is hard to measure, employees are in practice given rewards based on the frequencies of occurrence of sharing behavior. Hence, managers could review regularly or irregularly the frequencies of knowledge sharing, and decide how much incentive should be provided.

The reward offered by the organization should offset individual potential loss. Under this circumstance, different incentive policy designs might influence individual behavior, enabling people might adapt their behaviors to interact with their external environments.

3.9. Technological Factors

According to (Antonova, et. al., 2011), information technologies are still moderately used for increasing organizational knowledge base in spite of their significant role in the process of knowledge sharing and transfer.

Indeed, one of the effective technological factors leading to an organization's successful deployment of knowledge management strategy is the development of proper IT infrastructure (Paghaleh, et. al., 2011).

Knowledge management, the process of creating wealth and value using mental and knowledge based assets, requires a system to support this process. IT, as the most enabling factor of knowledge management process, has significantly improved the execution of this process with its high speed and precision (Paghaleh, et al., 2011).

Information technology has been defined by the Information Technology Association of America" as being, the study, design, development, implementation support and/or management of any computer based information systems". In summary, Information technology deals with using electronic computers and software to convert, store, protect, process, and retrieve information in a safe and secured manner.

The role of technology is to create the right and proper culture for sharing information and knowledge. Organizational culture that appreciates the value of knowledge and its sharing has a very significant role in successful transference of knowledge (Paghaleh, et al. , 2011).

3.10. Individual's factors

The term of knowledge sharing is used in the knowledge management literature to describe the exchange of knowledge among members of the organization. It differs from information sharing in that knowledge sharing implies assisting others, while information sharing refers to making information available (Abzari & Abbasi, 2011).

The study of individual differences in cross-situational behavioral and response tendencies, that is the study of 'personality' and 'personality traits,' dates back to at least the ancient Greeks, who proposed four personality types or 'humors' (sanguine, phlegmatic, melancholic, and choleric), and has been a major line of inquiry in modern psychology since its beginnings (Matzlera, et al., 2011).

3.10.1. Personality

There are five principal personality dimensions that explain most of the variance in personality (Matzler et al., 2011): *neuroticism* (versus emotional stability), *extraversion* (versus introversion), *openness to experience* (versus closeness to experience), *agreeableness* (versus rudeness), and *conscientiousness* (versus non dependability).

According to Cabrera et al. (2006), individual characteristics such as personality traits explain why some individuals are motivated to share knowledge while others are not. A few studies have examined the relationship between personality traits and

motivation to share knowledge and found that personality traits' influence on knowledge sharing intention varies. Of the five personality traits, openness to experience was the strongest predictor of knowledge sharing (Cabrera et al., 2006; Matzler & Müller, 2011).

However, in organizations that evaluate employees on knowledge sharing and reward them for it (as compared to organizational contexts where knowledge sharing is simply encouraged but not rewarded), individuals with higher levels of openness were less likely to engage in knowledge sharing behaviors (Wang, et al., 2011).
The authors suggested that this difference with prior research may be due to the fact individuals with high levels of openness tend to seek knowledge, rather than share it.

3.10.2. Trust

Researchers have also examined the link between personality trait and trust. Trust plays a key role in one's attitude toward knowledge sharing. According to Ardichvili (2008), within the community of practice context, trust is a prerequisite to the successful sharing of knowledge.

Communities of practice are groups of people "who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis" (Wenger, et al., 2002).

Participants will be more inclined to use the knowledge made available through the community of practice if they trust it to be a reliable and objective source of information.

Research has shown that extraversion, openness to experience, propensity to trust, agreeableness, neuroticism and conscientiousness are antecedents to trust (Usoro, et al., 2009).

3.10.3. Diversity

Many studies have examined the impact of diversity on knowledge sharing. A number of aspects of diversity that likely affect intention to share knowledge have been identified, including culture and demographic characteristics such as gender.

However, according to Sackmann and Friesl (2007), attitude toward knowledge sharing depends on the perceived cultural differences of individuals in the team. Indeed, Sackmann and Friesl (2007) found that "Members of cultures whose differences where most visible restricted their communication and knowledge sharing activity to their original group members. Members of groups, which were not that far apart were more likely to engage in successful knowledge sharing".

3.11. Theories of Individual Behavior

Two major theories have attempted to account for an individual's knowledge sharing intentions (KSI) and actual knowledge sharing behavior (KSB) within an organization: the theory of reasoned action (TRA; Fishbein and Ajzen, 1975) and the theory of planned behavior (TPB; Ajzen, 1991).

3.11.1. Theory of Reasoned Action (TRA)

TRA focuses on the intention to engage in a certain behavior and is influenced by two factors:
1. The individual's attitudes, based on the existence of prior tendencies directed at an object, or a group; and
2. A subjective norm that relates to the individual's perception of the way in which others, who are important to him or her, respond to a certain behavior.

TRA is prevalent in social-psychological models that explain human behavior and is actually an expansion of expectancy theory, which involves environmental factors in addition to the differences existing among individuals. Individual motivation is a function of attitudes that stem from individuals' hopes to realize their potential to achieve desired outcomes as a result of certain behaviors.

TRA emphasizes the importance of how employees perceive the organization's social norms. Individuals' attitudes in the organization and the existing norms have been found to significantly explain differences in behavior among organization members (Blau, 1964).

The intention of an individual to perform a behavior is motivated by positive evaluation of the behavior, while attitude is the reflection of the individual's salient behavioral beliefs (Hassandoust and Perumal, 2010).

Social norm is the degree to which an individual perceives how others approve the individual's participation in a specific behavior. Consequently, social norm is able to positively affect intention to participate in virtual knowledge sharing networks (Hassandoust and Perumal, 2010).

3.11.2. Theory of planned behavior (TPB)

The TPB posits that the proximal determinant of behavior is intention, which reflects the extent to which a person wants to perform a behavior and how hard they are willing to try in order to perform it (Ajzen, 1991).

The theory of planned behavior (TPB) is perhaps the most influential and the popular social-psychological model for explaining and forecasting human behavior in specific contexts (Ajzen, 2001). TPB is an extension of the researcher's earlier work Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980).

The extension was a result of a finding that behavior appeared to be not 100% voluntary and under control. This resulted in the introduction of a new determinant, perceived behavioral control. Underpinning intention are three antecedent cognitions: attitude (overall positive or negative evaluations about performing the behavior), subjective norm (perceived social pressure to behave, stemming from beliefs about whether the performance of a behavior will receive social approval or disapproval from important social referents) and perceived behavioral control (the extent to which the performing the behavior is believed to be under volitional control (Elliott, 2009).

According to the model, knowledge sharing behavior of employee determined by his/her intention toward knowledge sharing and perceived behavioral control. Perceived behavioral control factors are dispositional factors that refer to the knowledge worker's beliefs about the perceived presence or absence of necessary resources and opportunities that may facilitate or impede knowledge sharing.

The flow of knowledge "across individual and organizational boundaries" and into organizational practices is ultimately dependent on individuals' knowledge-sharing behaviors (Bock et. al, 2005).

3.12. Knowledge Sharing Performance

Having accepted the importance of knowledge sharing, it is disappointing to note that there is little guidance in the extant literature as to what knowledge sharing really means in organization and even less as to what the most direct and quantifiable outcomes of effective knowledge sharing might be (Lee & Choi, 2003).

Although sharing knowledge with colleagues may be very difficult, it is positively related to reductions in production costs, faster completion of new development projects, team performance, innovation capabilities, and firm performance including sales growth or revenue from new products and services (Mesmer-Magnus & DeChurch, 2009).

However, some researchers argued that knowledge sharing practices do not directly lead to an improvement of organizational performance. Rather, organizational performance may be improved through intermediate outcomes induced by knowledge sharing practices (Choi & Lee, 2003; Davenport & Prusak, 1998; Hsu, 2008).

As one knowledge-centered activity, knowledge sharing is the fundamental means through which employees can mutually exchange their knowledge and contribute to knowledge application, innovation, and ultimately the competitive advantage of the organization (Wang & Noe, 2010).

On the one hand, knowledge sharing turns organizational knowledge into individual or group knowledge with the process of internalization and socialization. On the other hand, knowledge sharing can translate individual and group knowledge into organizational knowledge based on the process of externalization and combination.

Knowledge sharing practices in the whole organization are very important for preserving valuable heritage, learning new techniques, solving problems, creating core competences and initiating new situations (Hu, et al., 2009).

It is worth mentioning that tacit knowledge sharing is the foundation of socialization while explicit knowledge sharing makes combination possible in certain organization.

3.13. Summary

The importance of knowledge sharing in any organization was highly clarified within the different topics of this chapter.

The benefits behind having a good knowledge sharing practice within any enterprise deserve the efforts exerted in achieving sustainable knowledge sharing culture and intention among the individuals in the firm or the organization.

So many researches have been conducted in the area of knowledge sharing due to the importance of this subject, but still more can be done to uncover the effect of other factors that affect the knowledge sharing performance. There are some contextual factors that affect knowledge sharing. Organizational factors and inter-personal factors should be considered first.

After examining the conditions for successful knowledge sharing and learning in inter-organizational alliances, attention should be paid to conditions both in inter-organization level and inter-personal level. In addition, trust and conflict are inherent issues of any organizational arrangement and central for knowledge sharing. Group values, attitudes, and norms, and organizational climate should also be considered.

CHAPTER FOUR

Previous Studies

This chapter consists of the following sections:

4.1. Introduction

4.2. Local Studies

4.3. International Studies

4.4. Comments on Previous Studies

    4.4.1. Areas of Emphasis

        4.4.1.1. Organization & Culture

        4.4.1.2. Individual & Trust

        4.4.1.3. Technology

    4.4.2. Differences & Areas of Agreement

4.1. Introducion:

This chapter treats the results of previous studies concerning the concept of knowledge, knowledge sharing, and the factors affecting knowledge sharing.

Many researchers have investigated those topics from different perspectives, and the factors that mostly affect the sharing of knowledge process have been treated by different ways.

In this chapter we will concentrate on those studies that mainly support the objectives of our study, and we will state those studies that treated the factors that we seek to investigate in this research.

The studies in this chapter will be divided into two main groups; Regional studies and international studies and within those two groups they will be organized on timely bases from oldest to the newest ones.

4.2. Local Studies:

It is worth to mention here that few researchers have treated the problem of knowledge sharing either locally or in the middle east , and most of the studies the researcher could found concentrated mostly on the issues related to the knowledge management concepts and systems in general without specifying dedicated areas to the knowledge sharing function separately.

Here in this section the local studies that the researcher could found and that are believed to be related to this study and helpful to serve the objectives of this research will be presented.

1- Al Taher & Mansour (2005) *"The requirements of Knowledge Sharing & the barriers face its implementation in Jordanian Telecom Companies "*

Study Objectives:

This study aimed to find out to what extent the availability of the knowledge sharing requirements, as an important tool, can help the business organizations achieve their goals and the barriers that could prevent the implementation of this concept in the Jordanian Telecom Companies.

Study Method:

To achieve the above mentioned objectives, the two researchers developed a model that contains the most important requirements for the knowledge sharing process based on the related literature available. And to be able to predict the availability of those requirements and the constrains that could prevent the implementation of the knowledge sharing practice ,and the effect on the companies under study , a questionnaire was designed for this purpose and was distributed to the high managerial levels in three of the most important companies of those Telecom companies.

Study Results:

The results of this study showed that, the availability of knowledge sharing factors and requirements in those companies had different effects with different degrees of influence.

As the two researchers could found also that, employees training and the awareness of the importance of the knowledge sharing practice as understood by the work groups plus the barriers of implementation had all intangible effect on the sharing practice of knowledge, while other factors such as knowledge data stores and cooperative environment did not show that noticeable effect.

The researchers recommended that ,there is a need to enhance the cooperative working environment in those companies , and to have knowledge storage centers to make knowledge available to all those who need it.

2- Reychav and Weisberg (2010) "*Bridging intention and behavior of knowledge sharing*"
Study Objectives:

This study explores a rarely investigated but crucial side of knowledge sharing: it compares employees' intentions to share explicit and tacit knowledge and the actual sharing of this knowledge. By doing so it contributes to the literature on knowledge management by expanding it to the realm of explicit and tacit knowledge sharing.

Studies in this area have examined the relationship between intention and behavior of knowledge sharing as a whole, but have not examined the differences between explicit and tacit knowledge.

Study Method:

The sample for this research was drawn from two hi-tech companies in Israel working in the telecommunications field that make cellular networks. According to the authors; this sector was chosen because in the current market, hi-tech companies must implement innovative business strategies and invest vast resources in research and development. These companies employ a high percentage of scientists and engineers and compete in markets where product life span is short-lived. This makes knowledge sharing of any type a crucial factor in company success.

Respondents from business departments included finance, R&D, marketing, IT, engineering and manufacturing were surveyed in this study.

Study Results:

The findings suggested that to manage knowledge effectively, companies need to implement methods to encourage KS behaviors in two main ways. The first involves explicit knowledge, and is related to the capability to help create, store, and use explicitly documented knowledge mainly by using IT. The second step relates to tacit knowledge sharing through exchanges that can help turn intention to KS into actual behavior of KS as suggested by Choi and Lee (2003) through interpersonal interactions that occur when implementing KM systems.

The study showed also that the total effect of intention to share explicit knowledge on explicit knowledge sharing behavior was equally divided between a direct and an indirect relationship, emphasizing the contribution that exists for both TRA and TPB theories in explaining knowledge sharing process which are based on two intentions and two parallel behaviors from the same conceptual field.

The authors of this study suggested that although this study was conducted in the hi-tech sector, where KS is almost a prerequisite and knowledge itself is changing rapidly, the results shed light on the importance of KS in other types of companies and organizations, which may be interesting for future study.

3- Al-adaileh (2011) " *The Impact of Organizational Culture on Knowledge Sharing: The Context of Jordan's Phosphate Mines Company"*.

Study Objectives:

This study aimed at investigating the impact of some cultural factors including: trust, collaborative working environment, shared vision and management practices on Knowledge Sharing (KS) within the context of Jordan's Phosphate Mines Company's (JPMC).
The study explored the impact of four cultural dimensions including trust, collaborative working environment, shared vision, and management practices on KS as a key process involved in KM application.

Study Method:

This study adopted a deductive approach to achieve its aim and objectives. The use of this research methodology was justified based on the availability of some previous studies that overall explored the KM on the international level.
In particular, this study used a sample survey to explore and investigate the proposed questions. It used the questionnaire survey to collect the data necessary to test the proposed hypotheses. The questionnaire used was adopted from Hassan & Alsae'd (2005) and Obaisat (2005) with some modifications. The questionnaire was based on the use of Likert scale (5 point scales).

Study Results:

The findings of this study emphasized that cultural attributes are considered as an important factors that can determine the extent of KS with the organizational context. The results indicate that the four cultural factors investigated in this study including

trust, collaborative working environment, shared vision, and managerial practices can explain 59.6% of the variance in KS.

The findings revealed in this study also emphasized the need to consider the cultural attributes of KM application's context. This involves not only the attempt to understand the organizational culture but also to enforce certain cultural attributes that can support successful diffusion of KM practices in general and KS in particular.

The researcher suggested that successful KM application should go beyond the operational side into social, human and organizational aspects to create individual commitment towards KM implementation (Shaw & Edwards 2005). The results also emphasized the importance of the collective knowledge and knowledge network concepts on the organizational level.

4- El –Ghorra (2011) *"The Influence of Knowledge Sharing on the Level of Innovation - A Field Study for Managers at the Palestinian Ministries in the Gaza Strip".*

Study Objectives:

The aim of this study was to investigate the influence of knowledge sharing on the level of innovation at the Palestinian Ministries in the Gaza Strip.

Study Method:

The researcher used the descriptive analytical method and utilized both primary and secondary sources. A structured questionnaire including (63) close ended questions was used for this study.
The study population consisted of all manager at the Palestinian ministries in the Gaza strip with grades General Director (A4), Deputy Director (A), Unit managers (B) and Unit manager (C) they were (777) managers.

Study Results:
The study revealed that the Palestinian Ministries in the Gaza Strip enjoy a satisfactory level of innovation but these Ministries didn't have a fair and efficient reward system to encourage innovation and knowledge sharing practices.

The results also showed that Organizational structure did not encourage innovation and promotion of work. The stock of knowledge at the Palestinian ministries is available and accessible and Managers at the Palestinian Ministries seemed satisfied with the practices of knowledge sharing. There was a significant relationship between ICT and the level of innovation. The multiple regression model prepared by the researcher indicated that (65.0%) of the variation in the level of innovation was explained by Knowledge Applicability and Knowledge Availability

4.3. International Studies

This section states the international studies that the researcher encountered and that were mostly related to the topic of this study.

1- Kim and Lee (2006)*"The impact of organizational context and information technology on employee knowledge-sharing capabilities"*.

Study Objectives:

The aim of this study was to discover out the impact of the organizational context (social networks, centralization, and performance-based rewards system) and the information technology on the knowledge sharing capabilities of the employees of both private and public sector.

Study Method:

 In this study the authors surveyed 332 employees from five public sector and five private sector organizations in South Korea.

Study Results:

The research showed that social networks, centralization of organizational structure, performance-based rewards system, employee usage of IT applications, and user-friendly IT systems significantly affect employee knowledge-sharing capabilities in both public sector and privet sector. Social networks, performance-based reward systems, employee usage of IT applications and user friendly IT systems influence positively on knowledge

sharing, while centralization of organizational structure was seen to negatively influence the behavior.

2- Nail French (2007) "*Factors which influence organizational knowledge sharing* ".

Study Objectives:

 In this Master thesis the researcher investigated which combination of factors had positive and significant impact on knowledge sharing within an organization. By finding this combination the author suggests that this will help organizations prioritize resources to specific factors that are seen to positively affect knowledge sharing.

Study Methodology and Results:

The author tested four factors that he believed have the biggest influence on organizational knowledge sharing. Those factors were IT system, Learning strategy, trust culture, and finally flexible structure and design. Three of those factors (IT system, learning strategy and flexible structure) showed to have the biggest impact on knowledge sharing. A Final model was derived based on those three factors.

3- Lemmetyinen (2007) "*Factors influencing knowledge sharing in professional services* ".

Study Objectives:
The objective of this master thesis was to find the factors that positively influence management consultants to share the knowledge they possess. Theory of planned behavior (TPB) was the primary basis for the empirical study where nine possible factors were studied.

Study Method:
A questionnaire was used as a tool for this study. The survey sample consisted of 43 management consulting professionals and the survey was published online. A causal modeling technique called partial least square was chosen as the analysis method for the survey results.

Study Results:

The factors that were found to influence knowledge sharing behavior were the perceived level of control and ownership the person has to knowledge sharing (perceived behavioral control),which influences intention directory, the perception of the person's ability to valuable contributions and their criticality (self-efficacy), which influences the attitude toward knowledge sharing. The small sample size limits the validity and significance of the results.

4- Bakhari and Yusof (2010) "The *Impact of Individual Factors on knowledge Sharing Quality*".

Study Objectives:

In this study Individual factors have been known of their significant impact on knowledge sharing behavior in organization. The aim of this study was to investigate the relationship between individual factors such as awareness, trust and personality and the quality of knowledge sharing in Malaysian public agencies.

Study Method:

Survey method employing questionnaires as technique for collecting data was used. The survey involved three selected government departments executed from October through December 2008 involving a sample of 428 respondents. The data collected was analyzed using SPSS version 16.0. Factor analysis and reliability test were performed to ensure the validity and reliability of the instrument. Confirmatory factor analysis was carried out to verify the existence of three dimensions of individual factors.

Study Results:

Analysis of the results of this study reveals that Individual factors (awareness, trust and personality) correlate significantly with knowledge sharing quality. Personality seems to be the most significant predictor on the quality of knowledge sharing, followed by trust and awareness. The authors suggested that those finding is of help to the government of

Malaysia in formulating a new policy to encourage the sharing of knowledge among employees in all its agencies. It was evident that any fundamental change should start from the people. Without the appropriate personality, awareness and trust, knowledge sharing in public sector will all in vain.

5- Phang & Foong (2010) " *Information communication technologies (ICTs) and knowledge sharing: The case of professional accountants in Malaysia"*

Study Objective:

This study examines the state of ICT adoption among professional accountants and investigates the relative efficacy of various ICT applications in facilitating sharing of explicit and tacit knowledge among these professionals in Malaysia.

The findings of this study may aid the choice of ICT for effective facilitation of the required mode of knowledge sharing that would lead to acquisition of the knowledge and skills necessary for successful task performance among professional accountants.

Study Method:

This study used a structured questionnaire consisting of multiple-item measures to collect the required data for analysis. The items used to measure each variable were adapted from prior studies. The items for measuring knowledge sharing were adapted from Nonaka et al. (1994), and appropriate changes in wordings were made to suit the context familiar to the accounting professionals.

The items for measuring various ICT applications were also adapted from prior studies (Hedelin and Allwood, 2002; Loudon and Loudon, 1997; Ware and Degoey, 1998).

Responses to the questionnaire were made on a five-point Likert-like scale, ranging from 1 to 5.The respondents were members of the Malaysian Institute of Accountants (MIA).

Study Results:

The results indicated that effective ICT support is critical for promoting knowledge sharing and certain ICT facilities tend to promote certain types of knowledge sharing more effectively. Best practice repositories are effective in promoting both explicit and tacit knowledge, while internet/e-mail facility is more appropriate for sharing of tacit knowledge. ICT applications that are used largely to facilitate office administration are generally not effective tools for knowledge sharing.

Through ICT support, firms can quite easily leverage on the knowledge possessed by making such rules and procedures (explicit knowledge) even more explicit and more transferable.

The findings of this study may provide a better understanding of the efficacy of the various ICT facilities in promoting explicit and tacit knowledge sharing and hence, could enable the management to appropriately align the 'right' technology to the intended type of knowledge needed to be created and shared for successful task performance under different task complexity settings.

6- Abili et. al. (2011) "*The role of effective factors on Organizational Knowledge Sharing*".

Study Objectives:

The Main objective of this research was to determine the relation of structural, cultural, and human factors with knowledge sharing. Based on this main objective ,the sub objectives were to examine the status of knowledge sharing among employees, to evaluate the relationship between cultural factors, structural factors and human factors with employee knowledge sharing, and finally to rank the facilitating and deterrent factors of knowledge sharing among employees.

Study Method:

The instrument used in this study was a questionnaire which was used by Lin (2008) to measure knowledge sharing and its effective factors. By using of correlation research method, in this study, 50 experts have been selected by purposive sampling. The

collected data have been analyzed by using such statistical methods as Spearman Correlation Coefficient, U-man witny, Wilkakson and Freadman.

Study Results:

The findings of this study indicated that in terms of knowledge sharing, employers are in desirable situation. Furthermore, their demographic characteristics (such as gender, work experience, the level of education and field of education) make no difference in the amount of their knowledge sharing. The correlation co efficiency between structural factors with knowledge sharing also shows that by increasing the formality, complexity and centralization, the amount of knowledge sharing decreases among employees, while the positive relation between human factors with knowledge sharing shows that by increasing the trust and commitment between individuals, the amount of knowledge sharing is also increased.

The findings also indicated that creative, innovative and supportive culture causes improvement in knowledge sharing, while the bureaucratic culture reduces knowledge sharing among employees. These findings are in line with Lin's (2008) results. The Freedman results for ranking the facilitative and inhibiter factors show that based on ranking, there was no difference between inhibiter factors, while among facilitative factors, the creative and innovative culture has gained the highest rank for itself and after that, there are trust, supportive culture and commitment.

7- Rahman (2011) "*Knowledge sharing practices: A case study at Malaysia's healthcare research institutes"*.

Study Objectives:

The main objective of this study was to investigate the perception of the researchers and officers within the National Institutes of Health in Malaysia (NIH) about their understanding of knowledge sharing practices in their respective environment.

The main questions raised in this study were; what are the perceptions of the respondents with regard to the knowledge sharing practices in their respective

institutions? What are the benefits for knowledge sharing practices as perceived by them? What are their perceived organizational knowledge sharing practices motivating factors? Also, what are the hindering factors?

Study Method:

The study used a descriptive survey of a population of 400 researchers and officers from the six research institutes within the NIH. The list of researchers and officers obtained from the respective research institutes was the basic population and an applied simple random sampling technique was used. A questionnaire was developed and a pilot test was conducted.

Study Results:

The initial findings suggested that the level of acceptance among the respondents of this study toward implementing knowledge management initiatives in their organization was positive. They also indicated support about the implementation, practices and culture.

The key to enabling knowledge sharing was through informal interactions and trust between members of the organization. Intrinsic rewards and factors that build expertise and provide recognition were suggested as being among the most appropriate means of fostering feeling of competence. Positive attitude towards knowledge sharing is formed due to expectations of reciprocation.

The study also indicated that respondents perceived monetary gain as not the primary reason to practice knowledge sharing. The respondents indicated their high expectation to be rewarded in terms of recognition and promotion.
Rewards and incentives (extrinsic motivators) do not necessarily alter the attitudes underlying knowledge sharing behavior and may merely be just a temporary change.

The study also showed that the culture of sharing knowledge depends on the attitudes of people within that culture. If members of the culture are reluctant to share their knowledge, then there will be no way that the knowledge can be shared effectively.

8- Abzari & Abbasi (2011) "*Investigating Impact of Organizational Climate on Intention to knowledge Sharing Behavior by Using Theory of Planned Behavior (TPB)*"

Study Objectives:

The purpose of this research was to study the effect of organizational climate on components of theory of planned behavior model in order to study the behavior of knowledge sharing among employees of Esfahan University.

Study Method:

Three hundred and ten (310) persons of administrative employees of the university were selected as the sample volume. The tool for data collection was questionnaire which has been distributed randomly among the employees. SPSS and AMOS software to analyze the data were used.

The represented model was designed and complied based on the theory of planned behavior model. Questions related to organizational climate was adopted from the questionnaire used by Fen Lin and Guang Lee in their article entitled "effects of socio technical factors on organizational intention to encourage knowledge sharing".

Study Results:

Results of this study demonstrated that level of tendency towards knowledge sharing and also attitude to knowledge sharing and other components of the model of planned behavior are proportionally ideal.

Based on the obtained results and with confirming of the previous studies in this regard, attitude towards knowledge sharing has much effect on tendency to knowledge sharing. Factors of mental norms and the perceived behavior control have a positive and meaningful relation with tendency towards sharing behavior.
On the other hand, the organizational climate in the studied environment had an ideal situation and also had a significant and prominent effect on model's factors.

The researchers recommended that; managers can execute programs for strengthening of attitude of the organization's employees in order to show knowledge sharing behavior. Also they can create a suitable organizational climate in order to make knowledge sharing as an epidemic phenomenon.

9- Hassandoust et al. (2011 "*Behavioral factors influencing virtual knowledge sharing: theory of reasoned action*".

Study Objectives:

The purpose of this paper was to report the results of an exploratory investigation of the behavioral factors in relation to virtual knowledge sharing among Multimedia University students, Malaysia, based on the theory of reasoned action (TRA).

Study Method:

A sample was designed to include most students from various faculties of the Cyberjaya campus of Multimedia University Malaysia. The survey was conducted over a period of two months and concluded with 287 questionnaires. The results were coded by using SPSS.

Study Results:

This study validated and presented a multi-facet model to assist in understanding the factors contributing to virtual knowledge sharing. With experimental analysis, several implications were gained. Attitude toward knowledge sharing and subjective norms appeared to be important variables in the context of intention to share knowledge.
Specially, willingness factor was found to have the most significant influence on attitudes, with a coefficient higher than others. Furthermore, competition degree had no positive effect on the student's attitude to share knowledge.

The identification and institutional culture had significant influence on subjective norms, which identification factor was found to have most significant effect on subjective norms with a coefficient higher than others.

The authors concluded that Effective knowledge sharing cannot be forced or mandated. Firms desiring to institutionalize knowledge sharing behaviors must foster facilitative work contexts. By surfacing motivational drivers associated with individuals' intentions to share personal knowledge with others, and providing empirical evidence regarding the efficacy of these motivational drivers.

10- Lee & Yu (2011) "*Effect of organizational relationship style on the level of knowledge sharing*"

Study Objectives:

This study aimed to examine the effect of organizational relationship style (employees' relationships with colleagues, supervisors, and the organization) on the sharing of knowledge in high-tech companies; it goes on to determine which particular relationship style is the most important in accounting for the extent of knowledge sharing in these companies.

Study Method:

The researchers used a questionnaire as a tool for this study. The first part of the questionnaire related to "relationship style". It was mainly used to measure the relationship of an employee with the organization, supervisor and colleagues. Level of knowledge sharing, the second part of the questionnaire was designed with reference to the scale published by Lee (1999).

The Study samples were mainly distributed to the employees of high-tech companies in Northern Taiwan, Central Taiwan and Southern Taiwan science-based parks. A total of 300 questionnaires were distributed and 192 were returned.

Study Results:

The results of this study showed that employee efficiency and performance – as well as dedication to organizational goals – are enabled by knowledge sharing.

Knowledge sharing within organizations is greatly enhanced by improved relationships among organizational members, including relationships among coworkers, employee-supervisor relationships and employee-organization relationships.

The authors suggested methods for improving these organizational relationships as follows:

1- To improve the relationship between the employee and the organization the author recommended to recruit talents with values close to the company; develop measures that can remove conflicts in the organization; offer a reasonable bonus for employees who achieve the goal of the company; And establish unhindered communication channels as a platform for mutual trust between the company and employee.

2- To improve the relationship between the employee and colleagues: they suggest to encourage teamwork opportunities; develop measures that can remove conflict in the organization; and establish unhindered communication channels as a platform for mutual trust between the company and employee.

11 - Lilleoere & Hansen (2011)"*Knowledge-sharing enablers and barriers in pharmaceutical research and development*"

Study Objectives:

This study seeks to explore knowledge-sharing enablers and barriers in pharmaceutical R&D. It aims to explore the knowledge-sharing enablers and barriers in pharmaceutical R&D as experienced by different professional groups, i.e. scientists and laboratory technicians. The research is based on a qualitative, single case study conducted at Novo Nordisk R&D, Denmark.

Study Method:

A case study was carried out in a pharmaceutical company in Denmark. R&D professionals were asked to identify organizational enablers and barriers to knowledge

sharing. Their accounts were processed as text during workshops. Data were condensed thematically.

The analysis was combined with the conceptualization of tacit and explicit knowledge as proposed by Nonaka and Takeuchi.

Study Results:

This was the first study to investigate knowledge-sharing enablers and barriers in pharmaceutical R&D. The main findings of this study were: important knowledge-sharing enablers and barriers were present in the organization and they have become explicit.

The enablers identified recognized the use of tacit knowledge and hence this study has demonstrated that knowledge sharing takes place during socialization where individuals interact. This finding suggests that individuals in pharmaceutical R&D are an important asset with regard to knowledge sharing and hence new knowledge creation in the organization potentially reducing time-to-market.

The majority of the barriers for engaging in knowledge sharing were similar for the two groups. The existence of enablers and barriers with oppositional influence on knowledge-sharing practices was evident. Synergy could be identified in the knowledge-sharing enablers for the scientists, provided that the settings fostering

Synergism was identified for the enablers and the existence of barriers with oppositional influence on these enablers was clear. Implementing the synergistic enablers therefore helps increase the knowledge-sharing practices and minimize the identified barriers.

 Physical proximity to colleagues was an important factor for the identified knowledge-sharing enablers.

4.4. Comments on the Previous Studies:

From the previous studies stated in this chapter, it can be seen that no one study has investigated the topic of knowledge sharing with that sum of affecting aspects and factors that this study did. Each study that was introduced here has treated the topic from a different angle, and highlighted the topic from different perspective.

4.4.1. Areas of Emphasis:

The previous studies presented in this chapter concentrated mostly on the organizational dimensions that had effect on the knowledge sharing process. The organization's role in making the sharing process of knowledge successful and enjoyable experience is quiet oblivious through many of these studies.

4.4.1.1. Organization & Culture:

Abili et. al. (2011) found that two of the most important organizational factors are the organization's structure and the organization's culture. This result agrees with the result reached by this study with regard to the importance of Organizational culture.

The organization's climate and its impact on the intention toward knowledge sharing behavior were studied by Abzari & Abbasi (2012). Other organizational factors that have been given special care and more investigation are trust, collaborative working environment, shared vision and managerial practices (Al-adaileh 2011). The effect of organizational relationship style on the level of knowledge sharing was given special importance in the study of Lee & Yu (2011),where the results showed that knowledge sharing within organization is greatly enhanced by improved relationships among organizational members , including relationships among coworkers , employee-supervisor relationship and employee-organization relationship.

4.4.1.2. Individual & Trust

The studies that investigated mainly the individual factors of the knowledge sharing process tried mainly to find the relation between the intention of the individual and his behaviors toward sharing knowledge with others. To achieve such a goal and to

understand the type of relation that may exist, two well-known behavioral theories have been used i.e. the theory of planned behavior and the theory of reasoned actions.

The study of Hassandoust et. al. (2001) implemented the theory of reasoned action to come out with the result that attitude toward knowledge sharing and subjective norms are important variables in the context of intention to share knowledge. Nearly none of the studies stated in this chapter made difference between explicit knowledge and tacit knowledge except the study of Reychav & Weisberg (2010) that was conducted in a hi-tech company.

The theory of planned behavior was also adopted in the study of Lemmetyinen (2007), where it was found that the perceived level of control and ownership the person has to knowledge sharing, perception of valuable contribution do have influence on knowledge sharing behavior.

4.4.1.3. Technology

Some of the previous studies treated the technological factors that could have effect of knowledge sharing as in the study of Phang & Foong (2010), and the study of Kim and Lee (2006). Those two studies concluded that effective ICT support and user-friendly IT systems significantly affect employee knowledge-sharing capabilities and can help in enhancing the sharing practice. This result do agree with the results of this study in that ICT tools and ICT know-how are two of the most important facilitators of any knowledge sharing process.

4.4.2. Differences & Areas of Agreement:

Almost all of the previous studies mentioned in this chapter used the survey approach and the questionnaire as a tool to collect the respondent answers the same as the researcher did in this study. The reason behind using such a tool as the researcher believes is its simplicity and appropriateness to the objectives it is used for.

No common factors were seen to exist among the different societies of those studies; each single study was directed to different group of individuals with different characteristics.

This study tried to get use of the results of the previous studies in that it tried to cover more topics and include more factors that have not been studied before. As an example of those factors that this study tried to treat are the leadership characteristics, the individual personality and perception, the individual awareness, and the reward and recognition policy.

Those factors beside the others included in this study will try to give a big picture and large insight on the factors that may have the effective influence on the knowledge sharing process.

The results of this study agreed with most of the results of the previously presented studies in terms of the importance of the environmental factors in simulating knowledge sharing behavior and the individual related factors in creating the intention and willingness to share knowledge with others.

Chapter Five

Research Methodology

This chapter consists of the following sections:

5.1. Introduction

This chapter presents to the Study method used to address the Study problem as outlined in chapter one. It introduces the population of the study, the questionnaire design, the pilot study results and the validity and reliability of the questionnaire.

5.2. Study Method:

This study followed the analytical descriptive method, as the main objective of this study was to find out the type of relationship that may exist between a dependent variable (i.e. knowledge sharing) and a group of independent variables and then to discuss this relation in light of the analysis results. Primary and secondary data were used to conduct this study. The primary data was collected through the questionnaire that was prepared for this purpose while the secondary data was collected through many resources that included; published papers and researches, internet web sites, Journals, and electronic books.

5.3. Population of the Study:

The population of this study consisted of all the employees working within the network operations directorate in both West Bank and Gaza strip. The total of this population as stated in the EHR system in Jawwal in 2011 was 117 employees (83 at West Bank & 34 at Gaza strip).

In this study the researcher used the census method; where the questionnaire, which is the tool of this study, was distributed to all the members of the population of this study. Table (5.1) Shows the total number of questionnaires distributed in both West Bank & Gaza Strip and the numbers and percentages obtained. It is worth to mention here that hard copies of the questionnaire were distributed in Gaza Strip, while electronic versions of the questionnaire were sent to the employees in the West Bank by E-mail.

Table (5.1) Distributed Questionnaires

	Population	**Distributed**	**Obtained**	**Response Rate**
West Bank	83	83	66	80%
Gaza Strip	34	34	33	97%
Total	117	117	99	85%

5.4. Questionnaire Design and structure

The questionnaire was designed as the main tool in this study and it was designed based on questionnaires used in three different studies which are the study of Chow & Chan (2008), the study of Seba et. al.(2012) and the study of Hsu (2008). It was constructed to fit in five pages with total of 55 questions to encourage the respondents and to avoid random and unrealistic answers. The questionnaire consisted of four main fields as described in Table (5.2). Each field was designed to answer one of the main four hypotheses of this study.

5.5. Data Measurement

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, ordinal scales were used. Ordinal scale is a ranking or a rating data that normally uses integers in ascending or descending order. The numbers assigned to the importance (1, 2, 3, 4, 5) do not indicate that the interval between scales are equal, nor do they indicate absolute quantities. They are merely numerical labels. Based on Likert scale we have the following:

	Strongly agree	*Agree*	*Do not Know*	*Disagree*	*Strongly Disagree*
	5	4	3	2	1

5.6. Test of Normality for each field:

Table (5.2) shows the results for Kolmogorov-Smirnov test of normality. From Table (5.2), the p-value for each field is greater than (0.05) level of significance, and then the distribution for each field is normally distributed. Consequently, parametric tests will be used to perform the statistical data analysis.

Table 5.2: Kolmogorov-Smirnov test

Field	Kolmogorov-Smirnov	
	Statistic	**P-value**
Motivational Factors Affecting Knowledge Sharing	0.984	0.823
Environmental Factors Affecting Knowledge Sharing	0.982	0.772
Technological Factors Affecting Knowledge Sharing	0.978	0.612
Individual Characteristics Affecting Knowledge Sharing	0.966	0.263
All paragraphs of the questionnaire	0.952	0.059

5.7. Statistical analysis Tools

The researcher will use both qualitative and quantitative data analysis methods. The Data analysis will be made utilizing (SPSS 20). The researcher would utilize the following statistical tools:

1) Kolmogorov-Smirnov test of normality.
2) Pearson correlation coefficient for Validity.
3) Cronbach's Alpha for Reliability Statistics.
4) Frequency and Descriptive analysis.
5) Parametric Tests (One-sample T test, Independent Samples T-test, Analysis of Variance).

   a- *T-test* is used to determine if the mean of a paragraph is significantly different from a hypothesized value 3 (Middle value of Likert scale). 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 3. The sign of the Test value indicates whether the mean is significantly greater or smaller than hypothesized value 3. On the other hand, if the P-value (Sig.) is greater than the level of significance $\alpha = 0.05$, then the mean of a paragraph is insignificantly different from a hypothesized value 3.

b- The *Independent Samples T-test* is used to examine if there is a statistical significant difference between two means among the respondents toward the sharing of knowledge due to (Place of Work and Type of work).

c- 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 knowledge sharing due to (Age, Education level, Work Experience and Position).

5.8. 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, and content validity that is done through a group of external arbitrators.

5.8.1. Internal Validity

The Internal validity of the questionnaire was first tested through a group of external arbitrators (see appendix c) .Those were mainly instructors from the Islamic university and Al Qudus university and they put their notes and valuable remarks on the questionnaire copy that was sent to them by the researcher. Secondly, statistical test was used to test the internal validity of the questionnaire. It was 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 (5.3) clarifies the correlation coefficient for each paragraph of the "**Motivational Factors Affecting Knowledge Sharing**" 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 measure what it was set for.

Table 5.3: Correlation coefficient of each paragraph of "Motivational Factors Affecting Knowledge Sharing" and the total of this field

No.	Paragraph	Pearson Correlation Coefficient	P-Value (Sig.)
Individuals Attitude			
1.	I believe that my practice in relation to knowledge sharing is appropriate and effective.	.648	0.000*
2.	My knowledge sharing with other department members is an enjoyable experience.	.798	0.000*
3.	My knowledge sharing with other department members is valuable to me.	.781	0.000*
4.	I believe that knowledge sharing with other department members is a wise move.	.587	0.000*
Individual's Awareness			
1.	The importance of sharing knowledge with other department members is clear to me.	.501	0.000*
2.	The benefits behinds sharing knowledge with others are valuable compared with the amount of effort exerted.	.587	0.000*
3.	I only share my knowledge if I think my knowledge is important.	.698	0.000*
4.	I only share my knowledge if people ask me for it	.542	0.000*
Individual's Trust			
1.	I know that my department members will always try and help me out if I need to know something.	.874	0.000*
2.	I can always trust my department members to lend me a hand if I need it.	.852	0.000*
3.	I can always rely on my department members to make my job easier by sharing their knowledge.	.887	0.000*
4.	I can talk freely to my department members about my personal knowledge.	.874	0.000*

* Correlation is significant at the 0.05 level

Table (5.4) clarifies the correlation coefficient for each paragraph of the "**Environmental Factors Affecting Knowledge Sharing**" 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 α = 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 5.4: Correlation coefficient of each paragraph of "Environmental Factors Affecting Knowledge Sharing" and the total of this field

No.	Paragraph	Pearson Correlation Coefficient	P-Value (Sig.)
Organization's Culture			
1.	My organization has future oriented organizational visions.	.826	0.000*
2.	Top management leaders present clear organizational vision and communicate it with employees.	.725	0.000*
3.	Overall organizational vision and goals are clearly stated.	.797	0.000*
4.	Employees in the company understand organization's vision and goals.	.731	0.000*
5.	Employees have full confidence in the skills of their co-workers.	.672	0.000*
6.	Employees trust expertise of their co-workers.	.784	0.000*
7.	If employees got into difficulties at work, they know their co-workers would try and help them out.	.637	0.000*
8.	Employees communicate with each other through informal meetings within the organization.	.615	0.000*
9.	Employees interact and communicate with other people or groups outside the organization.	.460	0.001*

Reward and Recognition Policy			
1.	I will receive a higher reward in return to my knowledge sharing within this department.	.918	0.000*
2.	I am more likely to receive increased promotion opportunities in return for my knowledge sharing	.891	0.000*
3.	My department offers attractive rewards to employees for their knowledge sharing	.868	0.000*
4.	I will more likely gain the respect and appreciation of my managers for my knowledge sharing practice.	.736	0.000*
Leadership Characteristics			
1.	My manager always sets a good example in sharing his knowledge with others.	.813	0.000*
2.	My manager supports me in sharing knowledge with colleagues in other departments.	.867	0.000*
3.	My manager allows me to share my knowledge with my colleagues even though it may influence the present job process.	.685	0.000*
4.	My manager instructs us on how to share our personal knowledge within the department.	.869	0.000*
5.	My manager do care about my knowledge and do encourage me to share my knowledge with other colleagues	.842	0.000*

* Correlation is significant at the 0.05 level

Table (5.5) clarifies the correlation coefficient for each paragraph of the "**Technological Factors Affecting Knowledge Sharing**" 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 measure what it was set for.

Table 5.5: Correlation coefficient of each paragraph of "Technological Factors Affecting Knowledge Sharing" and the total of this field

No.	Paragraph	Pearson Correlation Coefficient	P-Value (Sig.)
ICT Infrastructure Availability			
1.	The IT facilities make it easier to cooperate with others within our department.	.803	0.000*
2.	The IT facilities make it easier to cooperate with others outside our department.	.810	0.000*
3.	The IT facilities within my department provide a positive contribution to the development of my knowledge.	.886	0.000*
4.	The ICT tools available at our department provide important support for knowledge sharing.	.935	0.000*
5.	The ICT tools available make it easier for me to get contact with employees who have knowledge that is important to me	.921	0.000*
6.	There are efficient and supportive ICT tools at our department that facilitates the sharing of knowledge.	.923	0.000*
ICT Know-How			
1.	Employees in my company are given adequate training internally to use ICT tools.	.720	0.000*
2.	The technology know-how among employees is easily transferable	.781	0.000*
3.	I am familiar with all the ICT tools available at the company	.782	0.000*
4.	I know how to use the ICT tools available efficiently to share knowledge with other colleges.	.831	0.000*
5.	The ICT tools available are user friendly and help me accomplish my tasks.	.709	0.000*

* Correlation is significant at the 0.05 level

Table (5.6) clarifies the correlation coefficient for each paragraph of the "**Individual Characteristics Affecting Knowledge Sharing**" 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 α = 0.05, so it can be said that the paragraphs of this field are consistent and valid to measure what it was set for.

Table 5.6: Correlation coefficient of each paragraph of "Individual Characteristics Affecting Knowledge Sharing" and the total of this field

No.	Paragraph	Pearson Correlation Coefficient	P-Value (Sig.)
	Individual's personality		
1.	I like to work with others to develop my skills and knowledge.	.748	0.000*
2.	I learn a lot from other members in this company.	.590	0.000*
3.	I prefer people to approach me rather than voluntarily offer my knowledge to them.	.585	0.000*
4.	I am ready to share knowledge which is not common to others with the rest of our department members.	.560	0.000*
5.	I will continue doing something with knowledge sharing even with people I don't particularly like.	.593	0.000*
6.	I feel is too hard to share knowledge with those who are more senior /experienced than me.	.280	0.040*
7.	In this company, we help each other to learn new skills regardless of seniority.	.599	0.000*

Table 5.6: Correlation coefficient of each paragraph of "Individual Characteristics Affecting Knowledge Sharing" and the total of this field (Continued)

	Individual's Perception		
1.	Individual's perception affects his decision whether or not to share knowledge with colleges.	.492	0.001*
2.	Individual's Perceptions of the benefit to the recipient from sharing knowledge increase one's propensity to share knowledge.	.517	0.000*
3.	Individual's Perceptions of the cost to the informer affects one's willingness to share knowledge.	.631	0.000*
4.	Individual's propensity to share knowledge differs when sharing with different sharing targets.	.689	0.000*
5.	Creating awareness about the usefulness of one's knowledge to others would positively affect contributions to share knowledge.	.482	0.001*

* Correlation is significant at the 0.05 level

5.8.2. *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 (5.7) 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 α = 0.05, so it can be said that the fields are valid to measured what it was set for to achieve the main aim of the study.

Table 5.7: Correlation coefficient of each field and the whole of questionnaire

No.	Field	Pearson Correlation Coefficient	P-Value (Sig.)
1.	Individuals Attitude	.719	0.000*
2.	Individual's Awareness	.564	0.000*
3.	Individual's Trust	.850	0.000*
4.	**Motivational Factors Affecting Knowledge Sharing**	**.765**	**0.000***
5.	Organization's Culture	.875	0.000*
6.	Reward and Recognition Policy	.839	0.000*
7.	Leadership Characteristics	.880	0.000*
8.	**Environmental Factors Affecting Knowledge Sharing**	**.928**	**0.000***
9.	ICT Infrastructure Availability	.901	0.000*
10.	ICT Know-How	.871	0.000*
11.	**Technological Factors Affecting Knowledge Sharing**	**.869**	**0.000***
12.	Individual's personality	.864	0.000*
13.	Individual's Perception	.540	0.000*
14.	**Individual Characteristics Affecting Knowledge Sharing**	**.796**	**0.000***

* Correlation is significant at the 0.05 level

5.9. Reliability of the Research

The reliability of an instrument is the degree of consistency which measures the attribute; it is supposed to be measuring. 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.

5.9.1. 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 (5.8) 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 0.527 and 0.927. This range is considered high; the result ensures the reliability of each field of the questionnaire. Cronbach's Alpha equals 0.953 for the entire questionnaire which indicates an excellent reliability of the entire questionnaire.

Table 5.8: Cronbach's Alpha for each filed of the questionnaire

No.	Field	Cronbach's Alpha
1.	Motivational Factors Affecting Knowledge Sharing	0.755
2.	Environmental Factors Affecting Knowledge Sharing	0.927
3.	Technological Factors Affecting Knowledge Sharing	0.907
4.	Individual Characteristics Affecting Knowledge Sharing	0.527
	All paragraphs of the questionnaire	0.953

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

Chapter SIX

Data Analysis and Discussion

This chapter consists of the following sections:

6.1. Introduction:

This chapter discusses and interprets the results of the analysis of the different dimensions of the study tool (i.e. questionnaire) .First of all the results of the general data are analyzed , then part two of the questionnaire results is interpreted. For each field the results are discussed and compared with any previous similar results that may be obtained through any previous studies.

For each field the results drawn through the analysis will be compared with the results of other researchers and conclusions will be pointed out for each field if possible.

6.2. Demographic Data

This section presents the individual traits of the respondents based on the statistical analysis of the first part of the questionnaire. Detailed analysis follows each part to interpret the results.

6.2.1 Department

Table (6.1): Department/Section

Department	Employees No.
Planning Dept.	13
Deployment & Maintenance Dept.	21
Optimization Dept.	15
Switching Dept.	10
Operation Dept.	16
Technical services Dept.	24
Total	99

This section shows the distribution of the respondents over the different departments of the Network Operations Directorate. It is worth mentioning that this technical directorate is formed of six main Departments, which are; the planning Department, the deployment and maintenance Department, the optimization Department, the switching Department, The Technical Services Department, And finally the operation Department. Based on this distribution the results of this part were as shown in table (6.1).

6.2.2. Place of Work

Table (6.2): Place of Work

Place of Work	Frequency	Percent
West Bank	66	66.7
Gaza Strip	33	33.3
Total	99	100.0

According to table (6.2) 66.7% of the respondents were from west bank while 33.3 % is of Gaza employees. This result is considered normal since around two third of the employees in the network operations directorate are in west bank due to the bigger network size , bigger population and the larger size of technical operations. Moreover it is worth mentioning here that in Jawwal Network there are three times base stations in West bank compared with that of Gaza Strip. This result is also consistent with the overall percentage of employees' distribution between west bank and Gaza since the geographical distribution of Jawwal operations in West bank is almost three times of that of Gaza.

6.2.3. Gender

Table (6.3): Gender

Gender	Frequency	Percent
Male	93	93.9
Female	6	6.1
Total	99	100.0

Table (6.3) shows that (93.9%) of the respondents are Males and (6.1%) of the samples are Females. The percentage of female employees in this technical directorate is very little and less than that of other directorates such as commercial directorate and Customer care Directorate. The reason behind this result according to the researcher opinion could be that; the work in the technical issues is less attractive to females

compared with work in other directorates, and that may be referred to the nature of work in the technical directorate.

6.2.4. Age:

Table (6.4): Age

Age	Frequency	Percent
18-25	9	9.1
26-30	36	36.4
31-40	41	41.4
41-50	12	12.1
over 50	1	1.0
Total	99	100.0

Table (6.4) shows that 9.1% of the respondents are " 18-25 years ", 36.4% of the sample are of "26-30years ", 41.4% of the sample are of "31-40 years ", 12.1% of the sample are of "41-50 years " and 1.0% of the sample are of " over 50 years ". This result shows that most of the employees are within the age below 40 years (around 87%). This is also valid for the other directorates in Jawwal .This indicate that Jawwal is still a youth company. This is considered an advantage to Jawwal since those young employees are easy to learn, open minded and have big potential to take Jawwal to better positions.

6.2.5. Education level

Table (6.5): Education level

Education level	Frequency	Percent
High school or below	2	2.0
Diploma	30	30.3
Bachelor	55	55.6
Master or More	12	12.1
Total	99	100.0

Table (6.5) shows that 2.0% of the respondents are " High school or below " holders, 30.3% of the sample are " Diploma " holders , 55.6% of the sample are " Bachelor " holders and 12.1% of the sample are " Master or More " holders. From this table (6.5) and those results, it can be seen that most of the staff at this directorate (around 98%) hold suitable academic degrees and this result suggests that the employees at this directorate are professionally suitable for the jobs that they are responsible for.

Work Experience

<p align="center">Table (6.6): Work Experience</p>

Work Experience	Frequency	Percent
0- Less than 5	28	28.3
5- Less than 10	38	38.4
10 or more	33	33.3
Total	99	100.0

Table (6.6) shows that 28.3% of the respondents have experience "0- Less than 5 years",

38.4% of the sample has experience "5 – Less than 10 year" and 33.3% of the sample have experience" 10 or more years. Jawwal is considered a young company since it started its commercial operations in 1999, and most of the employees in Jawwal gained their experience through their work in Jawwal. The results expressed in table 6.5 shows that the staff is distributed into three categories with almost equal percentages.

6.2.6. Position

Table (6.7): Position

Position	Frequency	Percent
Director	-	-
Manager	4	4.0
Head of section/Unit	17	17.2
Engineer	40	40.4
Technician	35	35.4
Assistant	3	3.0
Total	99	100.0

Table 6.7 shows the position distribution of the respondents. It is seen that the majority of the respondents are engineers and technicians. This result is expected since those two categories represent the dominant jobs in this technical directorate.

6.2.7. Type of work

Table (6.8): Type of work

Type of work	Frequency	Percent
Field work	52	52.5
Managerial work	47	47.5
Total	99	100.0

Regarding the type of work in this technical Directorate and as it is seen through table (6.8) around 53% of the employees are of field work type, while 47% are of managerial work type. This result is normal since the nature of the technical jobs in Jawwal needs field maintenance and field survey activities that are taken care by most of the engineers and the technicians. In general this job nature makes it very important to share knowledge with others.

6.3. Analyzing Research Hypothesis:

This section analyzes the results obtained to test the research hypothesis. The start will be with the first hypothesis, which assumes that motivation is one aspect of knowledge sharing behavior.

6.3.1. Motivation is one aspect of the knowledge sharing behavior of the employees in the organization.

Table (6.9) shows the following results:

Table (6.9): Results for the field "Motivational Factors Affecting Knowledge Sharing"

Filed	Mean	%	Test value	P-value
Motivational Factors Affecting Knowledge Sharing	4.03	80.63	24.34	0.000*

* The mean is significantly different from 3

The mean of the whole field "Motivational Factors Affecting Knowledge Sharing" equals 4.03 (80.63%), Test-value = 24.34, 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 3. We conclude that the respondents agreed to field of "Motivational Factors Affecting Knowledge Sharing".

In general and as a summery, the analyses show that the groups of motivational factors that have been assumed to have effect on the knowledge sharing process do have such effect. The mean value of this field is 4.03 (80.63%) which indicates high level of agreement by the respondents with these motivational factors.

Both the importance and the big effect of motivation on the knowledge sharing process are quite clear through those results. This is in compliance with a lot of previous studies that researched similar topics such as the study of Hendriks (1999) and the study of Hassandoust, et.al. (2011).

People need to be motivated to perform well, and with high level of motivation we expect high level of performance and output. So companies and different associations have to pay big attention to these factors if they want to have good sharing practice among their employees.

The sub-hypotheses of this filed are:

6.3.1.1. Individual's attitude is one aspect of the Knowledge sharing behavior.

Here in the individual's attitude as a factor of the motivational group is tested. The aim is to check out if individual's attitude do have effect on the knowledge sharing process, and if this is the case, to what extent that factor has such effect.

Table (6.10) shows the following results:

Table (6.10): Means and Test values for "Individuals Attitude"

	Item	Mean	Proportional mean (%)	Test value	P-value (Sig.)	Rank
1.	I believe that my practice in relation to knowledge sharing is appropriate and effective.	4.02	80.40	18.36	0.000*	4
2.	My knowledge sharing with other department members is an enjoyable experience.	4.19	83.84	17.06	0.000*	3
3.	My knowledge sharing with other department members is valuable to me.	4.29	85.86	20.01	0.000*	2
4.	I believe that knowledge sharing with other department members is a wise move.	4.51	90.10	23.22	0.000*	1
	All paragraphs of the filed	4.25	85.05	25.90	0.000*	

* The mean is significantly different from 3

● The mean of paragraph #4 "I believe that knowledge sharing with other department members is a wise move" equals 4.51 (90.10%), Test-value = 23.22, 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 3. We conclude that the respondents agreed to this paragraph.

● The mean of paragraph #1 "I believe that my practice in relation to knowledge sharing is appropriate and effective" equals 4.02 (80.40%), Test-value = 18.36, 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 3. We conclude that the respondents agreed to this paragraph.

- The mean of the filed "Individuals Attitude" equals 4.25 (85.05%), Test-value = 25.90, 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 3. We conclude that the respondents agreed to field of "Individuals Attitude ".

The results shown in table (6.10) assure that Individual attitude has significant effect on knowledge sharing. The mean's high value of this field reflects that respondents accepted this factor with high degree of acceptance.

This result agrees with the study of Hassandoust et al. (2011), where he found that Attitude toward knowledge sharing and subjective norms appeared to be important variables in the context of intention to share knowledge. Those results also agreed with the study of Lemmetyinen (2007) where it was found that the factors that were found to influence knowledge sharing behavior were the perceived level of control and ownership the person has to knowledge sharing which influences the attitude toward knowledge sharing.

6.3.1.2 .Individual's Awareness is one aspect of the Knowledge sharing behavior.

Table (6.11) shows the following results:

Table (6.11): Means and Test values for "Individual's Awareness"

	Item	Mean	Proportional mean	Test value	P-value (Sig.)	Rank
1.	The importance of sharing knowledge with other department members is clear to me.	4.15	83.03	18.23	0.000*	3
2.	The benefits behinds sharing knowledge with others are valuable compared with the amount of effort exerted.	4.34	86.87	19.88	0.000*	1

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Table (6.11): Means and Test values for "Individual's Awareness" (continued)

3.	I only share my knowledge if I think my knowledge is important.	4.19	83.88	15.38	0.000*	2
4.	I only share my knowledge if people ask me for it	2.60	51.92	-3.73	0.000*	4
	All paragraphs of the filed	3.82	76.41	17.91	0.000*	

* The mean is significantly different from 3

● The mean of paragraph #2 "The benefits behinds sharing knowledge with others are valuable compared with the amount of effort exerted" equals 4.34 (86.87%), Test-value = 19.88 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 3. We conclude that the respondents agreed to this paragraph.

● The mean of paragraph #4 "I only share my knowledge if people ask me for it" equals 2.60 (51.92%), Test-value = -3.73, and P-value = 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is negative, so the mean of this paragraph is significantly smaller than the hypothesized value 3 . We conclude that the respondents disagreed to this paragraph.

● The mean of the filed "Individual's Awareness" equals 3.82 (76.41%), Test-value = 17.91, 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 3. We conclude that the respondents agreed to field of "Individual's Awareness ".

The results of the analysis of this second motivational factor which is awareness show that individual awareness play a significant role in motivating knowledge sharing. Through the table above the statement which has the highest rank is related to the awareness of the benefits that an individual will gain compared with the amount of efforts exerted in the sharing of knowledge process.

The respondents disagreed with the statement no 4, and they would share knowledge with people even if they don't ask for. This reflects a high level of awareness at the respondents with regard to the importance and benefit of sharing knowledge with other people.

These results agree with the results reached by Bakhari and Yusof (2010) in their study, where they found that Individual factors (awareness, trust and personality) correlate significantly with knowledge sharing quality. And they suggested that Continuous awareness programs could help to change worker's personality, increase their awareness and build trust among themselves.

6.3.1.3. The Individual's Trust is one aspect of the Knowledge sharing behavior.

Table (6.12) shows the following results:

Table (6.12): Means and Test values for "Individual's Trust"

	Item	Mean	Proportional mean	Test value	P-value (Sig.)	Rank
1.	I know that my department members will always try and help me out if I need to know something.	4.04	80.81	11.47	0.000*	2
2.	I can always trust my department members to lend me a hand if I need it.	4.10	82.02	11.90	0.000*	1
3.	I can always rely on my department members to make my job easier by sharing their knowledge.	4.02	80.40	13.20	0.000*	3
4.	I can talk freely to my department members about my personal knowledge.	3.92	78.38	11.38	0.000*	4
	All paragraphs of the filed	4.02	80.40	14.11	0.000*	

* The mean is significantly different from 3

⬥ The mean of paragraph #2 "I can always trust my department members to lend me a hand if I need it" equals 4.10 (82.02%), Test-value = 11.90, 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 3. We conclude that the respondents agreed to this paragraph.

- The mean of paragraph #4 "I can talk freely to my department members about my personal knowledge" equals 3.92 (78.38%), Test-value = 11.38, 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 3 . We conclude that the respondents agreed to this paragraph.

- The mean of the filed "Individual's Trust" equals 4.02 (80.40%), Test-value = 14.11, 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 3. We conclude that the respondents agreed to field of "Individual's Trust ".

The analyses show that individual's trust is a very important factor that affects positively the knowledge sharing intention among the employees. It is also seen that the level of trust among the employees in the network operations directorate is high, and that of course encourages the knowledge sharing activities. Paragraph no 4 has the lowest mean among the others in this field which means that employees don't always feel free to talk about their experience, and this gives indication that the top management in Jawwal needs to create the suitable environment that guarantees a higher area of freedom to the employees.

The importance of individual trust has been highlighted in the study of Abili et. al. (2011), where they pointed out that by increasing the trust and commitment between individuals, the amount of knowledge sharing is also increased. Those results also agree with the finding of Ramlee (2011), where he found that the key to enabling knowledge sharing was through informal interactions and trust between members of the organization.

The study of Lee & Yu (2011) also showed that to improve the relationship between the employee and colleagues and between the employee and the organization there is a need to establish unhindered communication channels as a platform for mutual trust.

6.3.2. The working environment of the individuals has significant effect on the knowledge sharing behavior in the organization.

This hypothesis tests the relationship between the working environment of the employee and his knowledge sharing intention and attitude. By the working environment we meant, the organization's culture, reward and recognition policy in the organization and the leadership characteristics of the top management in the organization.

Since it is believed that the working environment should have some effect on one's behavior those three dimensions of the environment were tested separately in individual hypothesis and the results were discussed below.

Table (6.13) shows the following results:

Table (6.13): Results for the field "Environmental Factors Affecting Knowledge Sharing"

Filed	Mean	%	Test value	P-value
Environmental Factors Affecting Knowledge Sharing	3.48	69.55	7.72	0.000*

* The mean is significantly different from 3

The mean of the field "Environmental Factors Affecting Knowledge Sharing" equals 3.48 (69.55%), Test-value = 7.72, 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 3. We conclude that the respondents agreed to field of "Environmental Factors Affecting Knowledge Sharing".

To summarize, the results show the importance of having helpful working environment to get acceptable knowledge sharing practice. The environmental factors that have been studied here are organization culture, reward and recognition policy and leadership characteristics. Those are just a selected group of many other environmental factors that could be studied, but they are the most that are believed to have effect in the case of Jawwal. The mean value for this field is 3.48 which are still significantly above the average value of 3; this indicates the importance of having helpful environment to have good knowledge sharing practice within the organization. Among the three factors that have been studied within this group, organization culture seems to be the most important factor of the others. This is with alliance with all the previous researches that

we encountered through reviewing the literature. All agreed on the importance of the organization culture to create the environment that stimulates people share their knowledge and be effective in this regard. Reward and recognition is the factor of the less effect on the knowledge sharing process as the results show. This is not surprising since rewards can help enhancing the performance in the short term but not for long as the culture do. It is clear that any organization in general needs to give bigger importance and attention to the culture that it creates among its employees and the top management in any association need to represent a good example that can be followed.

The sub-hypotheses of this filed are:

6.3.2.1 Culture is one aspect of the knowledge sharing behavior.

The paragraphs in table (6.14) were designed to find out the effect of the organization's culture on the individual's knowledge sharing behavior, the results were as follows:

Table (6.14): Means and Test values for "Organization's Culture"

	Item	Mean	Proportional mean	Test value	P-value (Sig.)	Rank
1.	My organization has future oriented organizational visions.	3.89	77.78	9.57	0.000*	1
2.	Top management leaders present clear organizational vision and communicate it with employees.	3.70	73.94	8.04	0.000*	4
3.	Overall organizational vision and goals are clearly stated.	3.65	73.06	7.11	0.000*	7
4.	Employees in the company understand organization's vision and goals.	3.49	69.80	5.53	0.000*	9
5.	Employees have full confidence in the skills of their co-workers.	3.66	73.27	7.52	0.000*	6
6.	Employees trust expertise of their co-workers.	3.70	73.94	9.26	0.000*	4
7.	If employees got into difficulties at work, they know their co-workers would try and help them out.	3.80	75.92	10.03	0.000*	2

Table (6.14): Means and Test values for "Organization's Culture" (continued)

8.	Employees communicate with each other through informal meetings within the organization.	3.79	75.76	9.37	0.000*	3
9.	Employees interact and communicate with other people or groups outside the organization.	3.51	70.10	5.83	0.000*	8
	All paragraphs of the filed	3.69	73.73	11.51	0.000*	

* The mean is significantly different from 3

❖ The mean of paragraph #1 "My organization has future oriented organizational visions" equals 3.89 (77.78%), Test-value = 9.57, 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 3. We conclude that the respondents agreed to this paragraph.

❖ The mean of paragraph #4 "Employees in the company understand organization's vision and goals" equals 3.49 (69.80%), Test-value = 5.53, 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 3. We conclude that the respondents agreed to this paragraph.

• The mean of the filed "Organization's Culture" equals 3.69 (73.73%), Test-value = 11.51, 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 3. We conclude that the respondents agreed to field of "Organization's Culture ".

From the above results stated in table (6.14), we can conclude that Organization's culture plays an important role in simulating and encouraging the sharing of knowledge among the different members in the organization. The respondents' answers to the different paragraphs show that they agreed that jawwal has future oriented organizational vision, and there is a significant culture of cooperation among the employees themselves. But from the other hand a low mean value for paragraph 4

shows that the employees in Jawwal has doubts about their understanding Jawwal's vision and goals .This gives an indication that the top management in Jawwal needs to exert more effort on clarifying and transferring Jawwal culture and vision to their employees in a way that they could understand and adopt.

In general and as a summery, the relatively small mean value of this field "Organization Culture "shows that there is a lot to be done in this area to develop a clear culture in jawwal that helps creating a helpful sharing environment.

The results of this part agree with similar results reached by Abili et. al. (2011), where they indicated that creative, innovative and supportive culture causes improvement in knowledge sharing, while the bureaucratic culture reduces knowledge sharing among employees. The importance of supportive organizational culture to enhance the level of sharing knowledge among the different members of the organization is also indicated in the study of Al-Adaileh (2011). In this study the findings emphasized that cultural attributes are considered as an important factors that can determine the extent of KS with the organizational context.

6.3.2.2. Reward and recognition policy is one aspect of the knowledge sharing behavior.

Table (6.15) shows the following results:

Table (6.15): Means and Test values for "Reward and Recognition Policy"

	Item	Mean	Proportional mean (%)	Test value	P-value (Sig.)	Rank
1.	I will receive a higher reward in return to my knowledge sharing within this department.	2.95	58.99	-0.45	0.326	2
2.	I am more likely to receive increased promotion opportunities in return for my knowledge sharing	2.88	57.58	-1.18	0.121	3
3.	My department offers attractive rewards to employees for their knowledge sharing	2.64	52.73	-3.23	0.001*	4
4.	I will more likely gain the respect and appreciation of my managers for my knowledge sharing practice.	3.40	68.08	3.73	0.000*	1
	All paragraphs of the filed	2.97	59.34	-0.36	0.361	

* The mean is significantly different from 3

● The mean of paragraph #4 "I will more likely gain the respect and appreciation of my managers for my knowledge sharing practice" equals 3.40 (68.08%), Test-value = 3.73, 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 3. We conclude that the respondents agreed to this paragraph.

● The mean of paragraph #3 "My department offers attractive rewards to employees for their knowledge sharing" equals 2.64 (52.73%), Test-value = -3.23, and P-value = 0.001 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is negative, so the mean of this paragraph is significantly smaller than the hypothesized value 3. We conclude that the respondents disagreed to this paragraph.

- The mean of the filed "Reward and Recognition Policy" equals 2.97 (59.34%), Test-value = -0.36, and P-value=0.361 which is greater than the level of significance $\alpha = 0.05$. The mean of this field is insignificantly different from the hypothesized value 3. We conclude that the respondents (Do not know, neutral) to field of "Reward and Recognition Policy ".

The analyses of the results of this dimension "Reward and Recognition Policy" show that, the respondents agree that they will receive respect and appreciation in charge of sharing their knowledge within their departments, but they disagreed with three of the other dimensions that are related to the rewards and promotion opportunities. The overall mean of the field (2.97) indicate that the answers were almost neutral for this dimension which is reward and recognition policy. As it was seen through so many previous studies such as the study of Ramlee (2011), that monitory rewards do not come in the first rank as a reason to encourage knowledge sharing but still intangible rewards such as promotions , encouragements and job conditions enhancement are important factors that need to pay attention to.

In jawwal, it seems that no rewards or promotion are offered for good knowledge sharing practice, and this affects negatively the knowledge sharing intention and behavior. So jawwal needs to pay more attention to this area.

The results of the study of Ramlee (2011) showed that Intrinsic rewards and factors that build expertise and provide recognition were suggested as being among the most appropriate means of fostering feeling of competence while Rewards and incentives (extrinsic motivators) do not necessarily alter the attitudes underlying knowledge sharing behavior and may merely be just a temporary change.

The study of Kim and Lee (2006) also showed that performance-based rewards system affect employee knowledge-sharing capabilities in both public sector and privet sector.

6.3.2.3. The leadership characteristics are one aspect of the knowledge sharing behavior.

The paragraphs in table (6.16) were designed to test the effect of the leadership style in the organization on the knowledge sharing practice. It is believed that the leaders in any

organization which is the top management team can affect positively the sharing attitude of their teams. This hypothesis is tested hereby:

Table (6.16) shows the following results:

Table (6.16): Means and Test values for "Leadership Characteristics"

	Item	Mean	Proportional mean (%)	Test value	P-value (Sig.)	Rank
1.	My manager always sets a good example in sharing his knowledge with others.	3.74	74.75	8.27	0.000*	1
2.	My manager supports me in sharing knowledge with colleagues in other departments.	3.54	70.71	5.06	0.000*	2
3.	My manager allows me to share my knowledge with my colleagues even though it may influence the present job process.	3.41	68.28	4.08	0.000*	4
4.	My manager instructs us on how to share our personal knowledge within the department.	3.36	67.27	3.50	0.000*	5
5.	My manager do care about my knowledge and do encourage me to share my knowledge with other colleagues	3.49	69.90	4.81	0.000*	3
	All paragraphs of the filed	3.51	70.18	6.11	0.000*	

* The mean is significantly different from 3

● The mean of paragraph #1 "My manager always sets a good example in sharing his knowledge with others" equals 3.74 (74.75%), Test-value = 8.27, 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 3. We conclude that the respondents agreed to this paragraph.

● The mean of paragraph #4 "My manager instructs us on how to share our personal knowledge within the department" equals 3.36 (67.27%), Test-value = 3.50, 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 3. We conclude that the respondents agreed to this paragraph.

- The mean of the filed "Leadership Characteristics" equals 3.51 (70.18%), Test-value = 6.11, 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 3. We conclude that the respondents agreed to field of "Leadership Characteristics ".

The results in table (6.16) show that, according to the respondent's opinions, the managers in jawwal set a good example in sharing their knowledge with others, and they support their employees in sharing their knowledge with their colleagues. Based on the rank in table (6.15) and the mean values of the answers, it seems that the managers in jawwal still have a lot to do in this aspect. They need to pay more care to the knowledge sharing activities of their employees, they need to instruct and lead their teams in how to share their personal knowledge with others, and encourage them to do that effectively.

The effect of the leadership style on knowledge sharing has been pointed out in the study of Tung and Chang (2011) ,where they found that mechanisms of knowledge sharing is has direct effect on empowering leadership on team performance.

Also similar results were reached by Xue et.al. (2011), where they stated that Team climate and empowering leadership significantly influence individuals' knowledge-sharing behavior by affecting their attitude toward knowledge sharing. These two constructs also have significant direct effects on the knowledge-sharing behavior.

These finding also agree with Holowetzki (2002) & Chong & Choi (2005) who emphasized the importance of managerial practices in promoting of KS among organizational members and supporting KM application. Alkshali, & Al-Temimi (2008) also emphasized that leadership had a significant effect on the overall organizational learning.

6.3.3. The Technology applied in the organization facilitates the knowledge sharing behavior among employees.

This hypothesis tests the effect of the technological tools in facilitating the sharing of knowledge among the employees. Two dimensions were test herein. The first one was the availability of the suitable ICT tools that could help enhancing the sharing of knowledge and the second dimension was the know-how of the employees, or in other words, their ability to deal of those tools and get use of them effectively.

Table (6.17) shows the following results:

Table (6.17): Results for the field "Technological Factors Affecting Knowledge Sharing"

Filed	Mean	%	Test value	P-value (Sig.)
Technological Factors Affecting Knowledge Sharing	3.86	77.13	14.40	0.000

* The mean is significantly different from 3

The mean of the field "Technological Factors Affecting Knowledge Sharing" equals 3.86 (77.13%), Test-value = 14.40, 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 3. We conclude that the respondents agreed to field of "Technological Factors Affecting Knowledge Sharing".

As to conclude this field, the results show that the availability of the ICT tools and the ability to use those tools are of great importance to the knowledge sharing process. Those results are not surprising anyhow, since the role that the technological tools play in communicating people with each other is quite known. The availability of the tools does not guarantee well sharing practice without having the will to do so. The results show that jawwal needs to have effective ICT tools to be available for all its employees and should pay more attention to teach its employees to effectively use such tools through continuous training programs.

The sub-hypotheses of this filed are:

6.3.3.1 The ICT infrastructure available at the organization helps in the knowledge sharing behavior.

Table (6.18) shows the following results:

Table (6.18): Means and Test values for "ICT Infrastructure Availability"

	Item	Mean	Proportional mean (%)	Test value	P-value (Sig.)	Rank
1.	The IT facilities make it easier to cooperate with others within our department.	4.19	83.84	19.21	0.000*	1
2.	The IT facilities make it easier to cooperate with others outside our department.	4.08	81.63	16.02	0.000*	2
3.	The IT facilities within my department provide a positive contribution to the development of my knowledge.	4.06	81.22	13.18	0.000*	3
4.	The ICT tools available at our department provide important support for knowledge sharing.	3.88	77.55	10.34	0.000*	5
5.	The ICT tools available make it easier for me to get contact with employees who have knowledge that is important to me	3.97	79.39	12.99	0.000*	4
6.	There are efficient and supportive ICT tools at our department that facilitates the sharing of knowledge.	3.85	76.91	9.20	0.000*	6
	All paragraphs of the filed	3.99	79.78	14.75	0.000*	

* The mean is significantly different from 3

• The mean of paragraph #1 "The IT facilities make it easier to cooperate with others within our department" equals 4.19 (83.84%), Test-value = 19.21, 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 3. We conclude that the respondents agreed to this paragraph.

• The mean of paragraph #6 "There are efficient and supportive ICT tools at our department that facilitates the sharing of knowledge" equals 3.85 (76.91%), Test-value = 9.20, 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 3. We conclude that the respondents agreed to this paragraph.

• The mean of the filed "ICT Infrastructure Availability" equals 3.99 (79.78%), Test-value = 14.75, 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 3. We conclude that the respondents agreed to field of "ICT Infrastructure Availability ".

The results in table (6.18) show that there are enough and effective ICT tools at Jawwal those help in facilitating the knowledge sharing process. Almost more that 80% of the respondents agreed with all of the paragraphs in this field. That shows they agreed with the assumptions that the ICT tools help so much in facilitating the sharing of knowledge both inside and outside the organization. They also indicated that there are efficient and supportive ICT tools at Jawwal that can enhance the sharing process.

The importance of the ICT tools in the knowledge sharing process has been explained in the study of Phang & Foong (2010) where their results indicated that effective ICT support is critical for promoting knowledge sharing and certain ICT facilities tend to promote certain types of knowledge sharing more effectively. They suggested that the results of their study could enable the management to appropriately align the 'right' technology to the intended type of knowledge needed to be created and shared for successful task performance under different task complexity settings.

6.3.3.2. The ICT know-how capabilities at the organization have significant effect on knowledge sharing.

Table (6.19) shows the following results:

Table (6.19): Means and Test values for "ICT Know-How"

	Item	Mean	Proportional mean (%)	Test value	P-value (Sig.)	Rank
1.	Employees in my company are given adequate training internally to use ICT tools.	3.58	71.52	5.35	0.000*	4
2.	The technology know-how among employees is easily transferable	3.61	72.12	6.86	0.000*	3
3.	I am familiar with all the ICT tools available at the company	3.57	71.31	6.38	0.000*	5
4.	I know how to use the ICT tools available efficiently to share knowledge with other colleges.	3.78	75.51	9.52	0.000*	2
5.	The ICT tools available are user friendly and help me accomplish my tasks.	3.92	78.37	12.75	0.000*	1
	All paragraphs of the filed	3.68	73.69	9.71	0.000*	

* The mean is significantly different from 3

● The mean of paragraph #5 "The ICT tools available are user friendly and help me accomplish my tasks" equals 3.92 (78.37%), Test-value = 12.75, 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 3. We conclude that the respondents agreed to this paragraph.

● The mean of paragraph #3 "I am familiar with all the ICT tools available at the company" equals 3.57 (71.31%), Test-value = 6.38, 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 3. We conclude that the respondents agreed to this paragraph.

• The mean of the filed "ICT Know-How" equals 3.68 (73.69%), Test-value = 9.71, 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 3. We conclude that the respondents agreed to field of "ICT Know-How ".

As it can be seen from the results in the table below, the respondents agreed that the ICT tools available are user friendly and help them accomplish their tasks .But from the results of the other paragraphs , it seems that there a lot to do in the area of professional knowledge of the employees. The results show that the respondents are not so much familiar with all of the ICT tools available, and there is a need to provide more training to the employees to enhance their know-how abilities.

6.3.4. The Individuals' characteristics have big influence on the knowledge sharing behavior.

Table (6.20) shows the following results:

Table (6.20): Results for the field "Individual Characteristics Affecting Knowledge Sharing"

Filed	Mean	%	Test value	P-value
Individual Characteristics Affecting Knowledge Sharing	3.84	76.76	20.40	0.000*

* The mean is significantly different from 3

The mean of the field "Individual Characteristics Affecting Knowledge Sharing" equals 3.84 (76.76%), Test-value = 20.40, 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 3. We conclude that the respondents agreed to field of "Individual Characteristics Affecting Knowledge Sharing".

To conclude this part, we can say briefly that personal traits and believes have great influence on both the attention and behavior of the individual. The results of this field show that the respondents agree that personality have big effect on the individual's

attention toward sharing knowledge and they almost strongly agree that personal perception is of great effect on this process. These results agree with the general conclusions reached by so many researchers. In the study of Matzler et. al. (2011) , the authors found that enduring characteristics of the individuals, specifically Agreeableness and Conscientiousness, are related to knowledge sharing via affective commitment and documentation of knowledge and they suggest that An important practical implication of these findings is that firms may be able to improve knowledge sharing via personnel screening. The high mean value of this field indicates a high degree of approval on the importance of personal characteristics and personal perceptions and believes on the process of knowledge sharing.

The sub-hypotheses are:

6.3.4.1.Individual's personality plays a significant role on enhancing the knowledge sharing performance.

Table (6.21) shows the following results:

Table (6.21): Means and Test values for "Individual's personality"

	Item	Mean	Proportional mean (%)	Test value	P-value (Sig.)	Rank
1.	I like to work with others to develop my skills and knowledge.	4.59	91.72	29.51	0.000*	1
2.	I learn a lot from other members in this company.	4.07	81.41	14.29	0.000*	2
3.	I prefer people to approach me rather than voluntarily offer my knowledge to them.	3.31	66.12	2.84	0.003*	6
4.	I am ready to share knowledge which is not common to others with the rest of our department members.	3.97	79.39	13.66	0.000*	3
5.	I will continue doing something with knowledge sharing even with people I don't particularly like.	3.87	77.37	10.93	0.000*	4

Table (6.21): Means and Test values for "Individual's personality" (continued)

6.	I feel is too hard to share knowledge with those who are more senior /experienced than me.	2.98	59.60	-0.18	0.429	7
7.	In this company, we help each other to learn new skills regardless of seniority.	3.74	74.75	7.96	0.000*	5
	All paragraphs of the filed	3.79	75.77	16.09	0.000*	

* The mean is significantly different from 3

●   The mean of paragraph #1 "I like to work with others to develop my skills and knowledge" equals 4.59 (91.72%), Test-value = 29.51, 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 3. We conclude that the respondents agreed to this paragraph.

●   The mean of paragraph #6 "I feel it is too hard to share knowledge with those who are more senior /experienced than me" equals 2.98 (59.60%), Test-value = -0.18, and P-value = 0.429 which is greater than the level of significance $\alpha = 0.05$. Then the mean of this paragraph is insignificantly different from the hypothesized value 3. We conclude that the respondents (Do not know, neutral) to this paragraph.

●   The mean of the filed "Individual's personality" equals 3.79 (75.77%), Test-value = 16.09, 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 3. We conclude that the respondents agreed to field of "Individual's personality ".

From the results in table (6.21), it can be said that the personal attitude of the respondents is a very positive one. In other words the personality of the employees is of that type that encourages cooperation and help among others. The respondents like to work with others to develop their skills and to learn from others. They from the other

hand do not feel it's hard to share knowledge with all the managerial levels within the company despite their experience.

In general it can be concluded that the personality characteristics of the respondents is of that helpful and cooperative type.

6.3.4.2. Individual's perceptions play an important role on facilitating the knowledge sharing performance.

Table (6.22) shows the following results:

Table (6.22): Means and Test values for "Individual's Perception"

	Item	Mean	Proportional mean (%)	Test value	P-value (Sig.)	Rank
1.	Individual's perception affects his decision whether or not to share knowledge with colleges.	4.00	80.00	17.24	0.000*	3
2.	Individual's Perceptions of the benefit to the recipient from sharing knowledge increase one's propensity to share knowledge.	4.10	82.02	16.94	0.000*	2
3.	Individual's Perceptions of the cost to the informer affects one's willingness to share knowledge.	3.38	67.55	3.82	0.000*	5
4.	Individual's propensity to share knowledge differs when sharing with different sharing targets.	3.86	77.17	10.74	0.000*	4
5.	Creating awareness about the usefulness of one's knowledge to others would positively affect contributions to share knowledge.	4.20	84.04	19.22	0.000*	1
	All paragraphs of the filed	3.91	78.14	19.19	0.000*	

* The mean is significantly different from 3

●   The mean of paragraph #5 "Creating awareness about the usefulness of one's knowledge to others would positively affect contributions to share knowledge" equals 4.20 (84.04%), Test-value = 19.22, 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 3. We conclude that the respondents agreed to this paragraph.

- The mean of paragraph #3 "Individual's Perceptions of the cost to the informer affects one's willingness to share knowledge" equals 3.38 (67.55%), Test-value = 3.82, 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 3. We conclude that the respondents agreed to this paragraph.

- The mean of the filed "Individual's Perception" equals 3.91 (78.14%), Test-value = 19.19, 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 3. We conclude that the respondents agreed to field of "Individual's Perception ".

The personal perception does have big effect on knowledge sharing. This has been stated in so many studies and by many authors. In our case the results in table (6.22) show that the respondents agree with the assumption that individual perception of the benefits of sharing knowledge with others affects his decision to do so. Creating awareness about the usefulness of knowledge sharing changes one's perception and enhances the level of contribution in the knowledge sharing process. The importance of the individual perception has been indicated in many studies such as the study of Lemmetyinen (2007) where the factors that were found to influence knowledge sharing behavior were the perceived level of control and ownership the person has to knowledge sharing, the perception of the person's ability to valuable contributions and their criticality (self-efficacy), which influences the attitude toward knowledge sharing.

6.3.5. There are significant statistical differences in the answers of the respondents concerning the factors that determine the knowledge sharing behavior due to the personal traits of the respondents.

In this section the effect of the personal traits of the respondents on the knowledge sharing behavior is tested. It is important to point out that the effect of gender as a

single personal trait was not examined in this study due to the low percentage of the female participants (6.1%).

The sub-hypotheses of this filed are:

6.3.5.1. There is significant difference among the respondents toward sharing knowledge with others due to "Place of Work ".

Table (6.23): Independent Samples T-Test of the fields and their p-values for Place of Work

No.	Field	Test Value	Sig.	Means	
				West Bank	Gaza Strip
1.	Motivational Factors Affecting Knowledge Sharing	1.113	0.269	4.06	3.97
2.	Environmental Factors Affecting Knowledge Sharing	1.679	0.097	3.54	3.35
3.	Technological Factors Affecting Knowledge Sharing	2.501	0.015*	3.96	3.64
4.	Individual Characteristics Affecting Knowledge Sharing	1.455	0.149	3.87	3.77
	All fields together	2.076	0.041*	3.82	3.65

* Means differences are significant at $\alpha = 0.05$

Table (6.23) shows that the p-value (Sig.) is smaller than the level of significance $\alpha = 0.05$ for the field "Technological Factors Affecting Knowledge Sharing", then there is significant difference among the respondents regarding to this field due to Place of Work. We conclude that the respondents' Place of Work has significant effect on this field.

Table (6.23) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for the other fields, then there is insignificant difference among the respondents regarding to these fields due to Place of Work. We conclude that the respondents' Place of Work has no effect on these fields.

From table (6.23), we conclude the following:

For the field "Technological Factors Affecting Knowledge Sharing ", the mean of respondents West Bank is higher than the mean of respondents Gaza Strip.

The reason behind this difference can be due to a group of reasons that can be stated as follows:

- The employees in West Bank have both better and more technological tools to use than their colleagues in Gaza.
- The respondents from west bank have better chances to participate in training courses more than their counterparts in Gaza.
- There are cultural differences between West bank employees and Gaza employees.

For the other fields too, it is clear that the mean of all the fields is higher at West Bank compared with that of Gaza. It is clear that the number of respondents from West Bank is almost twice the number of respondent from Gaza Strip , this could have effect on the results .

6.3.5.2. There is significant difference among the respondents toward sharing knowledge with others due to "Age ".

Table (6.24): ANOVA test of the fields and their p-values for Age

No.	Field	Test Value	Sig.	Means		
				18-30	31-40	over 41
1.	Motivational Factors Affecting Knowledge Sharing	0.559	0.574	4.00	4.03	4.14
2.	Environmental Factors Affecting Knowledge Sharing	0.442	0.644	3.44	3.47	3.62
3.	Technological Factors Affecting Knowledge Sharing	0.163	0.850	3.88	3.82	3.90
4.	Individual Characteristics Affecting Knowledge Sharing	0.145	0.865	3.84	3.82	3.88
	All fields together	0.336	0.715	3.75	3.75	3.86

Table (6.24) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for each field, then there is insignificant difference in respondents' answers toward

each field due to Age. We conclude that the characteristic of the respondents Age has no effect on each field.

The reason behind this result is that, despite their age difference, jawwal employees are considered well educated and cultured people .And there is no clear technological or professional gap among employees of different ages. All the employees in Jawwal need to follow up closely the structural , functional , technological and managerial changes that take place in their working environment and around them .This need force them to be always updated ,aware and proactive with any changes that take place around them.

6.3.5.3. There is significant difference among the respondents toward sharing knowledge with others due to "Education level ''.

Table (6.25): ANOVA test of the fields and their p-values for Education level

No.	Field	Test Value	Sig.	Means		
				Diploma or below	Bachelor	Master or More
1.	Motivational Factors Affecting Knowledge Sharing	0.204	0.816	4.01	4.06	3.99
2.	Environmental Factors Affecting Knowledge Sharing	0.070	0.932	3.50	3.46	3.51
3.	Technological Factors Affecting Knowledge Sharing	0.477	0.622	3.78	3.88	3.95
4.	Individual Characteristics Affecting Knowledge Sharing	2.019	0.138	3.91	3.84	3.64
	All fields together	0.017	0.983	3.77	3.77	3.74

Table (6.25) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for each field, then there is insignificant difference in respondents' answers toward each field due to Education level. We conclude that the characteristic of the respondents Education level has no effect on each field.

The employees at Jawwal are considered well-educated people with good working experience and wide knowledge .So the level of education did not affect their responses toward the importance of knowledge sharing and the factors that do have effect on the

sharing process because the working environment that they are working in is knowledge –based one., and they have to be always updated knowledge wise regardless the position they are in or the job they do. This type of challenge is forced by the competitive environment in the telecom market. So regardless of the level of education the level of awareness with regard to the knowledge sharing is almost the same.

6.3.5.4. There is significant difference among the respondents toward sharing knowledge with others due to "Work Experience ".

Table (6.26): ANOVA test of the fields and their p-values for Work Experience

No.	Field	Test Value	Sig.	Means		
				0- Less than 5	5- Less than 10	10 or more
1.	Motivational Factors Affecting Knowledge Sharing	5.887	0.004*	4.21	3.87	4.06
2.	Environmental Factors Affecting Knowledge Sharing	1.248	0.292	3.61	3.37	3.49
3.	Technological Factors Affecting Knowledge Sharing	4.984	0.009*	4.11	3.66	3.86
4.	Individual Characteristics Affecting Knowledge Sharing	2.048	0.135	3.96	3.76	3.82
	All fields together	3.878	0.024	3.93	3.63	3.77

* Means differences are significant at $\alpha = 0.05$

Table (6.26) shows that the p-value (Sig.) is smaller than the level of significance $\alpha = 0.05$ for the fields "Motivational Factors Affecting Knowledge Sharing and Technological Factors Affecting Knowledge Sharing", then there is significant difference among the respondents regarding to these fields due to Work Experience. We conclude that the respondents' Work Experience has significant effect on these fields.

Table (6.26) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for the other fields, then there is insignificant difference among the respondents regarding to these fields due to Work Experience. We conclude that the respondents' Work Experience has no effect on these fields.

From table (6.26), we conclude the following:

For the fields "Motivational Factors Affecting Knowledge Sharing and Technological Factors Affecting Knowledge Sharing ", the mean for respondents with Work Experience of "0- Less than 5" is higher than other years of experience

This result can be explained through the fact that, those employees with 0-less than 5 years of experience are considered relatively fresh graduates, and they are still closer that other to the latest technological updates in the word of telecom. So aware more than others about the importance of technology and the role it plays in the knowledge sharing process.

From the other hand, those people needs more motivation than others, they need to get the trust of others and to be trusted by others. They believe that awareness plays an important role in motivating people.

6.3.5.5. There is significant difference among the respondents toward sharing knowledge with others due to "Position ".

Table (6.27): ANOVA test of the fields and their p-values for Position

No.	Field	Test Value	Sig.	Means		
				Manager/ Head of section/Unit	Engineer	Technician
1.	Motivational Factors Affecting Knowledge Sharing	0.292	0.748	4.10	4.03	4.00
2.	Environmental Factors Affecting Knowledge Sharing	0.036	0.965	3.46	3.50	3.50
3.	Technological Factors Affecting Knowledge Sharing	0.144	0.866	3.86	3.89	3.81
4.	Individual Characteristics Affecting Knowledge Sharing	1.056	0.352	3.79	3.80	3.92
	All fields together	0.006	0.994	3.76	3.77	3.77

Table (6.27) shows that the p-value (Sig.) is greater than the level of significance $\alpha =$ 0.05 for each field, then there is insignificant difference in respondents' answers toward

each field due to Position. We conclude that the characteristic of the respondents Position has no effect on each field.

This result may reflect that all the employees in this technical department and regardless of their positions and jobs are aware of the importance of this sharing process of knowledge and have almost similar opinions and feelings toward the factors that may affect this process. The staff at Jawwal Company is considered one of the good staffs that may exist at any organization in Palestine, and this staff is well prepared and trained to perform the jobs effectively and accurately. This leads to the result that each single employee regardless of where he is and what he does , is in a need to share knowledge with others and to find suitable way to get the piece of information he needs in time and from the right source. This of course creates such common feeling of the importance of sharing knowledge with others as the results show.

6.3.5.6. There is significant difference among the respondents toward sharing knowledge with others due to "Type of work ".

Table (6.28): Independent Samples T-Test of the fields and their p-values for Type of work

No.	Field	Test Value	Sig.	Means	
				Field work	Managerial work
1.	Motivational Factors Affecting Knowledge Sharing	-0.582	0.562	4.01	4.06
2.	Environmental Factors Affecting Knowledge Sharing	-0.662	0.509	3.44	3.52
3.	Technological Factors Affecting Knowledge Sharing	0.465	0.643	3.88	3.83
4.	Individual Characteristics Affecting Knowledge Sharing	-1.585	0.116	3.78	3.91
	All fields together	-0.635	0.527	3.74	3.79

Table (6.28) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for each field, then there is insignificant difference in respondents' answers toward each field due to Type of work. We conclude that the characteristic of the respondents Type of work has no effect on each field.

This result show that there is almost no difference in the respondents answers with regard to those factors affecting knowledge sharing related to the place of work. This tells that each single employee feels the importance of this topic and needs to have good knowledge practice regardless of where he is. It is obvious that in a company like jawwal that has so many technological systems and services, field workers have equal needs to the right and precise piece of information of that of their counterparts that spend their most time at offices. Everyone can share knowledge with others and need others to share knowledge with him regardless of his work place.

CHAPTER SEVEN

CONCLUSIONS AND RECOMMENDATIONS

7.1. Introduction:

7.2. Conclusions:

7.3. Recommendations:

7.4. Recommendations for Further Research:

CHAPTER SEVEN

CONCLUSIONS AND RECOMMENDATIONS

7.1. Introduction:

This chapter presents the final conclusions of this research in the light of the results that were discussed in chapter six. The study recommendations to the concerned parties and the recommendations for further studies are also introduced in this chapter.

7.2. Conclusions:

The main objectives of this study were to find out the most effective factors that influence the knowledge sharing practice within the Network Operations Directorate in Jawwal and to find out how to enhance the sharing process of knowledge, and to put the suitable recommendations to the top management in Jawwal to help creating better situation with regard to the KS practice.

The aim was also to enhance the overall performance and output of the company through getting full use of the individual knowledge that the employees in Jawwal possess , and to create the culture that make the sharing of knowledge a common practice.

In the light of the results of the analysis carried out in chapter six, the researcher concludes that the main objectives of this study have been achieved, and the main question of this study was answered.

Through the analyses in chapter six it can be concluded that all the main and sub hypothesis put by the researcher in this study proved to be valid except the one related to the reward and recognition dimension within the group of the environmental factors. To conclude, the researcher came out with the following points as final conclusions of this research:

1- Motivation (80.63%) has great influence on stimulating people to share knowledge with others. This result was very clear through the answers got from the respondents of this study to the first hypothesis' paragraphs. So by motivating people we can get better results.

2- Individual's attitude toward sharing knowledge (85.05%) and personal norms are one of the most important factors that play big role in enhancing the knowledge sharing practice. Firms in general need to pay special attention to this side and need to find suitable ways to create positive attitude within their employees to get good sharing results.

3- Individual awareness (76.41%) of the importance of sharing knowledge with others in within teams can help very much in enhancing the knowledge sharing practice in the organization. It was clear from the results that Jawwal employees have good level of awareness in this regard, but still more can be done to enhance the knowledge sharing practice through creating high levels of awareness among the employees.

4- The average mean of the trust field (80.40%) show that there is a good level of trust among the employees in the engineering directorate. Employees are almost sure that their colleagues will give them the help they may need and will make their job easier through sharing knowledge with them. This is a good indication of the high level of cooperation among the employees which helps Jawwal accomplish its objectives easily.

5- The results of the environmental factors (69.55%) show that the respondents agreed that Jawwal has a future oriented organizational vision, and the employees are aware of this vision and understand it to some extent. The culture at Jawwal is helpful and secures the environment needed to share knowledge and information among employees. Although it is clear that employees need to understand the goals of Jawwal in better way and the top management at Jawwal needs to exert more effort in this regard.

6- It is clear from the results of the reward and recognition policy field (59.34%) that Jawwal does not have a reward system for the good knowledge sharing practice

.Although rewards and recognition are not the main factors that encourage the sharing performance, still they have their effect on enhancing and encouraging people to do better in this regard. Jawwal can pay more attention to this part to enhance the knowledge sharing performance among employees.

7- Although the respondents agreed that the managers at Jawwal set a good example in sharing their knowledge with others (74.75%), they have doubts about the managers' performance with regard to encouraging the knowledge sharing process and giving their employees the support they need to share knowledge with others (68.28%). It is clear that the managers at Jawwal have a lot to do in this regard to get better results and excellent performance through allowing their employees to share their knowledge with others and to give them all the support they need to do so.

8- The respondents agreed that the ICT tools are very important in the sharing of knowledge with others (79.78 %).The ICT tools available at Jawwal are quite enough to facilitate the knowledge sharing among employees and to make it easier to cooperate with other either within or outside the department.

9- Although the ICT tools available at Jawwal are user friendly and easy to use (78.37%), the employees are not that much familiar with all the tools available and they are not given enough training to use the ICT tools. Moreover the technology know-how is not easily transferable among employees.

10- The individual characteristics of individuals (76.76%) seem to have big influence on the knowledge sharing behavior as it is clear from the respondents' answers. The employees at this technical directorate like to work with others to develop their skills and knowledge and they agreed that they learn from others through knowledge sharing , and they have the will and readiness to share knowledge with others.

11- Both the individual personality (75.77%) and individual perception (78.14%) about the benefits of sharing knowledge with others have great effect on one's intention toward

sharing knowledge with others. Creating perception and awareness of the benefits and the importance of sharing knowledge with other employees enhances the sharing performance.

12- There is significant difference among respondent related to the place of work with regard to the factors affecting knowledge sharing. This difference rose due to cultural differences and the facilities available for the two groups of employees.

13- There are no differences among respondents due to age with regard to the affecting factors of knowledge sharing.

14- Although the direct financial rewards do not play clear and big role in simulating the knowledge sharing performance among employees, still some other extrinsic motivators are very important since person's behavior is provoked by values and the perceived benefits. Organizational rewards are useful for encouraging people to do the expected behaviors. Organizational rewards can be put into categorize ranging from financial rewards including raise in salary and benefits to nonfinancial rewards such as promotion and job safety

7.3. Recommendations:

In the light of the final results and conclusions that were drawn from the analysis of the results of this study, we can come up with the following recommendations:

1- As the motivational factors have significant effect on knowledge sharing, Jawwal needs to pay great attention to the programs that can help enhancing the level of motivation of the employees to get better sharing results. Besides the financial awards and promotions, nonfinancial rewards are necessary to enhance the knowledge sharing situation in Jawwal. Those non-financial awards could be in terms of enhancing the working conditions, providing suitable training programs, and increasing the level of job safety.

2- There is a need to increase the level of awareness of the importance and benefits of sharing knowledge with others through implementing training sessions and forming workgroups to follow different projects.

3- As to create a helpful working environment and to develop organizational culture that encourages knowledge sharing, Jawwal needs to have clear and understandable vision and goals, and the leaders at Jawwal have to communicate this culture to their employees.

4- Jawwal has to have supporting reward and recognition system to encourage those who tend to share their knowledge with others. Even suitable promotion programs could be adopted to reward those employees who do really help and support their colleagues through sharing knowledge with them.

5- The managers at Jawwal have to allow their employees to freely share their knowledge with their colleagues at Jawwal Company or even outside the company to the benefit of Jawwal. They also need to teach and guide others how to share the knowledge they possess with others at the company.

6- It is highly recommended that Jawwal gives its employees the training they need to able to deal with the different technological tools at the company easily and efficiently.

7- Since individual's perception has significant effect and influence on the person's behavior, Jawwal can help its employees grow positive perceptions and then behaviors through building trust and respect between the managers and leaders at the company from one side and the other employees from the other side.

8- It is highly recommended that Jawwal build a knowledge management system that enables all the technological staffs at the company to store, treat, and share the knowledge they need in order to enhance performance and solve problems that they may face.

7.4. Recommendations for Further Research:

The study revealed that there is a need for further research on some other aspects of knowledge sharing .As a recommendation , the researcher recommends future researchers to study other factors that may have direct effect on the knowledge sharing performance , such as Organizational structure , and geographical distribution of business units. Moreover it is recommended to build regression models to isolate the most effective factors that influence this sharing process in future studies.

As to summarize this section the following topics are recommended for any future research:

1- The effect of Organizational structure on the knowledge sharing process.

2- Physical contacts and personal interactions among individuals as enhancing factors of the knowledge sharing performance.

3- How to transfer tacit knowledge into explicit knowledge and the effect of this transformation on the knowledge sharing performance.

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INTERNET SOURCES:

- **http://www.jawwal.ps/ , Jawwal Web Site.**
- **http://www.arabadvisors.com/ , Arab Advisors Group.**
- **www.paltelgroup.ps/ , Palestinian Telecommunication Group.**
- **http://www.emerland.com/ , Emerald Web Site.**

Appendix A: Final Questionnaire in Arabic

بسم الله الرحمن الرحيم

الجامعة الإسلامية – غزه

عمادة الدراسات العليا

قسم إدارة الأعمال

الزملاء الأعزاء ،،،

تحية طيبة وبعد...

يقوم الباحث بدراسة بعنوان " **Factors influencing knowledge sharing in Professional**

Services (Case study: The Network Operations Directorate in JAWWAL Company)"

و ذلك كمتطلب رئيسي لنيل درجة الماجستير في إدارة الأعمال من الجامعة الإسلامية بغزة ،و هو بصدد

تطبيق إستبانة للحصول على المعلومات المطلوبة , فأرجو منكم التكرم بتعبئة هذه الإستبانة أملاً في توخي

الدقة و الموضوعية .

إن تعاونكم سيكون سبباً في نجاح هذا البحث و تطويره علماً بأن البيانات الواردة في هذه الإستبانة سوف

يتم التعامل معها بسرية تامة و لن تستخدم إلا لأغراض البحث العلمي .

أهداف الدراسة:

تهدف هذه الدراسة إلى التعرف على العوامل التي تؤثر في عملية مشاركة المعرفة فيما بين موظفي إدارة

عمليات الشبكة في شركة جوال على مختلف مستوياتهم و مواقعهم الإدارية.

و عليه فقد تم تقسيم أسئلة هذه الإستبانة إلى أربعة أقسام رئيسية حيث ستحدد الإجابات على أسئلة كل

قسم مجموعة العوامل التي تتدرج تحت كل محور رئيسي من هذه المحاور الأربعة.

نرجو من سيادتكم التكرم بالإجابة بمصداقية و واقعية على أسئلة هذه الإستبانة مع التقدير الجزيل

للجهد الذي ستبذلونه في ذلك

الباحث/مصطفى محمود علي

أولا : البيانات العامة

يرجى تعاونكم بوضع إشارة (X) أمام الإجابة المناسبة :

1- الدائرة/ القسم : ....

2- مكان العمل :

☐ الضفة الغربية   ☐ قطاع غزة

3- الجنس:

☐ ذكر   ☐ أنثى

4- الفئة العمرية :

☐ 18 - 25   ☐ 26 – 30   ☐ 31 – 40   ☐ 41 -50   ☐ أكثر من 50

5- المستوى التعليمي :

☐ ثانوية عامة فما دون   ☐ دبلوم   ☐ بكالوريوس   ☐ ماجستير فأكثر

6- عدد سنوات الخدمة في شركة جوال :

☐ 0 – أقل من 5   ☐ 5 – أقل من 10   ☐ 10 فأكثر

7- المسمى الوظيفي :

☐ مدير إدارة   ☐ مديردائرة   ☐ رئيس قسم   ☐ مهندس   ☐ فني   ☐ إداري

8- طبيعة العمل :

☐ عمل مكتبي   ☐ عمل ميداني

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ثانيا: العوامل المؤثرة في عملية تبادل المعرفة

الرجاء وضع علامة (X) في الصندوق الذي يتفق مع رأيكم أمام كل فقرة من فقرات هذا الإستبيان

لا أوافق بشدة	لا أوافق	أوافق بدرجة بسيطة	أوافق	أوافق بشدة	الفقرة	الرقم
					العوامل التحفيزية التي تؤثر في عملية مشاركة المعرفة	
					السلوك الفردي	
					أعتقـد أن ممارسـاتي المتعلقـة بعمليـة مشـاركة المعرفـة فعالـة و مناسبة	1-
					تعتبـر عمليـة مشـاركة المعرفـة مـع بقيـة أعضـاء الـدائرة تجربـة ممتعة و شيقة.	2-
					عمليـة مشـاركة المعرفـة مـع بقيـة أعضـاء الـدائرة ذات قيمـة شخصية لي.	3-
					أعتقـد أن مشـاركة المعرفـة مـع بقيـة أعضـاء الـدائرة هـي خطوة حكيمة في الإتجاه الصحيح.	4-
					الوعي الفردي	
					أهميـة مشـاركة المعرفـة مـع بقيـة أعضـاء الـدائرة واضـحة بالنسبة لي.	1-
					المنـافع المترتبـة علـى مشـاركة المعرفة مـع الأخـرين ذات قيمة كبيرة و تستحق الجهد الذي يبذل في هذه العملية.	2-
					أقـوم بمشـاركة معرفتـي مـع الأخـرين عنـدما أعتقـد أن المعرفة التي أمتلكها مهمة.	3-
					أقـوم بمشـاركة معرفتـي مـع الأخـرين فقط عنـدما يطلـب منـي الأخرين ذلك.	4-
					الثقة	
					أنـا أعـرف أن أعضـاء دائرتـي سـوف يحـاولون دائمـا مساعدتي عندما أحتاج إلى معرفة شيئ ما.	1-
					أستطيع أن أثق دائمـا أن أعضـاء دائرتـي سـوف يمـدون لـي يـد العون عندما أحتاج إلى ذلك.	2-

					الفقرة	الرقم
					أستطيع الإعتماد دائماً على أعضاء الـدائرة فـي جعـل وظيفتي أسهل من خلال مشاركة المعرفة معهم.	3-
					أستطيع التحـدث بحريـة عـن معرفتـي الشخصـية لبقيـة أعضـاء الدائرة.	4-

العوامل المتعلقة ببيئة العمل و التي تؤثر في عملية مشاركة المعرفة

ثقافة المؤسسة

لا أوافق بشدة	لا أوافق	أوافق بدرجة بسيطة	أوافق	أوافق بشدة	الفقرة	الرقم
					المؤسسـة التـي أعمـل بهـا لـديها رؤيـة مسـتقبلية واضـحة المعالم.	1-
					أعضـاء الإدارة العليـا في المؤسسـة يقـدمون رؤيـة مؤسسـاتية واضحة و يعملون على توصيلها لبقية الموظفين.	2-
					أهـداف و رؤيـة المؤسسـة معروضـة بطريقـة واضـحة و مفهومة .	3-
					الموظفـون داخـل المؤسسـة يتفهمـون بصـورة لا تقبـل التأويـل أهداف و رؤية المؤسسة.	4-
					الموظفـون داخـل المؤسسـة لـديهم ثقـة كاملـة بقـدرات و مهارات زملائهم و نظرائهم.	5-
					الموظفون يثقون بخبرة و معرفة نظرائهم في العمل.	6-
					إذا حـدث و أن واجـه أي موظـف صـعوبات فـي العمـل فهـو علـى ثقـة أن زمـلاؤه سـوف يسـاعدونه علـى الخـروج مـن المشكلة.	7-
					يتواصـل الموظفـون مـع بعضـهم الـبعض مـن خـلال لقـاءات غير رسمية داخل المؤسسة.	8-
					يتواصـل الموظفـون و يتفـاعلون مـع أنـاس و مجموعـات أخرى خارج نطاق المؤسسة.	9-

سياسة المكافآت و التقدير

					سـوف أتلقـى مكافـأة أعلـى مقابـل مشـاركة المعرفـة التـي أمتلكها داخل الدائرة التي أعمل بها.	1-
					تـزداد فرصـة حصـولي علـى ترقيـة فـي مقابـل مشـاركتي للمعرفة مع الأخرين.	2-

لا أوافق بشدة	لا أوافق	أوافق بدرجة بسيطة	أوافق	أوافق بشدة	الفقرة	الرقم
					دائرتــي تقــدم مكافــأت قيمــة للمــوظفين مقابــل مشــاركتهم للمعرفة التي يملكونها مع الأخرين.	3-
					عــادة أتلقــى التقـدير و الإحتـرام مـن مـدرائي المباشـرين مقابـل ممارستي لعملية مشاركة المعرفة مع الأخرين.	4-

خصائص و مواصفات القيادة

					مـديري المباشـر يقـدم دائمـا مـثلا أعلـى مـن خـلال مشـاركة معرفته مع الإخرين.	1-
					مـديري المباشـر يقـدم لـى الـدعم فـي عمليـة مشـاركة المعرفـة مع الزملاء في الدوائر الأخرى.	2-
					يسـمح لـي مـديري المباشـر أن أشـارك معرفتـي و خبراتـي مـع بقية الزملاء حتى و لو أثر ذلك على سير العمل.	3-
					يقــوم المــدير المباشــر بتوجيــه التعليمــات لنـا حـول كيفيـة مشاركة معرفتنا الشخصية داخل الدائرة.	4-
					يهـتم المـدير المباشـر بمعرفتـي الشخصـية ويقـوم بتشـجيعي على مشاركة هذه المعرفة مع بقية الزملاء.	5-

العوامل التقنية المؤثرة في عملية مشاركة المعرفة

توفر التجهيزات التقنية

لا أوافق بشدة	لا أوافق	أوافق بدرجة بسيطة	أوافق	أوافق بشدة	الفقرة	الرقم
					الوسـائل التقنيـة تجعـل مـن السـهل التعـاون مـع المـوظفين الأخرين داخل الدائرة .	1-
					الوسـائل التقنيـة تجعـل مـن السـهل التعـاون مـع الأخرين خارج الدائرة.	2-
					الوسـائل التقنيـة المتـوفرة فـي دائرتـي تسـاهم بطريقـة إيجابية في تطوير معرفتي.	3-
					الأدوات الفنيـة المتـوفرة فـي الـدائرة تقـدم دعمـا مهمـا لعملية مشاركة المعرفة.	4-
					الأدوات التقنيـة و أدوات الإتصـال المتـوفرة تسـهل علـي التواصـل مـع المـوظفين الـذين يملكـون المعرفـة التـي أحتـاج إليها.	5-
					تتـوفرأدوات تقنيـة كافيـة و فعالـة فـي الـدائرة تسـهل عمليـة المشاركة للمعرفة.	6-

					الفقرة	الرقم
					يــتم مـنح المـوظفين فـي الشـركة التـدريب الكـافي داخل المؤسسة لإستخدام الأدوات التقنية المتوفرة.	1-
					يـتم تــداول المعرفـة و الخبـرات التقنيـة بــين المــوظفين بصورة سلسة.	2-
					لــدي معرفــة و خبــرة بكــل الأدوات الفنيــة المتــوفرة فــي الشركة.	3-
					لـدي معرفـة جيـدة بكيفـة إسـتخدام الأدوات الفنيـة المتوفرة في الشركة لمشاركة المعرفة مع بقية الزملاء.	4-
					الأدوات الفنيـة المتـوفرة سـهلة الإسـتخدام و تسـاعدني علـى إنجاز مهماتي كاملة.	5-

العوامل المتعلقة بالصفات الشخصية للفرد و التي تؤثر في عملية مشاركة المعرفة

شخصية للفرد

					الفقرة	الرقم
					أحـب العمــل مــع الأخــرين بهــدف تطــوير مهــاراتي و معرفتي.	1-
					أتعلم الكثير من بقية أعضاء الإدارة في هذه الشركة.	2-
					أفضــل أن يقــوم الأخــرين بالتواصــل معــي عوضــا عــن تقديم معرفتي لهم بصورة طوعية.	3-
					أجــد نفســي متحفــزا لمشــاركة المعرفــة الغيــر شــائعة للأخرين مع بقية أفراد الدائرة.	4-
					ســوف أسـتمر فـي أداء دوري فـي عمليـة مشـاركة المعرفـة حتى مع الأشخاص الذين لأحبهم بصفة خاصة .	5-
					أشـعر أنـه مـن الصـعب أن أتشـارك المعرفـة مـع الأشـخاص الأكثر خبرة و مرتبة إدارية مني.	6-
					فـي هـذه الشـركة نحـن نسـاعد بعضـنا الـبعض علـى تعلـم مهارات جديدة بغض النظر عن المستوى الإداري.	7-

الإدراك الفردي

لا أوافق بشدة	لا أوافق	أوافق بدرجة بسيطة	أوافق	أوافق بشدة	الفقرة	الرقم
					إدراك الشـخص بصـفة عامـة يـؤثر علـى قـرار الفـرد	1-

					عما إذا كان سيتشارك المعرفة مع زملاؤه أم لا.	
					إدراك الفـرد للفائـدة التــي ســيجنيها متلقـي المعلومــة مـن عمليــة مشــاركة المعرفــة يزيـد مـن ميلـه بإتجـاه تشارك المعرفة.	2-
					إدراك الفـرد للـثمن الـذي سـيدفعه مقابـل نقل المعلومـة للأخرين يؤثر على رغبته في مشاركة المعرفة.	3-
					ميـل الفـرد لمشــاركة المعرفــة مـع الأخـرين يختلـف حسب الهدف الذي من أجله يتم مشاركة المعرفة.	4-
					خلـق الـوعي لـدى مجموعـة المـوظفين بفائـدة المعرفـة التـي يمتلكهـا للأخـرين يـؤثر إيجابيـا علـى مسـاهمة الفرد في عملية مشاركة المعرفة.	5-

Appendix B: Final Questionnaire in English:

Part – I

General Data

Please Put (**x**) in the appropriate Box matching your choice:

1- **Department \ Section:** …………………………………

2- **Place of Work:**

    ☐ West Bank   ☐ Gaza Strip

3- **Gender:**

    ☐ Male   ☐ female

4- **Age:**

    ☐ (18-25)   ☐ (26-30)   ☐ (31-40)   ☐ (41-50)   ☐ over 50

5- **Education level:**

    ☐ High school or below   ☐ Diploma   ☐ Bachelor   ☐ Master or More

6- **Work Experience:**

    ☐ (0- Less than 5)   ☐ (5- Less than 10)   ☐ 10 or more

7- **Position**

    ☐ Director   ☐ Manager   ☐ Head of section/Unit   ☐ Engineer   ☐Technician
    ☐ Assistant

8- **Type of work:**

    ☐ Field work   ☐ Managerial work

Part – II: Factors Affecting Knowledge Sharing

Please put **tick** mark (**X**) in the appropriate box matching your opinion

SA – Strongly Agree; A- Agree; PA- Partially Agree; DA – Disagree; SDA – Strongly Disagree

Motivational Factors Affecting Knowledge Sharing					
Individuals Attitude					
Questions	**SA**	**A**	**PA**	**DA**	**SDA**
1- I believe that my practice in relation to knowledge sharing is appropriate and effective.					
2- My knowledge sharing with other department members is an enjoyable experience.					
3- My knowledge sharing with other department members is valuable to me.					
4- I believe that knowledge sharing with other department members is a wise move.					
Individual's Awareness					
1- The importance of sharing knowledge with other department members is clear to me.					
2- The benefits behinds sharing knowledge with others are valuable compared with the amount of effort exerted.					
3- -I only share my knowledge if I think my knowledge is important.					
4- -I only share my knowledge if people ask me for it					
Individual's Trust					
1- I know that my department members will always try and help me out if I need to know something.					
2- I can always trust my department members to lend me a hand if I need it.					
3- I can always rely on my department members to make my job easier by sharing their knowledge.					
4-I can talk freely to my department members about my personal knowledge.					

Environmental Factors Affecting Knowledge Sharing

1. Organization's Culture

Questions	SA	A	PA	DA	SDA
1- My organization has future oriented organizational visions.					
2- Top management leaders present clear organizational vision and communicate it with employees.					
3- Overall organizational vision and goals are clearly stated.					
4- Employees in the company understand organization's vision and goals.					
5- Employees have full confidence in the skills of their co-workers.					
6- Employees trust expertise of their co-workers.					
7- If employees got into difficulties at work, they know their co-workers would try and help them out.					
8- Employees communicate with each other through informal meetings within the organization.					
9-Employees interact and communicate with other people or groups outside the organization.					

Reward and Recognition Policy

	SA	A	PA	DA	SDA
1- I will receive a higher reward in return to my knowledge sharing within this department.					
2- I am more likely to receive increased promotion opportunities in return for my knowledge sharing					
3- My department offers attractive rewards to employees for their knowledge sharing					
4-I will more likely gain the respect and appreciation of my managers for my knowledge sharing practice.					

Leadership Characteristics:

	SA	A	PA	DA	SDA
1- My manager always sets a good example in sharing his knowledge with others.					
2- My manager supports me in sharing knowledge with colleagues in other departments.					
3- My manager allows me to share my knowledge with my colleagues even though it may influence the present job process.					
4- My manager instructs us on how to share our personal knowledge within the department.					

	SA	A	PA	DA	SDA
5- My manager do care about my knowledge and do encourage me to share my knowledge with other colleagues					

Technological Factors Affecting Knowledge Sharing

ICT Infrastructure Availability

Questions	SA	A	PA	DA	SDA
1- The IT facilities make it easier to cooperate with others within our department.					
2- The IT facilities make it easier to cooperate with others outside our department.					
3- The IT facilities within my department provide a positive contribution to the development of my knowledge.					
4- The ICT tools available at our department provide important support for knowledge sharing.					
5- The ICT tools available make it easier for me to get contact with employees who have knowledge that is important to me					
6- There are efficient and supportive ICT tools at our department that facilitates the sharing of knowledge.					

ICT Know-How

	SA	A	PA	DA	SDA
1- Employees in my company are given adequate training internally to use ICT tools.					
2- The technology know-how among employees is easily transferable					
3- I am familiar with all the ICT tools available at the company					
4- I know how to use the ICT tools available efficiently to share knowledge with other colleges.					
5- The ICT tools available are user friendly and help me accomplish my tasks.					

Individual Characteristics Affecting Knowledge Sharing

Individual's personality

Questions	SA	A	N	DA	SDA
1- I like to work with others to develop my skills and knowledge.					
2- I learn a lot from other members in this company.					
3- I prefer people to approach me rather than voluntarily offer my knowledge to them.					
4- I am ready to share knowledge which is not common to others with the					

	SA	A	N	DA	SDA
rest of our department members.					
5- I will continue doing something with knowledge sharing even with people I don't particularly like.					
6- I feel is too hard to share knowledge with those who are more senior /experienced than me.					
7- In this company, we help each other to learn new skills regardless of seniority.					

Individual's Perception

Questions	SA	A	N	DA	SDA
1- Individual's perception affects his decision whether or not to share knowledge with colleges.					
2- Individual's Perceptions of the benefit to the recipient from sharing knowledge increase one's propensity to share knowledge.					
3- Individual's Perceptions of the cost to the informer affects one's willingness to share knowledge.					
4- Individual's propensity to share knowledge differs when sharing with different sharing targets.					
5- Creating awareness about the usefulness of one's knowledge to others would positively affect contributions to share knowledge.					

Appendix C:

Names of Questionnaire Arbitrators

No.	Name	University
1	Prof. Dr. Majed El Fara	Islamic University of Gaza
2	Prof. Dr. Maher Dourgham	Islamic University of Gaza
3	Prof. Dr. Salem Helis	Islamic University of Gaza
4	Dr. Samir Safi	Islamic University of Gaza
5	Dr. Essam Al Buhassi	Islamic University of Gaza
6	Dr. Sami Abu El Roos	Islamic University of Gaza
7	Dr. Bassam Abu Ghara	Al-Quds Open University